February 23, 2024

Kelli Book
Iowa Department of Natural Resources
502 East 9th Street
Des Moines, IA 50319-0034
afo@dnr.iowa.gov

Dear Ms. Book:

The undersigned organizations offer the following comments on the draft regulatory analysis and proposed rules regulating animal feeding operations.

The undersigned organizations have worked to improve water quality in Iowa for decades. These range from the Iowa Environmental Council (IEC), an alliance of more than 100 organizations, to locally-led grassroots groups that are focused on protecting their health and nearby natural resources. Members of our organizations hike, fish, paddle, swim, and recreate in and around lakes, rivers, and streams throughout the state. Like other Iowans, our members rely on the State of Iowa to provide access to safe, clean drinking water.

As we have communicated throughout the stakeholder comment process Iowa Department of Natural Resources (DNR) facilitated since 2022, we remain concerned that the rules the DNR has proposed do not prevent continued pollution of Iowa's waters. DNR has and must use statutory authority to protect water for drinking, recreation, and aquatic life. We focus our comments on changes that would close loopholes, clarify applicability, and set requirements to protect water quality. We also identify changes proposed in the draft rules that we support.

We encourage DNR and the Environmental Protection Commission to adopt these changes to improve the implementation of the rules and fulfill statutory obligations.

Sincerely,

Allamakee County Protectors - Education Campaign

Common Good Iowa

Des Moines County Farmers and Neighbors for Optimal Health

Environmental Law & Policy Center

Food & Water Watch

Iowa Citizens for Community Improvement

Iowa Environmental Council

Jefferson County Farmers and Neighbors

Poweshiek CARES

Socially Responsible Agriculture Project

cc: Environmental Protection Commission
EPA Region 7

JOINT COMMENTS ON CHAPTER 65 RULES

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I. Animal Feeding Operations Exacerbate Iowa's Water Pollution

Iowa faces serious pollution of its drinking water sources, including both surface and groundwater. Most of the pollution comes from agricultural nonpoint and point sources, including manure produced by animal feeding operations (AFOs) and concentrated animal feeding operations (CAFOs). Large AFOs (also known as CAFOs) are expanding faster in Iowa than all other states combined.[1] The Iowa Department of Natural Resources (DNR) has proposed updates to the AFO rules to address a statutory requirement to review rules every five years and to implement Executive Order 10, which requires agencies to conduct a retrospective review of existing rules. This rulemaking provides an opportunity to mitigate the pollution from AFOs and benefit Iowans across the state.

A. Manure from CAFOs Pollutes Critical Resources.

Agriculture is the primary source of pollution in Iowa, including 92 percent of nitrate and 80 percent of phosphorus entering surface waters.[2] Much of that pollution originates as manure that is applied to cropland without prior treatment. To address that pollution source, statute requires plans to manage manure application. The proposed rules fail to address the fundamental problems of manure application and oversight by allowing facilities to avoid submitting plans entirely, allowing inappropriate application rates and locations, and failing to ensure compliance through permitting and enforcement.

The number of animal feeding operations in Iowa has grown significantly over the last 30 years. Most of the growth has been in the form of large concentrated animal feeding operations, primarily hog and hen confinements. In 1990, Iowa had 789 large CAFOs.[3] By 2019, the number of large CAFOs quintupled to 3,963, and has continued to grow since 2019.[4] The total number of animal feeding operations in the state is far larger, including 2,500 facilities that are slightly below the "large CAFO" threshold to avoid regulation, plus thousands of smaller operations.[5]

The growth in the number and size of CAFOs has increased the quantity of manure, urine, and process wastewater generated and contributed to water pollution. Iowa's Nutrient Reduction Strategy calculated that 92 percent of nitrogen and 80 percent of phosphorus in surface water

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[1] Madison McVan, "GRAPHIC: Majority of new CAFOs were built in Iowa last year," Investigate Midwest, June 8, 2023, available at https://investigatemidwest.org/2023/06/08/graphic-majority-of-new-cafos-were-built-in-iowa-last-year/.

[2] "Iowa Nutrient Reduction Strategy – A science and technology-based framework to assess and reduce nutrients to Iowa waters and the Gulf of Mexico" (hereinafter "NRS"). Updated December 2017. Section 1.2 at 8.

[3] Jamie Konopacky and Soren Rundquist, "EWG Study and Mapping Show Large CAFOs in Iowa Up Fivefold Since 1990," Environmental Working Group, Jan. 21, 2020.

[4] *Id.*; IEC analysis of DNR AFO database, available at https://programs.iowadnr.gov/animalfeedingoperations/.

[5] IEC analysis of DNR AFO database, available at https://programs.iowadnr.gov/animalfeedingoperations/.

comes from nonpoint sources – primarily agriculture.[6] The amount of livestock manure Iowa now generates is equal to the waste produced by 168 million people, or half the entire U.S. population.[7] Most of this manure is not treated before being applied to cropland, ostensibly to fertilize crops. But manure also runs off the fields in stormwater, infiltrates soil and pollutes groundwater, or reaches surface waters via tile drainage. The high volume of manure produced in Iowa often leads to manure application at rates exceeding crop needs (especially in light of continued application of commercial fertilizer).[8] This excess manure application leads to nitrate and phosphorus pollution. Releases of manure from storage structures, as well as transportation and land-application equipment, have regularly caused water pollution and fish kills across the state. Properly controlling manure storage and application through this rulemaking will address a substantial source of pollution.

B. Enforcement is Inadequate.

Rule section 65.2 requires anyone aware of a manure release to report to DNR. DNR catalogs the releases in its Hazardous Spill Inventory database.[9] Over the last ten years, the total number of manure releases per year has somewhat declined,[10] but the number remains consistently above 20 releases per year. In recent years, the number of spills has begun to increase.

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[6] "Iowa Nutrient Reduction Strategy – A science and technology-based framework to assess and reduce nutrients to Iowa waters and the Gulf of Mexico." Updated December 2017. Section 1.2 at 8.

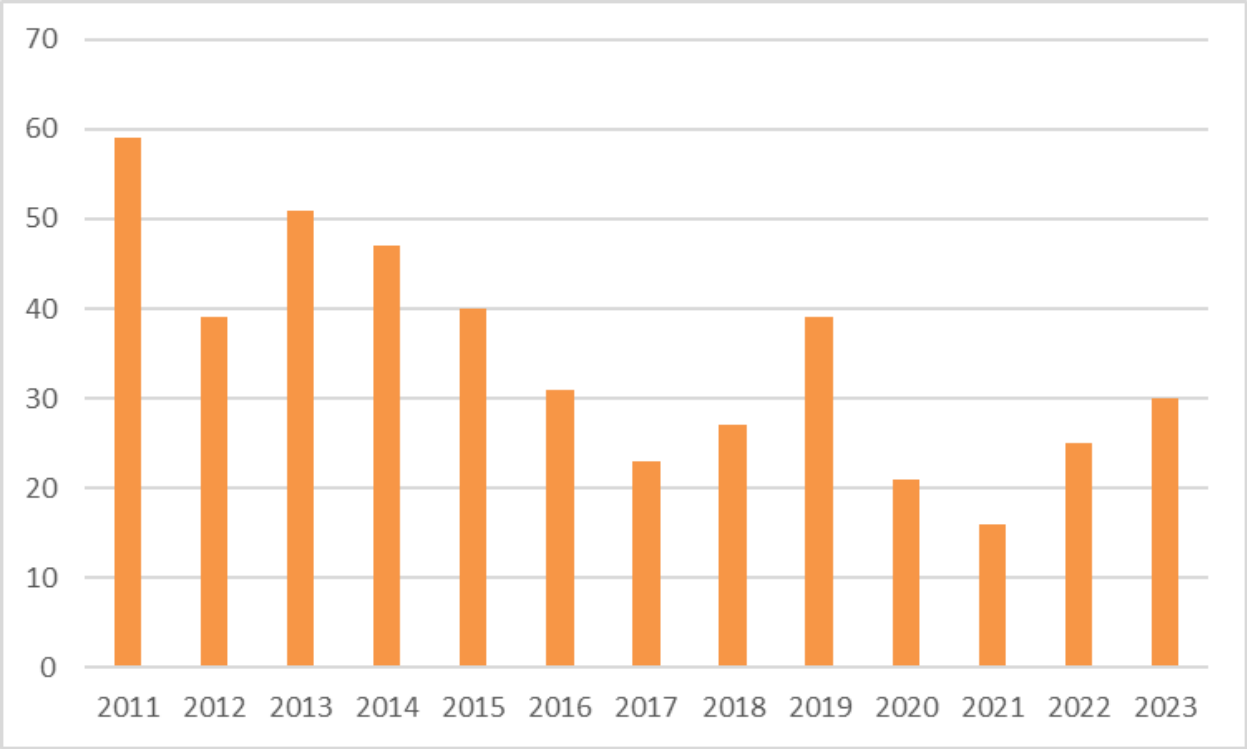
[7] Chris Jones, "50 Shades of Brown," June 6, 2019, available at https://cjones.iihr.uiowa.edu/blog/2019/06/fifty-shades-brown.

[8] Chris Jones, "Make America MRTN Again," June 21, 2019, available at https://cjones.iihr.uiowa.edu/blog/2019/06/make-america-mrtn-again (showing that manure produced in some Iowa counties meets or exceeds crop needs for phosphorus and nitrogen, despite continued sales of commercial fertilizer).

[9] Available at https://programs.iowadnr.gov/hazardousspills/introductory.aspx.

[10] Calculated by IEC using information from the Iowa DNR Hazardous Release Database, available at https://programs.iowadnr.gov/hazardousspills/Reports/EPCManureRelease.aspx (last visited Feb. 21, 2024).

Figure 5. Number of manure releases by year.



A substantial fraction of manure releases result from human error, which is the second most common cause, as shown in Figure 6. This frequency is troubling considering that DNR has a certification program for manure applicators. Pit overflows and surface runoff, which resulted in 38 releases, should also be avoidable.

Figure 6. Causes of Manure Releases, 2011-2020.[11]

Cause of release	Releases	Subject to Manure Plan
Equipment Failure	147	75
Human Error	84	41
Transportation/Applicator Accident	64	20
Hose/Line Blockage	40	28
Pit Overflow/Surface Runoff	38	13
Rain/Flood Event	8	5
Other	2	0
Total	383	182

Despite many avoidable releases subject to manure management plans (MMPs) or nutrient management plans (NMPs), no rule requires parties responsible for manure releases to undertake training or continuing education after a release. DNR may discipline certified manure applicators for violating rules,[12] including probation and education. DNR should require training and education for repeat violators, subject to increasing fines and probation for repeated releases and rule violations.

Figure 7. Most frequent responsible parties for manure releases, 2011-2020.

Responsible Party	Number of Releases	Total Manure Released (gal)
Maschhoffs Inc.	8	>12,527*
Iowa Select Farms	8	>24,201*
Cyclone Cattle	8	Unknown
Unknown	7	>4,053*
Catnip Ridge Manure	5	>781*
Neese Inc.	5	9,100
Tres M	4	7,500
Prestage Farms of Iowa	4	59,000
Precision Pumping LLC	4	15,500

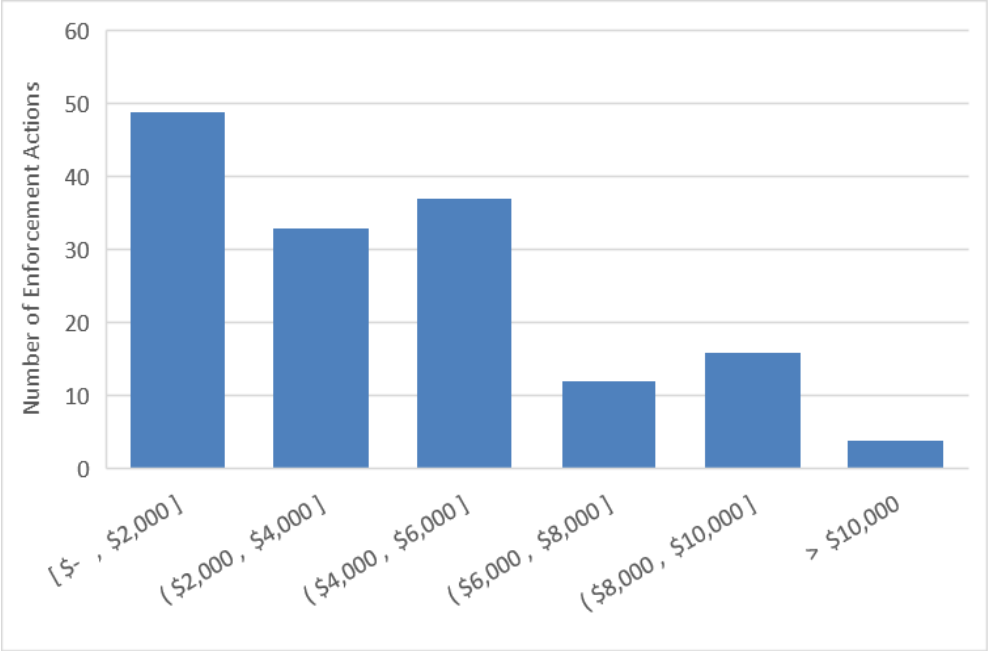
* Some releases did not have estimated volumes.

The lack of compliance may result from penalties that do not incentivize changes to practices. IEC analysis of DNR enforcement data found that many releases had no penalty associated. Among cases with a penalty, the median was $4,000, which is not likely sufficient to substantially change

[11] Calculated by IEC using information obtained through an Open Records Act request in December 2021.
[12] IOWA ADMIN. CODE r. 567-65.19(9); proposed rule 65.113(9).

practices. Making matters worse, state law prevents DNR from taking enforcement action other than a penalty for violations of a manure management plan.[13] Historically, DNR penalties have tended toward the lower end of the penalty range for manure releases, as shown in Figure 8 below.[14]

Figure 8. Histogram of DNR enforcement penalties for manure releases, 2012-2023, in dollars.



Several examples show that these modest penalties are not adequately deterring future violations. DNR imposed two enforcement actions for the maximum administrative penalty of $10,000 on Supreme Beef. Similarly, Cyclone Cattle (with eight total releases) had enforcement in 2011 due to manure releases. It then had multiple releases that reached surface water in 2016, followed by administrative penalties. Cyclone Cattle then had two more releases in 2019 that reached surface water. DNR should pursue higher penalties or more serious enforcement action, such as more frequent referrals to the Attorney General for civil action, in order to improve conduct and operations of regulated parties.

C. Risks and Costs of CAFOs to Iowans.

Excess nitrate in sensitive areas increases the risk that nitrate enters groundwater or drinking water sources. Nitrate in drinking water poses such serious human health threats that the Safe Drinking

[13] IOWA CODE § 459.312; *see* IOWA CODE § 459.603 (allowing civil penalties).
[14] IEC analysis of DNR manure discharge and enforcement data (retrieved Feb. 2024).

Water Act requires nitrate concentrations in public water supplies to stay below 10 mg/L.[15] Nitrate in drinking water can cause blue-baby syndrome, birth defects, bladder cancer, thyroid cancer, and other cancers.[16] But even concentrations below the Safe Drinking Water Act standard of 10 mg/L may cause a range of health problems, including cancer.[17]

Additionally, manure runoff from CAFOs into local water sources can promote the growth of harmful algal blooms causing illness in both animals and humans.[18] These adverse health effects to humans include liver damage, neurotoxicity, gastrointestinal problems, and various flu-like reactions. Manure can also contaminate surface water and groundwater with fecal bacteria that can cause gastrointestinal and respiratory illness.[19] Due in large part to the concentration of livestock production in fewer, industrial-scale operations, Iowa livestock now generate 25 times more waste than the state's human population – dwarfing the animal-to-human waste ratios of other livestock-laden states like Texas and California.[20]

Agricultural pollution that leads to poor water quality externalizes costs, imposing a burden on other Iowans. This burden includes a range of costs to the public in terms of health effects, economic impacts, and ecosystem services. As described in our previous comments, a 2019 article from Temkin et al. in *Environmental Research* found that each year, elevated nitrate in drinking water leads to 2,939 cases of very low birth weight, 1,725 cases of very preterm birth, 41 cases of neural tube defects, and between 2,300 and 12,594 cases of cancer in the United States. In Iowa, that could be as many as 313 cancer cases per year. Associated medical costs in Iowa range from $6.25 to $37.5 million per year. *Economic Benefits of Nitrogen Reductions in Iowa* by Tang et al. in 2018 estimated annual drinking water treatment costs for nitrate. Adjusted for inflation, costs for a small public water system could range from $40,000 to $290,000 to drill a new intake well or be as high as $200,000 to $365,000 to blend water sources to dilute nitrate to an acceptable level. For a household on a private well, the cost could range from $250 to $360 to install a point-of-use treatment system to $52,400 to $185,500 to connect to a public water system. Hundreds of public water supplies and thousands of private wells face increasing nitrate concentrations in their source water.

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[15] 40 C.F.R. § 141.62.

[16] "Nitrate in Drinking Water: A Public Health Concern For All Iowans," Iowa Environmental Council (Sept. 2016), available at https://www.iaenvironment.org/webres/File/Nitrate_in_Drinking_Water_Report_ES_Web.pdf (citing Brender, Jean D; Weyer, Peter J; Romitti, Paul A; et al. 2013. Prenatal Nitrate Intake from Drinking Water and Selected Birth Defects in Offspring of Participants in the National Birth Defects Prevention Study. *Environmental Health Perspectives*, Vol. 121(9):1083-1089. http://ehp.niehs.nih.gov/1206249/).

[17] *Id.*

[18] *Id.*

[19] "Recreational Water Quality Criteria," U.S. EPA (2012), at 12, available at https://www.epa.gov/sites/default/files/2015-10/documents/rwqc2012.pdf.

[20] "Iowa Produces More Factory Farm Wate Than Any Other State, Analysis of New USDA Data Finds." *Food & Water Watch*, 14 Feb 2024, https://www.foodandwaterwatch.org/2024/02/14/iowa-produces-more-factory-farm-waste-than-any-other-state-analysis-of-new-usda-data-finds/.

The cost to remove nitrate and other pollutants attributable to livestock operations from drinking water is significant. If the current amount of nitrogen run-off from farm fields and CAFOs continues, Iowans will be responsible for up to $333 million over the next five years to remove nitrates from drinking water.[21] Removing these nitrates through water treatment, rather than preventing them from entering waters at the source of pollution, is costly and often unaffordable for public water systems and unaffordable for some private well owners.[22] Rural Iowans can pay as much as $1,200 per person per year for nitrate treatment of drinking water.[23]

Cities struggle to cope with the cost of nitrate removal as well, facing high treatment costs for removal. High concentrations of nitrate have forced cities like Pierson, Iowa, to issue a bottled water advisory.[24] Des Moines Water Works has an ionization treatment system that can cost $10,000 per day to operate.[25] It serves to reduce nitrate concentrations to the maximum contaminant level of 10 mg/L, rather than eliminating nitrate altogether; thus, these costs do not fully avoid all costs associated with health effects described in the previous section. From 2012 - 2022, the nitrate removal facility ran for 405 days, totaling nearly $5 million that was passed on to customers.[26] Des Moines Water Works has also begun a multi-year, $30 million project to drill new wells to acquire cleaner source water.[27] The utility estimates it will need to raise water rates by 9-10% each year for five years to cover the cost.[28] The new wells are also to ensure compliance with drinking water standards, rather than to completely eliminate pollution.

The City of Cedar Rapids entered a five-year capital improvement plan in 2020 with estimated water utility improvement expenses of $83.9 million.[29] Concurrently, the city launched the Cedar

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[21] "Rural Iowans Bear Brunt of Water Treatment Costs for Nitrate Pollution from Farms and CAFOs." *Union of Concerned Scientists*, 14 Jan. 2021, www.ucsusa.org/about/news/rural-iowans-bear-brunt-water-treatment-costs-nitrate-pollution-farms-and-cafos.

[22] *Id.*

[23] *Id.*

[24] "Pierson Iowa Officials Issue Bottled Water Advisory," KTIV (Sept. 13, 2022), available at https://www.ktiv.com/2022/09/13/pierson-iowa-officials-issue-bottled-water-advisory/.

[25] Des Moines Water Works, "NEWS RELEASE: Des Moines Water Works begins operation of Nitrate Removal Facility because of nutrient spikes in raw source water," (June 9, 2022), available at https://www.dmww.com/news_detail_T37_R328.php.

[26] Jason Clayworth, "Des Moines' $50M water nitrate fix-it plan," Axios Des Moines (Jan. 25, 2023), available at https://www.axios.com/local/des-moines/2023/01/25/desmoines-water-nitrate-wells-pollution.

[27] Kate Payne, "Des Moines Water Works Advances Plans To Build New Wells In Light Of River Pollutants," Iowa Public Radio (Apr. 22, 2021), available at https://www.iowapublicradio.org/ipr-news/2021-04-22/des-moines-water-works-advances-plans-to-build-new-wells-in-light-of-river-pollutants.

[28] Amy Kahler & Michael J. McCurnin, "MEMORANDUM: 2024-2028 Five-Year Capital Improvement Plan," Des Moines Water Works (Jun. 6, 2023), available at https://cms9files.revize.com/desmoineswater/2024-2028%20Five-Year%20CIP%20Memo.pdf

[29] "Modernizing Cedar Rapids water plant one of many high-cost needs," *The Gazette* (Mar. 28, 2019), available at https://www.thegazette.com/government-politics/modernizing-cedar-rapids-water-plant-one-of-many-high-cost-needs/.

River Source Water Partnership (CRSWP)[30] to prevent nutrients from contaminating the Cedar River, the city's drinking water source.[31] With thirteen partners and funding from the USDA Natural Resources Conservation Service, the CRSWP will invest $16 million in agricultural conservation practices upstream of the city's wells to protect its drinking water from nitrate contamination.[32]

Rather than continuing to externalize the costs of manure pollution to downstream Iowans, DNR should adopt rules that reduce losses of nitrogen and phosphorus from manure. This rulemaking presents an opportunity to correct a longstanding imbalance between convenience and cost-savings for livestock operations and the statewide interest in restoring our lakes, rivers, streams, and groundwater.

In submitting these comments, we note that prior comments submitted by this coalition to DNR through its informal process over the past several years identified many of the same threats to water quality posed by AFOs and CAFOs, and proposed changes to rule language to address those threats.[33]

These comments address three main areas. First, the authority for rulemaking on this topic is broad and the rules must address the potential water quality impacts from AFOs and CAFOs. Second, the comments provide information relevant to the retrospective review required by Executive Order 10, including the requirement to identify the costs of the proposed rules. Finally, the comments provide recommendations on specific rule provisions for which we request changes.

II. DNR Must Adopt Rules that Protect Water Quality.

A. Legal Duties

The Environmental Protection Commission (EPC) is the only commission or department charged with adopting regulations to protect ambient water quality. It has broad statutory authority to "Develop comprehensive plans and programs for the prevention, control and abatement of water pollution."[34] DNR is charged by law with the responsibility "to prevent, abate, or control water pollution."[35] DNR recommends rules necessary to implement the programs assigned to the EPC,

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[30] "City of Cedar Rapids Earns $7 Million Funding Agreement for Watershed Work," City of Cedar Rapids (Apr. 28, 2021), available at https://www.cedar-rapids.org/news_detail_T6_R1563.php.
[31] City of Cedar Rapids, "Our Watershed," available at https://www.cedar-rapids.org/residents/utilities/our_watershed.php (last visited Feb. 21, 2024).
[32] *Id.*
[33] *See* Joint Comments dated Oct. 18, 2022; June 15, 2023; and Sept. 26, 2023.
[34] IOWA CODE § 455B.173.
[35] IOWA CODE § 455B.172.

then implements the rules adopted by the EPC.[36]

The EPC is charged with adopting requirements regarding the construction of AFOs. Iowa Code section 459.103(1) states:

> The commission shall establish by rule adopted pursuant to chapter 17A, requirements relating to the construction, including expansion, or operation of animal feeding operations, including related animal feeding operation structures. The requirements shall include but are not limited to minimum manure control, the issuance of permits, and departmental investigations, inspections, and testing.

This statute gives the EPC broad authority to regulate AFO siting and construction requirements.[37]

In adopting rules regulating AFOs, the EPC must ensure that "Manure from an animal feeding operation shall be disposed of in a manner which will not cause surface water or groundwater pollution."[38] The rules DNR has proposed do not fulfill those statutory obligations.

B. Petitions for Rulemaking and Procedural History

On August 11, 2021, IEC and ELPC submitted a petition for rulemaking to the Environmental Protection Commission requesting greater protections for karst terrain and drinking water sources from AFO siting, including the ability for the DNR director to individually evaluate environmental concerns.

In response to the petition, DNR created a technical committee called the "Karst Team" to evaluate potential risks posed by manure in karst terrain and potential rule language to address the risks. In addition to DNR technical staff, the team included two staff of the Iowa Geological Survey.[39] The Karst Team met in the fall of 2021 to "provide a summary report to the EPC" to address scientific research, standards in adjacent states, and whether a 25-foot vertical separation "would not act as a blanket prohibition."[40]

DNR provided a proposed denial of the Petition for Rulemaking to the Environmental Protection Commission.[41] The denial referred to the Karst Team, but did not include its final report. The

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[36] IOWA CODE §§ 455B.103(2); 455B.174.

[37] *See also* IOWA CODE § 455B.173(12) (providing the EPC authority to "Adopt, modify, or repeal rules relating to the construction or operation of animal feeding operations, as provided in sections relating to animal feeding operations provided in chapter 459, subchapter III").

[38] IOWA CODE § 459.311(3).

[39] "IEC Petition for Rule Change – Karst Team Objectives," Sept. 2, 2021.

[40] "IEC Petition for Rule Change – Karst Team Objectives," Sept. 2, 2021.

[41] Iowa DNR, "Denial of Petition for Rulemaking" (Feb. 15, 2022).

Environmental Protection Commission voted on February 15, 2022, to deny the petition and adopt DNR's basis for denial. Part of DNR's basis for denial was a promise to incorporate karst protections in a broader rule review.[42]

IEC and ELPC saw no action from DNR following the petition denial, and submitted a second petition in May 2022 requesting adoption of a floodplain map. That petition is still pending; the EPC never acted on it.

In July 2022, DNR began a series of informal comment periods for stakeholders on the department's broader review and update of Chapter 65. That process was interrupted on January 10, 2023, when Governor Kim Reynolds signed Executive Order 10 (EO 10). The Order required each state agency to "perform a retrospective analysis" of its rules as well as rescind and re-promulgate any rules the agency wants to adopt. The Order also requires a "rigorous cost-benefit analysis of existing administrative rules." In conducting the cost-benefit analysis, DNR must ensure that it accounts for the benefits provided by the rule it proposes.

Following EO 10, DNR resumed its review of Chapter 65 under the order's new requirements. In the final version of the rules that the EPC moved into a formal rulemaking process on November 21, 2023, DNR adjusted the proposed rules in response to stakeholder input in some ways, but has not addressed the karst changes in IEC and ELPC's petition. DNR pointed to a lack of stakeholder consensus and Executive Order 10 as a basis for not adopting changes.[43] Neither of those reasons can override the EPC and DNR's statutory obligations.

As described below, the proposed rules would not protect against the water quality problems identified in the first petition for rulemaking because they fail to adequately protect water quality. The proposed rules would resolve the second petition for rulemaking.

1. Comments on Rule Provisions

A. 65.1. DNR Must Close Definitional Loopholes

The definitions are an important part of any rule. We have identified several important definitions that need clarification.

1. DNR Must Close Loophole in Common Ownership (LLC loophole).

[42] Iowa DNR, "Denial of Petition for Rulemaking" (Feb. 15, 2022), at 3 (internal citation omitted).
[43] Erin Jordan, "Iowa DNR removes added karst protections from CAFO rules draft," *The Gazette* (Nov. 30, 2023).

Under statute, two or more AFOs under common ownership or management are deemed to be a single AFO if they are adjacent or utilize a common area or system for manure disposal.[44] Treatment as a single, larger operation can trigger regulatory oversight not applicable to small AFOs. Thus, clear meanings of "common ownership or management" and "adjacent" have great importance.

As described in 2022 comments submitted by Jefferson County Farmers and Neighbors, Inc., many CAFOs in Jefferson County should be treated as a single site based on adjacency and how they are operated in fact, but are owned by separate limited liability corporations that fall outside the statutory definition of common ownership. Even if these LLCs have common ownership, the AFOs avoid regulatory oversight.

For example, in Jefferson County, Casey Diehl and Tracy Diehl (a husband and wife) established two separate CAFOs, but later combined the separate CAFOs into one larger CAFO entitled "Casey Diehl Home Site." This decision did not require a Master Matrix or a construction permit. Furthermore, the Diehls also built two CAFOs, located at the same address, entitled "Casey Diehl Site #1 Hawk Farm" and "Diehl Pork Site #2-Hawk Farm." "Casey Diehl Site #1 Hawk Farm" is owned by Casey Diehl and "Diehl Pork Site #2-Hawk Farm" is owned by Diehl Pork LLC and Tracy Diehl, respectively. These sites are less than 1,250 feet from one another but are treated as separate facilities, thus avoiding increased oversight.[45]

To clarify "common ownership," the department must clarify who is considered an owner, and recognize that one property or structure may have more than one owner. We recommend the rule specify that an owner's interest in an LLC or other corporation falls within the definition of "owner":

> *"Owner"* means a person who has legal or equitable title to the property where the AFO is located, ~~or~~ a person who has legal or equitable title to the AFO structure~~s~~, or a person who has an ownership interest in a partnership or corporation that has legal or equitable title to the property or AFO structures, including ownership as defined in an operating agreement of a partnership or corporation. "Owner" does not include a person who has a lease to use the land where the AFO is located or to use the AFO structures.

We recommend DNR require the underlying legal document (operating agreement) that defines the ownership interests for any corporation. This operating agreement provides verification of claims by an applicant regarding operational decisions.

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[44] *See* IOWA CODE § 459.301(1).

[45] The sites are approximately .20 miles (1056 feet) from one another. This data was calculated utilizing the latitudes and longitudes of the CAFOs located at the DNR's website. The coordinates of "Casey Diehl Site #1 Hawk Farm" are 41.08376 N and -91.85016 W. The coordinates of "Diehl Pork Site #2-Hawk Farm" are 41.08528 N and -91.84699 W.

Iowa Code section 459.301(1) includes "common management" in the determination of whether two or more CAFOs are deemed to be a single CAFO. However, the definition of "common management" is not clear, as it simply refers to 'significant' control of day-to-day operations without specifying what degree of control is considered significant. The ambiguity of this "I'll know it when I see it" type of assessment can be manipulated and is not in the best interest of the department: it will lead to inconsistent interpretation and enforcement of the rules. We recommend the definition of "common management" be amended to a more quantifiable and objective standard.

> "*Common management"* means ~~significant control by~~ an individual who has or shares the ability to determine ~~of~~ the management of the day–to-day operations of each of two or more AFOs.

A proposed change to the construction permit application requirements in section 65.104, discussed below, does not fully address these concerns.

2. DNR Must Close the Open Feedlot Effluent Basin Loophole.

As written, section 65.1 correctly identifies that some effluent basins at open feedlots store effluent that has had the settleable solids removed ("settled open feedlot effluent basins"), while other effluent basins store effluent without settling the solids out first ("open feedlot effluent basins"). However, in Division III of the proposed rules pertaining to open feedlots, regulatory provisions overwhelmingly constrain settled open feedlot effluent basins to the exclusion of open feedlot effluent basins that do not settle solids prior to storage. For instance, proposed rule 65.206 establishes investigation, design, and construction requirements for settled open effluent basins, but there is no equivalent rule guiding any other open feedlot effluent basins.

DNR has not provided a rationale for establishing different regulatory requirements for settled and unsettled open feedlot effluent basins, nor does such a justification exist. Both settled and unsettled open feedlot effluent basins contain hazardous agricultural wastes that, as discussed above and in IEC's previous comments, pose severe water quality and public health risks. Accordingly, DNR should amend section 65.1 to create an overarching definition for open feedlot effluent basins that includes both settled and unsettled basins.

B. Existing rules 65.3, 65.201. DNR Should Not Delete the Departmental Evaluation Rule.

IEC and ELPC's 2021 petition for rulemaking requested a revision to existing rules 65.5(3) and 65.103(5), which allow DNR to evaluate environmental impacts of proposed facilities. Under the

existing rule, known commonly as the "Director's Discretion" rule, the DNR may deny a construction permit, disapprove a nutrient management plan, prohibit construction, or impose permit conditions to avoid or minimize the adverse impacts. The petition sought to make the DNR evaluation mandatory, rather than optional.

DNR's regulatory analysis noted that the Attorney General's Office provided advice that the rule was beyond the statutory authority of the EPC, the Administrative Rules Review Committee (ARRC) of the Iowa Legislature objected to the rule,[46] and DNR has never used the rule.

The Administrative Rules Review Committee of the Iowa Legislature objected to the rule.[47] The ARRC stated that:

> It is the opinion of the Committee that Code chapters 459 and 459A establish the procedures and standards relating to the issuance of construction permits and the approval of manure management plans, and that the Department does not have authority to create additional procedures and standards by rule. The master matrix was created by Code section 459.305 in order "...to provide a *comprehensive* [emphasis added] assessment mechanism in order to produce a statistically verifiable basis for determining whether to approve or disapprove an application for the construction, including expansion, of a confinement feeding operation structure..."

The ARRC objection goes on to explain its position that the master matrix is the exclusive method of siting confinement operations.

There are several problems with DNR's position and the proposal to remove the rule entirely.

First, an objection by the ARRC does not invalidate a rule.[48] An objection allows the rule to remain in place, but shifts the burden of proof upon enforcement of the rule.[49] DNR has never used the Director's Discretion rule in practice, perhaps because of the objection, and therefore a court has never ruled on the legality of the rule. It remains in effect.

DNR has stated that it lacks legal authority to enforce the rule and has referred to advice provided by the Office of the Attorney General.[50] The broad authority of the EPC to undertake rulemaking directly contradicts this position. DNR must consider site-specific impacts to water quality and natural resources to ensure the regulatory structure for CAFOs appropriately prevents and abates

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[46] *See* objection to rules 65.5(3) and 65.103(5) in 567 IOWA ADMIN. CODE ch. 65.

[47] *Id.*

[48] IOWA CODE § 17A.4(3)(c). In addition, commentators have questioned the constitutional validity of the ARRC's role and implications of ARRC objections. *See* Jerry Anderson and Christopher Poynor, "A Constitutional and Empirical Analysis of Iowa's Administrative Rules Review Committee Procedure," 61 DRAKE L. REV. 1 (2013).

[49] *Id.*

[50] Iowa Environmental Protection Commission, "Denial of Petition for Rule Making" (Feb. 15, 2022) at 8.

pollution, fulfilling the EPC's mandate in Iowa Code section 455B.173. Iowa Code expressly allows DNR to consider site-specific environmental impacts in the master matrix.[51] Adopting the language as a requirement in rule is necessary to ensure AFOs do not cause undue environmental harm to drinking water sources, vulnerable habitat or terrain, or groundwater. This is necessary to fulfill the EPC's duty to prevent and abate water pollution and to prevent manure disposal from causing water pollution.[52]

Iowa Code also contains more specific authorization for DNR to impose site-specific conditions. Section 459.308 authorizes DNR to require, "As a condition to approving an application for a construction permit….The installation of a related pollution control device or practice" for an unformed manure structure at a confinement.[53] This provision expressly allows DNR to impose the types of site-specific or case-specific conditions in construction permits provided in existing rule 65.5(3).

With respect to open feedlots, the ARRC's objection references chapter 459A generally, but relies entirely on the master matrix as the basis for the objection. Open feedlots are not subject to the master matrix.[54] Even if the objection were valid, it should apply only to confinement operations subject to the "comprehensive" regulation provided by the matrix. In contrast, open feedlots have no scoring system for siting and, under existing rules, can often avoid submitting construction permits and nutrient management plans. Sites that can comply with existing rules also create a substantial risk of water quality pollution, and in fact are causing pollution today.

Because the master matrix does not apply to open feedlots, Chapter 459A gives the DNR broad authority to regulate open feedlots to ensure discharges meet water quality standards. Section 459A.104 allows regulation by rule of all open feedlot structures, with the intent to control open feedlot operations and effluent from the facilities. Discharges that cause violations of water quality standards are a method of establishing noncompliance with the rules.[55] Thus, DNR must regulate facilities to ensure discharges will not cause a violation of water quality standards. If DNR determines that a particular facility's discharge will cause a violation of water quality standards, it must prevent the discharge. Rule section 65.201 implements that obligation and DNR should not delete it.

State law gives the EPC broad authority to undertake rulemaking to protect water quality. Iowa Code expressly allows DNR to consider site-specific environmental impacts in the master matrix.[56] As shown in prior comments and rulemaking petitions, the rapid growth in the number of AFOs is

[51] IOWA CODE § 459.305(2).
[52] IOWA CODE §§ 455.173, 459.311(3).
[53] IOWA CODE § 459.303(6).
[54] IOWA CODE § 459.305 (implementing the master matrix and referring only to confinement operations).
[55] IOWA CODE § 459A.401(3).
[56] IOWA CODE § 459.305(2).

negatively affecting water quality. Several specific AFOs have raised water quality concerns, including Supreme Beef, LLC in Clayton County. Evaluating the potential water quality impact and imposing conditions to limit the impact is necessary to fulfill the EPC's duty to prevent and abate water pollution and to prevent disposal manure from causing water pollution.[57]

The Regulatory Analysis does not address the inconsistency with the objection raised by the ARRC and current law. The ARRC relied on operation of the master matrix to render the departmental evaluation unnecessary. Chapter 65 does not require open feedlots to pass the master matrix, and there is no other mechanism to provide a similar review of open feedlots or unpermitted sites. Thus, at minimum, departmental review should remain an option for these facilities.

C. 65.4. Complaint Investigations.

Proposed section 65.4 provides for investigation of complaints that are "legally sufficient" and where "investigation is justified." These standards follow the statutory requirements in section 459.601. The rules and statute define "legally sufficient," but do not define when an investigation is justified. DNR should define this broadly to ensure that it does not overlook complaints alleging legal violations. We propose the following addition at the end of section 65.4(2):

> A complaint is legally sufficient if it contains adequate information to investigate the complaint and if the allegation constitutes a violation, without investigating whether the facts supporting the allegation are true or untrue, of rules adopted by the department; Iowa Code chapters 455B, 459, 459A and 459B or environmental standards in regulations subject to federal law and enforced by the department. An investigation is justified if the department could verify facts in the complaint through investigation.

D. 65.5. DNR Should Clarify Transfer of Title Notification.

Proposed section 65.5 addresses transfers and the notifications required. We appreciate the clarification that the notification to DNR must be in writing, not a phone call.

We further recommend that the rule require notice to the public and specifying that the master matrix must be completed by the transferee. We recommend the following changes to the language of proposed rule 65.5:

> **567—65.5(455B,459,459A,459B) Transfer of legal responsibilities or title.** If title or legal responsibility for a permitted AFO or an animal truck wash facility is transferred, the person to whom title or legal responsibility is transferred shall be subject to all terms and conditions of the construction permit and these rules. The person to whom the construction permit was issued and the person to whom title or

[57] IOWA CODE §§ 455.173, 459.311(3).

> legal responsibility is transferred shall notify the department, in writing, of the transfer of legal responsibility or title of the operation within 30 days of the transfer. The person to whom responsibility is transferred shall publish a public notice containing the information in section 65.106(2)(a) in a newspaper having general circulation in the county. The director shall post notice of the transfer on the department's website. Within 30 days of receiving a written request from the department, the person to whom legal responsibility is transferred shall submit to the department all information needed to modify the construction permit to reflect the transfer of legal responsibility. If the transfer results in a facility under common ownership exceeding 1000 animal units, the transferee shall complete the master matrix and present the results to the county according to the procedures in section 65.106. A person who has been classified as a habitual violator under Iowa Code section 459.604 shall not acquire legal responsibility or a controlling interest to any additional permitted confinement feeding operations for the period that the person is classified as a habitual violator.

The proposed changes ensure DNR and the county will have a record of the transfer and that the owner cannot bypass the obligation to complete a master matrix.

E. 65.7. Proposed Karst Protections Are Inadequate.

One of the most pollution-sensitive features in Iowa is karst terrain, where surface water and groundwater can quickly interact. Additional nitrate and phosphorus in karst topography have a higher likelihood of degrading clean waters and harming their designated uses. DNR's own experts and agency leadership, as well as other experts in Iowa, concluded that the existing rules are inadequate. Despite that fact, the EPC has advanced rules that fail to fulfill its obligations due to political pressure, as shown below.

1. Refusal to Revise Karst Regulations Is Inconsistent with the Denial of the Petition for Rulemaking and DNR's Scientific Conclusions.

Iowa Code prohibits unformed concentrated animal feeding operation (CAFO) manure structures above karst terrain.[58] Formed concrete structures are allowed with certain protections in place.[59] The proposed rules do not protect against the water quality problems raised in IEC and ELPC's 2021 petition for rulemaking. The petition sought a 25-foot vertical separation requirement for formed manure storage structures in karst terrain.[60] That request resulted from a number of scientific analyses showing that sinkholes are most likely to form with 25 feet of cover or less.

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[58] IOWA CODE § 459.308(3).
[59] IOWA CODE § 459.307(4).
[60] "IEC Petition for Rule Change – Karst Team Objectives," Sept. 2, 2021, at 4.

Comments from the livestock industry reached the same conclusion about the depth likely to result in sinkhole formation.[61]

Existing rule allows less than five feet of separation for manure storage structures "designed and sealed by a PE or NRCS qualified staff person."[62]

On August 11, 2021, IEC and ELPC submitted a petition for rulemaking to the Environmental Protection Commission requesting greater protections for karst terrain and drinking water sources from AFO siting. IEC and ELPC's petition sought to increase the vertical separation distance for AFO structures to 25 feet.

DNR's "Karst Team," created in response to the petition, concluded that the department should modify its regulations based on the current science.[63] The Karst Team's final recommendations, attached as Exhibit A, included an overall conclusion:

> The DNR Karst Team is in agreement that groundwater in karst areas is vulnerable to seepage from manure storage structures (along with many other sources). The group also confirms that cracks in the cement or new sinkhole formation could occur in the years following construction, and that it is difficult to assess whether a belowground formed structure is leaking. The group has proposed a reorganization of the proposed rule changes regarding increased protections for formed structures with less than 25 ft of material above soluble rock in areas identified as karst terrain…

The EPC's denial of the Petition for Rulemaking on February 15, 2022, relied[64] on the future changes to regulations governing AFOs in karst terrain promised by DNR in its findings on the issue:

> After reviewing the Petition and the technical workgroup's findings, the Department intends to proceed with initiating rulemaking on karst construction standards, along with changes to other portions of Chapter 65. Among the proposals will be amendments to better address the topography of the state and provide more regulatory consistency for manure storage structures in karst terrain. On this point, the proposed amendments in the Petition would not have applied to several types of animal feeding operations than [sic] can, and do, exist in karst terrain, including non- concrete formed structures, dry manure stockpiles, and dry-bedded

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[61] Iowa Cattlemen's Association, Iowa Farm Bureau Federation, Iowa Pork Producers Association, and North Central Poultry Association, "Comments on EO-10 & 5-year review of chapter 65 dated May 2023" (June 2023), at 5 (citing G. Hallberg and B. Hoyer, *Sinkholes, Hydrogeology, and Ground-water quality in Northeast Iowa*, Iowa Geological Survey, at 11 (1982)).

[62] 65.15(14)(c).

[63] "FINAL RULE PETITION RECOMMENDATION DOCUMENT" DNR Karst Team (Dec. 16, 2021), at 1.

[64] The EPC ruling expressly relied on DNR's own conclusions, which referenced the future rulemaking. Iowa Environmental Protection Commission, "Denial of Petition for Rule Making" (Feb. 15, 2022) at 9.

> confinement facilities. These latter facilities have their own karst requirements which are different from those set out in both rule 567 IAC 65.15(14) and the Petition. The Department's efforts towards karst requirements will be to assess these in a more holistic manner than existing law and the Petition.

In the course of the informal stakeholder comment process that ensued in 2022 and 2023, DNR proposed changes to the karst language that were generally consistent with the recommendations of the Karst Team. DNR proposed to increase the separation distance from karst and to require a separation or barrier between the manure storage and the karstic bedrock.[65]

DNR submitted these changes to the Governor's staff on October 6, 2023, in a process known as "pre-clearance."[66] Pre-clearance allows the governor's office to weigh in on rules before they begin the formal public notice process under Iowa's Administrative Procedure Act.[67] The governor's staff requested more time to review the rules on November 3, 2023.[68]

On November 8, 2023, without further written communication to or from the governor's staff, DNR sent a revised rule to the governor's staff and noted that changes to the karst language were highlighted.[69] The changes reverted the karst language to existing rule, rather than the changes DNR had proposed on October 6, 2023. Ten minutes after DNR sent the revised karst language, the governor's staff sent an email approving the revised rule.[70] The process and timing show that the rule changes resulted from political pressure, rather than a reasoned decision by the agency.

2. Risks of Constructing on Karst

Karst is a landscape formation created by dissolving bedrock that may contain sinkholes, sinking streams, caves, springs, and other features.[71] Karst is associated with soluble rock types such as limestone, marble, dolomite, and gypsum.[72] A typical karst landscape forms when much of the water falling on the surface interacts with and enters the subsurface through cracks, fractures, and holes that have been dissolved into the bedrock.[73]

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[65] *See* DNR Draft Rules, Sept. 6, 2023, at section 65.7(3) (*Iowa Admin. Bulletin*, Sept. 6, 2023, at 629).

[66] IEC obtained emails regarding the rulemaking process in response to an Open Records Act request. *See* email from Tamara McIntosh to Nate Ristow, Oct. 6, 2023.

[67] Under the Administrative Procedure Act, the governor can object to a rule, which can render the rule invalid or shift the burden of proof in a challenge to the rule. IOWA CODE § 17A.4(3)"b"(1); 17A.4(6)"a". Agencies avoid this outcome in practice by providing rules to the governor's office for "pre-clearance" to proceed with rulemaking.

[68] Email from Nate Ristow (Administrative Rules Coordinator) to Tamara McIntosh (DNR General Counsel), Nov. 3, 2023.

[69] Email from Tamara McIntosh to Nate Ristow, Nov. 8, 2023.

[70] Email from Nate Ristow to Tamara McIntosh, Nov. 8, 2023.

[71] NATIONAL PARK SERVICE, *Karst Landscapes*, https://www.nps.gov/subjects/caves/karst-landscapes.htm (last visited Feb. 21, 2024).

[72] *Id.*

[73] *Id.*

Karst is an ideal aquifer, but because it is porous, water travels quickly through it while receiving little filtration.[74] Therefore, contaminants that enter a karst aquifer are rapidly transported and create water quality problems.[75] About 20% of the United States is underlain by karst landscapes and 40% of groundwater used for drinking comes from karst aquifers.[76]

Most of the karst terrain in Iowa is in the northeast portion of the state, known as the Driftless area that was not subject to glaciation.[77] The porous rock is sometimes very close to the soil surface, reducing the potential for the soil to filter pollutants from water before it reaches an aquifer. Manure spills or other releases of pollutants on karst topography can quickly enter groundwater and pollute surface water. In July 2021, a leak from an underground storage system managed to cause a fish kill in surface water before the stream "disappeared underground just upstream of the Turkey River."[78] A study of drinking water wells in fractured bedrock in Wisconsin found that livestock manure was the most likely source for contaminated drinking water that would result in gastrointestinal illness.[79]

The majority of the waters that the Department of Natural Resources has designated as Outstanding Iowa Waters are coldwater trout streams in the area of karst terrain in Northeast Iowa.[80] The fact that these high-quality waters are located in karst terrain and are more vulnerable to pollution further necessitates preventing CAFO siting in these areas. The DNR's recent approval of a large CAFO in the area led to widespread public outcry and poses a threat to multiple Outstanding Iowa Waters.[81]

Increasing the vertical separation distance will reduce the risk of leaking and failure of manure storage structures through sinkholes. Minnesota has concluded that karst greater than 50 feet below the ground surface will not typically lead to surface features:[82]

> In Minnesota surface karst features primarily occur where 50 feet or less of unconsolidated sediment overlies Paleozoic carbonate bedrock, the St. Peter

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[74] *Id.*
[75] *Id.*
[76] *Id.*
[77] *See* "NE Iowa Watershed and Karst Map," Iowa DNR (Nov. 2010), available at https://www.iowadnr.gov/Portals/idnr/uploads/water/wells/IGWS%20Karst%20Map.pdf.
[78] "DNR investigated fish kill in Winneshiek County over weekend," Iowa DNR News Release, July 12, 2021.
[79] Coburn Dukehart, "Cow Manure Predicted To Cause Most Sickness From Contaminated Wells In Kewaunee County," Wisconsin Public Radio (June 24, 2021) available at https://www.wpr.org/cow-manure-predicted-cause-most-sickness-contaminated-wells-kewaunee-county.
[80] *See* "Iowa's Outstanding Iowa Waters Map," Iowa DNR, available at https://www.iowadnr.gov/Portals/idnr/uploads/water/standards/outstanding_iowa_waters.pdf.
[81] *See* "Summary of Comments Received by the Iowa Department of Natural Resources," Iowa DNR, April 2, 2021; Clay Masters, "The Battle Over Bloody Run Creek," Iowa Public Radio (July 1, 2021), available at https://www.iowapublicradio.org/environment/2021-07-01/the-battle-over-bloody-run-creek.
[82] Adams, R., et al. "Minnesota Regions Prone to Surface Karst Feature Development." Minnesota Department of Natural Resources (2016), at 4, available at http://files.dnr.state.mn.us/waters/groundwater_section/mapping/gw/gw01_report.pdf.

> Sandstone, or the Hinckley Sandstone. This coverage outlines areas where karst features can form on the land surface and where karst conditions are present in the subsurface.... Subsurface karst conditions also occur in carbonate rock in areas where there is more than 50 feet of unconsolidated material over bedrock, but those conditions rarely lead to surficial karst feature development in Minnesota.

Karst in Minnesota is largely in the southeastern part of the state, adjacent to Iowa.[83] Because it is part of the same geologic formation, it would behave similarly to karst in Iowa.

The DNR's Karst Team, formed in response to the Petition for Rulemaking filed in August 2021, reached a similar conclusion in summarizing a recent study:[84]

> A recent study by the Iowa Geological Survey found that, with the assistance of high-resolution geologic mapping, karst susceptibility is highly dependent on the depth to bedrock and bedrock lithology. The data showed approximately 80% of mapped sinkholes within the study area occurred where carbonate bedrock was less than 25 feet below the land surface. Whereas only about 16% of mapped sinkholes occurred where carbonate bedrock was less than 5 feet below the surface. Using a 25-foot separation distance ensures that the vast majority of proposed CAFO sites within this category will be able to identify potential risks due to karst.

Numerous manure storage structures and wastewater storage structures have leaked or failed when constructed above karst terrain. In Iowa, the city of Garnavillo built a wastewater pond over karst bedrock. During a test of the liner seal, the pond completely drained over one weekend through a sinkhole that formed in the bottom of the pond.[85]

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[83] *Id.* at 1.

[84] "FINAL RULE PETITION RECOMMENDATION DOCUMENT" (Dec. 16, 2021), at 3.

[85] Libra, R.D. "Living in Karst." Iowa Geological Survey Guidebook Series No. 25 (Oct. 2005). Available at https://s-iihr34.iihr.uiowa.edu/publications/uploads/GB-25.pdf.

Figure 1. Sinkhole in Garnavillo Lagoon.

Sinkholes have formed under numerous earthen basins in other states.[86] Failures due to karst include a manure storage basin in Southeast Minnesota that leaked so quickly it never needed to be pumped. [87] Other municipal wastewater ponds lost millions of gallons of wastewater through sinkholes that formed after many years of use.[88] Wastewater storage sites in Missouri have resulted in sinkhole collapses that drained millions of gallons.[89] These include the collapse of the West Plains lagoon in 1978 that allowed 50 million gallons of sewage to enter groundwater, which led to hundreds of cases of flu-like illness attributed to the pollution.[90]

The Karst Team reached a similar conclusion. After meeting to discuss the available science and risks, the Karst Team found that "groundwater in karst areas is vulnerable to seepage from manure storage structures (along with many other sources). The group also confirms that cracks in the cement or new sinkhole formation could occur in the years following construction, and that it is difficult to assess whether a belowground formed structure is leaking."[91]

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[86] "Recommendations of the Technical Workgroup Liquid Manure Storage in the Karst Region," Report to the Minnesota Senate and House Agriculture and Rural Development Committees (Dec. 20, 2000), at 7, available at https://www.pca.state.mn.us/sites/default/files/karst.pdf.

[87] *Id.*

[88] *Id.*

[89] Aley, T. "The Karst Setting." Journal of the Missouri Speleological Survey 65 (2022) at 119-120.

[90] *Id.* at 119.

[91] "FINAL RULE PETITION RECOMMENDATION DOCUMENT," DNR Karst Team, Dec. 16, 2021 (with five of six individual team members indicating agreement between Dec. 17 and Dec. 20, 2021).

The Karst Team final recommendations noted that 25 feet of separation does not guarantee protection from sinkholes:[92]

> Sinkholes in Iowa can occur even in areas where there is more than 25 feet of materials overlying the carbonate rock. However, sinkholes are much less likely to occur in areas where rock is greater than 25 feet below the surface. Minnesota defines karst as areas with <50 feet to rock. Well depth and distance to sinkholes were the most important factors for predicting nitrate concentrations in private wells in the Wheeler study.

This is consistent with a more recent finding from Iowa Geological Survey in north-central Iowa karst terrain, finding that 85 percent of sinkholes formed with a depth to bedrock less than 25 feet.[93]

Scholarship on karst shows that there is grave risk in building CAFOs on karst terrain[94] and the rules should address that risk. The Karst Team also found that "Studies of public water supply wells also indicate that wells with less than 100 feet of confining materials are vulnerable to contamination from surface activities."[95]

Experts have also suggested requirements for scientific study before siting CAFOs on karst, including a complete inventory of the karst geology, an understanding of water flow, and an assessment of existing water quality.[96] These recommendations are included in Exhibit B. Iowa has not conducted this type of analysis in karst terrain, and in fact relies on maps of sinkholes from 1982 that failed to identify many existing sinkholes:[97]

> Current hazard maps and GIS coverages are incomplete or out of date. The original sinkhole data for Iowa was based on the Natural Resource Conservation Service (NRCS) county soil surveys. These data have proven to vastly underrepresent the

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[92] "FINAL RULE PETITION RECOMMENDATION DOCUMENT," DNR Karst Team, Dec. 16, 2021, at 3 (citing Wheeler, D.C.; Nolan, B.T.; Flory, A.R.; et al. 2015. Modeling Groundwater Nitrate Concentrations in Private Wells in Iowa. In Science of the Total Environment, Vol. 536:481-488. http://www.ncbi.nlm.nih.gov/pubmed/26232757).

[93] Tassier-Surine, S. A., Kerr, P., Clark, R. J., Wolter, C. F., Vogelgesang, J., & Kusick, A. (2021). Geologic Hazards Mapping: Identifying Sinkholes and Karst Susceptible Areas In Worth, Cerro Gordo, Mitchell, and Floyd Counties. *Iowa Geological Survey Technical Information Series*, *59*, at 27.

[94] *See* Van Brahana et al., *CAFOs on Karst—Meaningful Data Collection to Adequately Define Environmental Risk, with a Specific Application from the Southern Ozarks of Northern Arkansas*, US GEOL. SURVEY SCI. INVEST. REP. 5035, 97.

[95] "FINAL RULE PETITION RECOMMENDATION DOCUMENT," DNR Karst Team, Dec. 16, 2021, at 3 (citing "2013 Survey of Iowa Groundwater and Evaluation of Public Well Vulnerability Classifications for Contaminants of Emerging Concern," Iowa Geological and Water Survey Technical Information Series 57 (May 2015)).

[96] Brahana, V., Nix, J., Bitting, C., Bitting, C., Quick, R., Murdoch, J., ... & North, V. (2014). CAFOs on karst—meaningful data collection to adequately define environmental risk, with a specific application from the Southern Ozarks of Northern Arkansas. *US Geological Survey Scientific Investigations Report*, *5035*, 97-102.

[97] Tassier-Surine, S. A., Kerr, P., Clark, R. J., Wolter, C. F., Vogelgesang, J., & Kusick, A. (2021). Geologic Hazards Mapping: Identifying Sinkholes and Karst Susceptible Areas In Worth, Cerro Gordo, Mitchell, and Floyd Counties. *Iowa Geological Survey Technical Information Series*, *59*, at 3.

> number of sinkholes in Iowa. The availability of LiDAR (Light Detection and Ranging), updated geologic maps, and bedrock topography coverages, combined with historic aerial photos and other datasets allowed for substantial improvements to the existing sinkhole dataset.

Iowa's climate exacerbates the risk of failures in clay-lined manure storage because they "are subject to desiccation and/or they may be affected by freeze and thaw cycles after the ponds have been pumped out and have not yet completely refilled with manure and water."[98]

In Minnesota, community groups have sought additional action from EPA due to the state's inadequate action to protect the karst region from pollution.[99] EPA has responded by requiring additional steps from state agencies.[100] The same karst geology underlies northeast Iowa.

3. 65.7. Karst Determinations and Soil Corings.

The requirements for karst terrain presume that the applicant knows whether a structure is actually above karst terrain. That depends entirely on the sufficiency and accuracy of soil corings that measure the depth to karst.

In 2022 and 2023, we commented on how to ensure that the karst assessment is reasonably accurate.[101] Specifically, we recommended requiring more than two corings, ensuring the corings represent a cross-section of the area under the manure storage structure, and taking them to a greater depth. Maintaining adequate separation fulfills the prohibition in statute against unformed manure structures within 25 feet of karst terrain.[102]

We are also concerned that reliance on the sinkhole map could ignore sinkholes discovered but not on the sinkhole map. We suggest adding the following to 65.7(1):

> b. If the proposed formed manure storage structure is located in potential karst terrain, a PE licensed in Iowa, an NRCS-qualified staff person or a qualified organization shall submit a soil report, based on the results from soil corings~~,~~ or test pits ~~or acceptable well log data~~, describing the subsurface materials and vertical separation distance from the bottom of the proposed structure to the underlying

[98] Aley, T. "The Karst Setting," Journal of the Missouri Speleological Survey (2022) at 120.

[99] Minnesota Center for Environmental Advocacy, et al., "Petition for Emergency Action Pursuant to the Safe Drinking Water Act to address groundwater contamination in southeastern Minnesota" (Apr. 24, 2023), available at https://www.mncenter.org/sites/default/files/permalinks/42423-emergency-sdwa-petition-to-epa-with-exhibits.pdf.

[100] Letter from Debra Shore, U.S. EPA Region 5 Administrator, to Brooke Cunningham, Minnesota Department of Health Commissioner, et al. (Nov. 3, 2023), available at https://www.epa.gov/system/files/documents/2023-11/ao-rmod-reponse-letter_20230510-508.pdf.

[101] *See* Joint Comments, June 2023 at 25-27; Joint Comments, Oct. 2022, at 10-11.

[102] IOWA CODE § 459.308(3).

> limestone, dolomite or soluble rock. The karst terrain determination shall incorporate site-specific investigation and regional knowledge of sinkholes that have occurred that are not identified on the Siting Atlas. A minimum of ~~two~~ six soil corings spaced equally within the structure ~~or 2 test pits located within five feet of the outside of the structure~~ are required ~~if acceptable well log data is not available~~. The soil corings shall be taken to a minimum depth of 15 feet below the bottom elevation of the proposed structure or into bedrock, whichever is shallower. Any limestone, dolomite, or soluble bedrock in the corings ~~or test pits~~ shall be considered the bedrock surface rather than augur refusal. After the soil exploration is complete, each coring or test pit shall be properly plugged with concrete grout, bentonite or similar materials, and completion of this activity shall be documented in the soil report. If a 25-foot vertical separation distance can be maintained between the bottom of the proposed formed manure storage structure and limestone, dolomite, or other soluble rock, then the structure is not considered to be in karst terrain.

Similarly, section 65.7(4) requires only one boring to establish whether a site with potential karst can maintain the 25-foot separation that allows construction of unformed manure storage structures. Because the karst has variable depth, we recommend more than one boring.

> **65.7(4)** *Unformed structures*. The construction of unformed structures is prohibited in karst terrain or an area that drains into a known sinkhole. In potential karst, at least ~~one~~ four borings at least 25 feet apart shall be taken to a minimum depth of 25 feet below the bottom elevation of the proposed unformed storage structure or into bedrock, whichever is shallower. If a 25 feet vertical separation distance can be maintained between the bottom of the unformed structure and limestone, dolomite, or other soluble rock then the structure is not considered to be in karst terrain. No intact bedrock, including sandstone, shale, limestone, dolomite, or soluble rock, shall be removed or excavated during the construction of a storage structure.

The additional borings decrease the risk of vertical separation distances of less than 25 feet from karst. Maintaining adequate separation fulfills the prohibition in statute against unformed manure structures within 25 feet of karst terrain.[103]

DNR has not incorporated the recommendations above. We reiterate that collecting sufficient corings is fundamental to ensuring compliance with statutory restrictions on construction in karst terrain.

[103] IOWA CODE § 459.308(3).

4. 65.7(3). Requested Changes to Vertical Separation

Current rules and DNR's proposed rule generally require a five-foot separation from karst geology.[104] DNR's Karst Team concluded that the rules should provide protection beyond the existing requirements, including a strict five-foot separation distance and design by a professional engineer or NRCS for structures with less than 25 feet of vertical separation.[105]

Existing rule is not adequate to prevent water contamination when manure structures are built in karst terrain, as required by statute.[106] DNR should modify this to require a 25-foot vertical separation, which is already in effect for unformed CAFO structures above karst.[107] Iowa rules contain an exception in chapter 567, section 65.15 for situations where the Natural Resources Conservation Service designs a structure that can be used for terrain less than 25 feet above karst based on the site-by-site data and external professional input.[108] That exception could remain in place to allow site-specific alternatives.

Based on the history of structural failure in karst, we reiterate our recommendation that DNR adopt a 25-foot vertical separation distance requirement.

To address the proposed rule's inadequate protection against catastrophic failure of manure storage structures in karst, we recommend the following language for section 65.7(3):

> Except as provided for in subrule 65.7(5) related to the construction of a dry bedded confinement feeding operation structure, in addition to the concrete standards set forth in subrule 65.108(10) or Iowa Code section 459.307 if not constructed of concrete, a person constructing a formed manure storage structure on karst terrain shall comply with the following:
>
> *a.* A minimum twenty five-foot vertical separation distance between the bottom of the formed structure and underlying limestone, dolomite, or other soluble rock is required ~~if the formed manure storage structure is not designed by a PE or NRCS qualified staff~~.
>
> ~~b. If the vertical separation distance between the bottom of the proposed formed manure storage structure and limestone, dolomite, or other soluble rock is less than 5 feet, the structure shall be designed and sealed by a PE or NRCS qualified staff person who certifies the structural integrity of the structure. A 2-foot-thick layer of compacted clay liner material shall be constructed underneath the floor of the formed manure storage structure. However, it is recommended that any formed manure storage structure be constructed aboveground if the vertical separation distance between the~~

[104] IOWA ADMIN. CODE r. 567-65.2(10)(b).
[105] "FINAL RULE PETITION RECOMMENDATION DOCUMENT," DNR Karst Team, Dec. 16, 2021, at 2.
[106] IOWA CODE § 459.311(3).
[107] IOWA ADMIN. CODE r. 567-65.15.
[108] *Id.*

~~bottom of the structure and the limestone, dolomite, or other soluble rock is less than 5 feet.~~

With regard to water quality protections at open feedlots in karst terrain or floodplains, we reiterate our concern that limiting regulatory requirements to settled effluent basins at operations requiring construction permits leaves many AFOs unregulated. Under Iowa Code section 459A.205(4), the requirement to obtain a construction permit hinges on the requirement to obtain a NPDES permit. As discussed in Section P, *infra*, many AFOs that do in fact discharge to waters of the state improperly avoid NPDES permitting. Thus, an AFO's interpretation as to whether it is required to obtain a construction or NPDES permit is not an appropriate trigger for whether to apply increased protective measures. Instead, DNR should simply mandate impermeable liners for any open feedlot effluent basin located in karst terrain or a floodplain.

5. 65.7(3). Liners and Permeability in Karst.

If DNR refuses to provide protection through a 25-foot vertical separation distance, it must at least require separation from the karst geology. DNR had proposed to do so in prior drafts of the rule by offering a choice of additional vertical separation, a two-foot compacted clay liner, and a geosynthetic clay liner (GCL).

If DNR allows GCLs, the rule should specify in section 65.7(3) that the GCLs must meet NRCS Conservation Practice Standard 521. The NRCS calls for GCLs to be covered with 12 inches of soil.[109] DNR had previously proposed to require liners "directly beneath" the formed structure. This could be interpreted to mean that concrete is poured directly on the GCL, which is inconsistent with the standard.

Additionally, we note that permeability limits for structures that store AFO waste vary throughout the regulations. For instance, a more stringent permeability standard is established for stockpiling in non-karst terrain than for formed manure storage structures in karst terrain.[110] Notably, a regulatory standard that establishes a permeability standard of 1 x 10^{-6} cm/sec allows substantial amounts of AFO waste to seep into the surrounding environment over the course of a year.[111] We therefore recommend that DNR institute a heightened permeability standard of 1 x 10^{-7} cm/sec for liners in sensitive areas, and use this heightened standard to assess equivalency when determining whether a material proposed for use in a manure storage structure or effluent basin is "similar" enough to satisfy the materials requirements for those structures noted in 65.1.

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[109] NRCS Conservation Practice Standard 521 (Aug. 2023) at 4.

[110] *Compare* 1 x 10^{-7} cm/sec standard in 65.100(7)"a"(1)(2) *with* 1 x 10^{-6} cm/sec standard in 65.7(3)(b). *See also* 65.206(4) approving a liner that reduces percolation to one-sixteenth inch per day.

[111] *See* Public Comments on Proposed Modification of NPDES Permit #IDG01000, Expert Report of David J. Erickson PG CPG, https://www.epa.gov/system/files/documents/2023-09/R10-NPDES-Idaho-CAFO-GP-IDG010000-Draft-Permit-Mod-Public-Comments-2023.pdf at 45 (compiled by EPA on Sept. 21, 2023) (charting the millions of gallons of pollution that permeate through liners with permeability ratings of 1 x 10^{-6} cm/sec).

F. 65.9. DNR Must Adopt the Floodplain Map as Proposed.

The proposed rules include adoption of a floodplain map by incorporating it into the AFO Siting Atlas on the DNR website.[112] This fulfills a legislative directive dating to 2002.[113] As explained in the 2022 Petition for Rule Making, climate change is expected to exacerbate the intensity and frequency of storms in Iowa, including rainfalls. Ensuring that DNR maintains and updates the floodplain map regularly will be important to ensure adequate protection for water quality in the future.

G. 65.101. Land Application Requirements Must Prevent Pollution.

The proposed rules should incorporate proper nitrogen application rates as a requirement. We are disappointed that DNR has not retained existing language specifying other best practices for manure application.

To implement our recommended change to nitrogen-based manure application rates based on university recommendations, as discussed in more detail at section II.O(5) on page 45, we recommend that proposed section 65.101(1) be revised as follows:

> ~~**65.3(1)**~~ **65.101(1)** *Application rate based on crop nitrogen use.* A confinement feeding operation that is required to submit a ~~manure management plan~~ MMP to the department under rule ~~567—65.16~~ 567—65.111(459,459B) shall not apply manure in excess of current recommendations from an Iowa-based state university for the maximum return to nitrogen ~~use levels necessary to obtain optimum crop yields~~. Calculations to determine the maximum manure application rate allowed under this subrule shall be performed pursuant to rule ~~567—65.17~~ 567—65.112(459,459B).

Land application of manure to tile-drained land can rapidly lead to water pollution if the manure is liquid or is quickly followed by precipitation. We recommend adding a provision to test tile drainage following land application of liquid manure or precipitation following manure application by adding the following paragraph to section 65.101(2):

> e. For liquid manure applied to land with subsurface drainage, the manure applicator shall sample water quality from any tile monitoring points or outlets on the property downgradient of the manure application. The applicator must submit samples from each monitoring sample to a certified laboratory at least once per year

[112] Proposed rule at § 65.9.

[113] 2002 IOWA LAWS ch. 1137, sec. 32.

> and electronically provide to DNR the results for total phosphorus, nitrate-nitrogen, and E. coli within 30 days after receipt.

These testing requirements would capture instances of manure reaching surface waters, which may trigger requirements for permit coverage under the Clean Water Act.

The proposed rules delete a section of recommendations (existing rule 65.3(5)) that contain best practices for manure application.[114] While some of these recommendations relate to application rates that should be mandatory, including our recommended nitrate application rate changes to rule section 65.112(18)(c), other recommendations are not otherwise incorporated into rule. For example, existing rules advise on best practices for emergency application to frozen or snow-covered ground. DNR should adopt those as enforceable requirements. If DNR does not believe it has legal authority to adopt a particular recommendation as an enforceable standard, it should retain the provisions as recommendations. Including the recommendations in rule would demonstrate prudent and generally accepted management practices. While they may not be enforceable, they provide important information to manure applicators about how to minimize risks to water quality.

H. 65.103, 65.203. Construction Permit Triggers in Proposed Section 65.103 and 65.203 Allow Evasion of the Rules.

Construction permits serve as the primary trigger for DNR oversight of new AFOs. Many requirements in the existing and proposed rules rely on a construction permit, either for construction requirements or for ongoing oversight of the facility. Unfortunately, even AFOs that substantially affect water quality can avoid construction permit triggers.

Proposed rule 65.103(2) lists exceptions to the general requirement to obtain a construction permit. One of the exceptions is for a small AFO (SAFO) with a formed manure storage structure. We recommend modifying the language of this section to avoid an ambiguous interpretation and to ensure that SAFOs operating in conjunction with other AFOs acquire a permit:

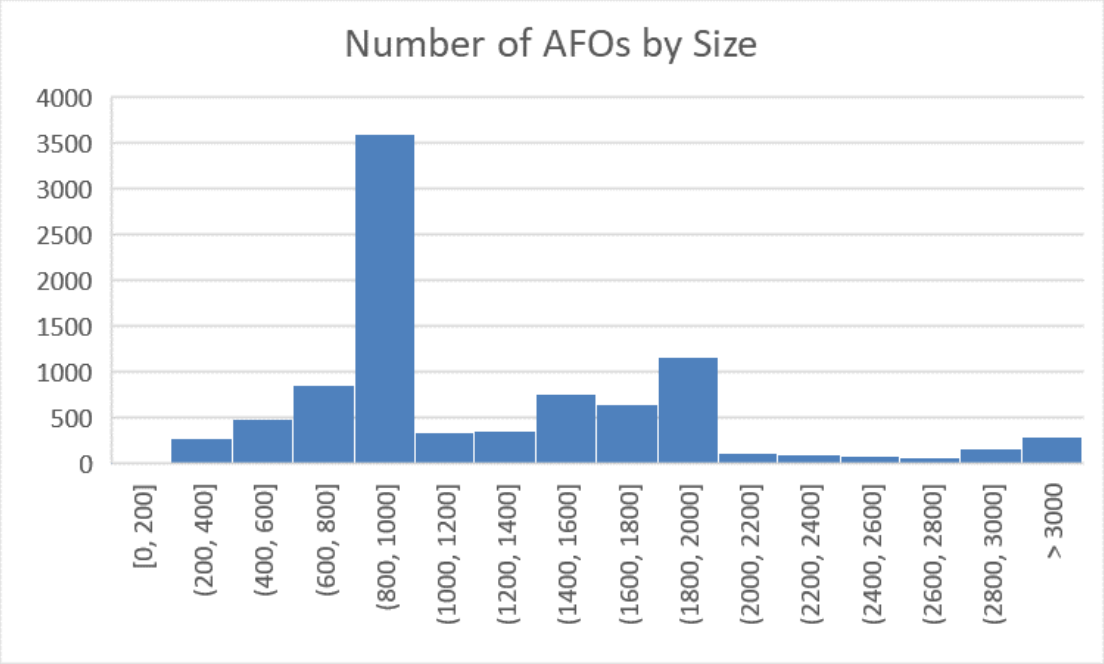
> *a.* A construction permit shall not be required for a SAFO that uses a formed manure storage structure or for a confinement building that uses a formed manure storage structure in conjunction with a SAFO. However, this paragraph shall not apply to a SAFO that uses an unformed manure storage structure. A SAFO under common ownership or operating in conjunction with another AFO must obtain a construction permit if the total animal unit capacity exceeds 1000.

Supreme Beef provides an example of a different evasion of construction permit triggers. Supreme Beef initially proposed to install an anaerobic digester that would capture methane. DNR issued

[114] *See* existing rule IOWA ADMIN. CODE r. 567-65.3(5).

the facility a wastewater construction permit rather than a feedlot construction permit. Years later, Supreme Beef changed its approach, removed the anaerobic digester, and proposed to use the manure storage structure as an open basin. But DNR did not require an additional approval to ensure the site met the AFO construction requirements and Supreme Beef never applied for an AFO construction permit. This loophole results from the statute only requiring construction permits for open lots that must obtain an NPDES permit.[115]

Unfortunately, the statutory provisions in chapter 459A preclude DNR oversight for thousands of open feedlots. Combined with the statutory threshold of 1,000 animal units for manure planning, facilities have an incentive to build just below the threshold to avoid construction permitting and manure planning regulations.[116]



We recommend DNR undertake efforts to remove the statutory thresholds, which limit DNR's oversight of manure through management plans to only 56 percent of documented AFOs in the state.[117] The lack of regulation led DNR to discover that thousands of AFOs below this threshold existed without DNR's knowledge.[118] Failure to follow construction permitting requirements can have serious consequences, as shown by the 376,000 gallon release from Winding Meadows Dairy

[115] IOWA CODE § 459A.205(4).
[116] IEC analysis of data from DNR's AFO database (Feb. 2024). Data are available at https://programs.iowadnr.gov/animalfeedingoperations/.
[117] *Id.*
[118] Donnelle Eller, "Iowa uses satellites to uncover 5,000 previously undetected animal confinements," Des Moines Register (Sept. 15, 2017), available at https://www.desmoinesregister.com/story/money/agriculture/2017/09/15/iowa-discovers-thousands-more-hog-cattle-operations-state-says-most-likely-too-small-require-oversig/665956001/.

earlier this year.[119] These types of violations occur even when developers know about the permitting requirements.[120]

I. 65.104. Pre-Construction Submittal Requirements Must Include Ownership.

The proposed construction permit application requirements in section 65.104(1) include the parties with the controlling interest in the operation, including a new requirement that for partnerships and corporations, the application must include "a list of all members and their percentage of ownership in the partnership or corporation."

DNR needs to ensure that the list provided as part of the permit application is accurate. We recommend DNR require not just a list of ownership, but provide the underlying legal document (operating agreement) for any corporation that defines the ownership interests. This operating agreement provides verification of claims by an applicant. Alternatively, DNR could specify that false information on applications is a violation of Iowa Code section 714.8.[121]

We also recommend that the name of the corporation that owns the livestock (integrator) be included in order to ascertain if there is common management. We recommend the following language for section 65.104(1):

> ~~**65.9(1)**~~ **65.104(1)** *Construction permit application.* Application for a construction permit for a confinement feeding operation shall be made on a form provided by the department. The application shall include all of the information required in the form. At the time the department receives a complete application, the department shall make a determination regarding the approval or denial of the permit in accordance with subrule ~~65.10(5)~~ 65.106(5). A construction permit application for a confinement feeding operation shall be filed as instructed on the form and shall include the following:
> *a.* The name of the applicant and the name of the confinement feeding operation, including mailing address and telephone number.
> *b.* The name of the current landowner or the proposed landowner of the land where the confinement feeding operation will be located. For a corporate landowner, provide the names of all parties with an interest or controlling interest in the corporation.

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[119] Erin Jordan, "Northwest Iowa dairy fined $10K for 376,000-gallon manure spill," *The Gazette* (Jul. 8, 2022), available at https://www.thegazette.com/agriculture/northwest-iowa-dairy-fined-10k-for-376000-gallon-manure-spill-from-digester-into-paddling-creek/ (citing failure to comply with construction certification requirements).

[120] Jared Strong, "Company with major manure leak didn't get permit to build other facility, DNR says," Iowa Capital Dispatch (July 22, 2022), available at https://iowacapitaldispatch.com/2022/07/22/company-with-major-manure-leak-didnt-get-permits-to-build-two-facilities-dnr-says/ (citing failure to obtain a permit by the same owner as Winding Meadows Dairy).

[121] Iowa Code section 714.8 defines fraudulent practices to include entries on public records that a person knows to be false. DNR relies on this section for other applications it issues.

~~b~~c. The contact person for the confinement feeding operation, including mailing address and telephone number.

d. The name of the corporation that owns the livestock (integrator).

…

~~k~~l. The names of all parties with an interest or controlling interest in the confinement feeding operation who also have an interest or controlling interest in at least one other confinement feeding operation in Iowa, and the names and locations of such other operations along with the official legal business documents for the LLC listing each owner and their percent of ownership along with the signature page.

DNR should make clear that statements made to DNR in a construction permit application are required under Iowa Code chapter 455B, subchapter 3, part 1, and that the penalties in Iowa Code section 455B.191 apply. Providing the additional information and clarifying that common ownership interests in multiple LLCs owning otherwise adjacent AFOs is shared ownership and renders the adjacent facilities a single AFO for purposes of Chapter 65 will close this longstanding loophole.

J. 65.105. Construction permit application review process, site inspections and complaint investigations lack clarity.

The proposed rule at section 65.105(3) specifies that "A county board of supervisors may adopt a construction evaluation resolution" for a confinement structure, and that such resolutions "remain in effect" until rescinded. The rule proposes an enrollment period of January 1 through January 31. It is not clear whether resolutions previously passed by a county board need to be passed again after rule adoption. We recommend clarifying whether a county board needs to re-adopt such a resolution.

K. 65.106. The MMP must incorporate ongoing Master matrix obligations.

The Master Matrix is a scoring system to site confinement operations in the state. Several pieces of the matrix provide additional points for approval based on operational practices, such as increasing setbacks for manure application beyond the legal minimum or applying manure to land with buffer strips.[122] These commitments create an ongoing obligation for the facility in its handling of manure. Statute expressly requires inclusion of these practices in the initial MMP, but is not explicit about future updates to the MMP.[123] Existing rule fills that gap, requiring maintenance of these practices through the MMP on an ongoing basis.[124] The proposed rules

[122] The "Proposed Site Operation and Manure Management Practices" category of the matrix, addressing items 26 through 44, addresses many obligations that apply during facility operations.

[123] See IOWA CODE § 459.305(1)(a) (requiring practices to be included in the initial MMP).

[124] IOWA ADMIN. CODE r. 567-65.17(4).

provide no method for reporting to DNR, demonstrating compliance to the public, or enforcing the requirements. We propose the following addition at section 65.106(10):

> 65.106(10) Ongoing master matrix obligations. A confinement that receives points for its score on the master matrix based on operational practices must submit records of compliance with those practices to DNR at least annually.

Without this component, DNR and the public have no assurance that the AFO fulfills its master matrix obligations for the duration of its operations.

L. 65.106(4). Exemptions to Manure Application Separation Distances Undermine the Purpose of the Rules.

Statute and rule require separation distances from AFOs and AFO structures for the benefit of the public and nearby property owners. The proposed rules do not strike the proper balance between private benefits of AFO owners and other property uses.

Proposed rule section 65.106(4) addresses separation distances from designated wetlands. Statute expressly provides that "a confinement feeding operation structure shall not be constructed" within 2,500 feet of a designated wetland.[125] The proposed rule would allow construction if an application has already been submitted or (if no construction permit is required) an MMP has been submitted to DNR. These exceptions do not exist in statute. DNR should revise section 65.106(4) to apply the statutory prohibition as follows:

> **65.106(4)** *Separation distance from designated wetlands.* Separation distances specified in this subrule shall apply to any confinement feeding operation structure, including a SAFO. A confinement feeding operation structure shall not be constructed closer than 2,500 feet away from a "designated wetland" as defined and referenced in rule 567— 65.1(459,459B). This requirement shall not apply to a confinement feeding operation structure if any of the following occur before the wetland is included in "Designated Wetlands in Iowa":
> a. The confinement feeding operation structure already exists. ~~This exemption also applies to additional confinement feeding operation structures constructed at the site of such an existing confinement feeding operation structure after a wetland is included in "Designated Wetlands in Iowa."~~
> b. Construction of a confinement feeding operation structure has begun as provided in subrule 65.6(1).
> ~~c. An application for a permit to construct a confinement feeding operation structure has been submitted to the department.~~
> ~~d. An MMP concerning a proposed confinement feeding operation structure for which a construction permit is not required has been submitted to the department.~~

[125] IOWA CODE § 459.310(1).

DNR must make this change to fulfill the statutory prohibition on construction near wetlands.

M. 65.108. DNR Inappropriately Reduced Monitoring Requirements.

In the 2021 rulemaking petition, IEC and ELPC proposed to increase groundwater monitoring requirements at confinements and open lots with earthen manure structures to reduce the risk of unremediated groundwater contamination. Water quality monitoring has shown increasing concentrations of nitrate and bacteria in groundwater, particularly in areas with substantial presence of AFOs. Earthen manure containment systems have a potential to leach nitrate into groundwater[126] and those who use them should be responsible for ensuring that there is no downgradient contamination.

Our prior request was consistent with Iowa Code, which expressly allows DNR to require water quality monitoring for unformed manure structures.[127] DNR has rejected that approach.

We reiterate the need for monitoring in light of the potential for leaks at aging manure storage facilities. Recent events have shown that this risk is real – an earthen clay-lined manure storage basin constructed in Greene County in 1990 leaked into a nearby creek in August 2023, contaminating more than 500,000 gallons of water.[128] Without monitoring at the storage basin, it took DNR days to identify the source of the water pollution.[129] As AFO structures age, the risk of similar incidents increases.

The proposed rule does not add groundwater quality monitoring requirements at any unformed manure structures. This ignores DNR's statutory authority and increases the likelihood of major leaks to shallow groundwater going undetected. Because the Safe Drinking Water Act does not apply to private wells and the state does not require private well testing, DNR should ensure facilities identify and stop pollution at the source of contamination. This requirement is similar to requirements imposed in Wisconsin, which already requires monitoring around manure storage structures.[130] We recommend the following addition to proposed rule 65.108:

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[126] IOWA ADMIN. CODE r. 567-65.3(5)(a) (referencing actions to minimize leaching); *see, e.g.*, "Effects of Liquid Manure Storage Systems on Ground Water Quality," Minnesota Pollution Control Agency (Apr. 2001), available at https://www.pca.state.mn.us/sites/default/files/rpt-liquidmanurestorage.pdf (finding increased nitrate and phosphorus downgradient of unlined and earthen basins).

[127] IOWA CODE § 459.303(6).

[128] Jared Strong, "DNR: Aging manure basin leaked into ground, tiling and creek," Iowa Capital Dispatch, Sept. 8, 2023, available at https://iowacapitaldispatch.com/2023/09/08/dnr-aging-manure-basin-leaked-into-ground-tiling-and-creek/.

[129] *Id.*

[130] *Clean Wisconsin, Inc., v. Wisconsin Department of Natural Resources*, 2021 WI 71 (Case No.: 2016AP1688, decided July 8, 2021).

> 65.108(15) *Groundwater monitoring.* The owner of an AFO with an unformed manure storage structure must install and operate a groundwater water pollution monitoring system. Two or more groundwater sampling wells 25 or more feet apart must be installed between 5 feet and 25 feet outside the toe of the berm on the downgradient side, or on opposite sides if the site has no slope. The operator must submit samples from the monitoring device to a certified laboratory at least once per year and electronically provide to DNR the results for total phosphorus, nitrate-nitrogen, and E. coli within 30 days after receipt.

DNR should include the data in the AFO database to inform the public, including nearby residents, of the quality of shallow groundwater in the area. DNR should also evaluate this information to flag threats to surface water and groundwater from these high-risk facilities and to determine appropriate thresholds for response actions such as a remediation plan.

When drainage tile lowers the water table at a facility, the drainage tile should also be monitored to ensure no lateral leakage into the drainage tile. Existing and proposed rules require installation of a monitoring device in some circumstances, but do not require monitoring to commence. As a condition of building an AFO in the natural groundwater table, DNR should require ongoing monitoring. We recommend the following changes to 65.108(6)(b):

> (1) Unformed manure storage structures. The groundwater table around an unformed manure storage structure or earthen egg washwater storage structure may be artificially lowered to levels required in paragraph 65.108(6)"a" by using a gravity flow tile drainage system or other permanent nonmechanical system for artificial lowering of the groundwater table. Detailed engineering and soil drainage information shall be provided with a construction permit application for an unformed manure storage structure or earthen egg washwater storage structure if a drainage system for artificially lowering the groundwater table will be installed. The level to which the groundwater table will be lowered will be considered to represent the seasonal high-water table. If a drainage tile around the perimeter of the basin is installed a minimum of two feet below the top of the basin liner to artificially lower the seasonal high-water table, the top of the basin's liner may be a maximum of four feet below the seasonal high-water table which existed prior to installation of the perimeter tile system. Drainage tile lines shall be installed between the outside of the proposed toe of the berm and within 25 feet of the outside of the toe of the berm. Drainage tile lines shall be placed in a vertical trench and encased in granular material which extends upward to the level of the seasonal high-water table which existed prior to installation of the perimeter tile system. A device to allow monitoring of the water in the drainage tile lines installed to lower the groundwater table and a device to allow shutoff of the drainage tile lines shall be installed ~~if the drainage tile lines do not have a surface outlet accessible on the property where the unformed manure storage~~

~~structure is located~~. The operator must submit samples from the monitoring device to a certified laboratory at least once per year and electronically provide to DNR the results for total phosphorus, nitrate-nitrogen, and E. coli within 30 days after receipt.

Ensuring samples reflect actual flow and maintaining the range of parameters will provide a better assessment of risks to nearby water uses.

N. 65.110 and 65.209. DNR Must Require Online Submission of MMPs and NMPs.

MMPs and NMPs are foundational tools to limit manure over-application and prevent manure from causing water pollution. Iowa statute requires DNR to provide for methods of processing electronic applications and payments, and "every extent feasible provide for the processing of permits and manure management plans required under this subchapter using electronic systems."[131] Although DNR does allow electronic processing of MMPs, its approach allows applicants to submit electronic documents that are scanned documents – functionally similar to a paper submission for purposes of review.

DNR has records of more than 9,000 AFOs in Iowa.[132] The records show that 6,663 facilities have an MMP or NMP.[133] Each of these plans contains a list of individual fields on which it will apply manure, resulting in tens of thousands of individual fields subject to enforcement by DNR.[134] Public review of MMPs has shown fields being listed in multiple plans.[135] Recordkeeping requirements in proposed section 65.111(8)(e) (existing rule section 65.17(13)(e)) exempt manure applicators from enforcement actions if they are not aware of other fertilizer applied to land they do not own or lease for crop production. DNR is the only party in a position to track the manure application rate restrictions. Failure to properly track can preclude enforcement actions, and paper copies functionally prevent the department from fulfilling its oversight obligations.

Continuing to allow paper submissions reduces transparency, decreases efficiency, increases the likelihood of errors and inappropriate approvals, and increases costs for DNR. DNR must evaluate the costs and benefits of continuing to allow paper copies to be submitted and revise the rules to require online documentation, including geospatial mapping.

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[131] IOWA CODE § 459.302(2).

[132] Iowa DNR Animal Feeding Operation Database, available at https://programs.iowadnr.gov/animalfeedingoperations/FacilitySearch.aspx (last accessed Feb. 20, 2024).

[133] *Id.*

[134] For example, the initial Supreme Beef NMP requested approval to apply manure to 45 fields.

[135] *See* comments of Jefferson County Farmers and Neighbors, Inc., on proposed revisions to chapter 65 rules (Oct. 2022).

This inefficiency has practical effects. Paper copies increase costs for DNR, which must review, approve, and maintain these submissions on an ongoing basis. IEC requested MMPs and NMPs through an Open Records Act request in 2020, seeking fields that overlap with fields proposed by Supreme Beef. DNR staff responded that "there is no electronic query method in place to determine fields shared among multiple MMPs/NMPs."[136] DNR's method to identify potential overlap with a new NMP is to review the plans from every nearby facility one at a time based on paper plat maps.[137] DNR is either taking substantial staff time to do this for every new plan or failing to do so at the risk of Iowa's water quality. Requiring electronic geospatial information as part of the MMP/NMP submission would vastly accelerate and improve the accuracy of the review process.

Paper copies also reduce public access and transparency. Physical documents are stored at field offices, which can be difficult to reach for those with limited time and transportation options. To retrieve MMP documents, which are public records, DNR charges the public for the staff time to review plans and scan paper copies, which can total hundreds of dollars.[138] Citizen review of the paper documents is time-consuming and technically challenging, resulting in a cumbersome process that actively and unnecessarily discourages public access and participation in the review process.

Using geospatial mapping and allowing online reviews of MMPs and NMPs would allow applicants and all citizens of Iowa to review the locations of fields proposed for manure application and distances from waterways. Further, incorrect or incomplete calculations could be flagged automatically before submittal to the department for review. Paper copies and scanned electronic versions of the plans are difficult to review, increase costs for DNR, and create inefficiencies. Requiring online submission and geospatial data would clearly decrease costs for the agency and the state. Executive Order 10 calls on agencies to adopt less costly methods that would achieve the same purpose of the proposed rule.

In IEC's experience reviewing MMPs and NMPs through records requests, the plans are completed electronically, submitted on paper, and scanned as PDFs. Thus, allowing the plans to be submitted on paper adds steps for applicants and DNR. Enforcing the plans is more challenging when their contents are not searchable. Potential overlap of fields – one of the key concerns from a water quality standpoint – requires significant time to evaluate. DNR should evaluate the potential costs and savings of electronic MMPs.

Having only paper copies or scanned maps means that DNR has no efficient way to determine whether fields are shared among MMPs and NMPs. When IEC requested MMPs and NMPs through an Open Records Act request in 2020, seeking fields that overlap with fields proposed by

[136] Email from DNR Records (dnr.records@dnr.iowa.gov) to Michael Schmidt (Dec. 17, 2020).
[137] *Id.*
[138] Email from DNR Records (dnr.records@dnr.iowa.gov) to Michael Schmidt (January 5, 2021).

Supreme Beef, DNR staff responded that "there is no electronic query method in place to determine fields shared among multiple MMPs/NMPs."[139]

DNR's method to identify potential overlap with a new NMP is to review the plans from every nearby facility one at a time based on paper plat maps.[140] DNR is either taking substantial staff time to do this for every new plan or failing to do so at the risk of Iowa's water quality. Requiring electronic geospatial information as part of the MMP/NMP submission would vastly accelerate and improve the accuracy of the review process.

We reiterate our request to update the MMP submission requirements with the following changes to proposed rule 65.110(3)(b):

> b. The owner of a confinement feeding operation who is required to submit a MMP under this rule shall submit an updated MMP on an annual basis to the department. The updated MMP ~~may~~ must be submitted by ~~hard copy or by~~ online, electronic submittal. The updated plan must reflect all amendments made during the period of time since the previous MMP submission.
>
> (1) ~~If the plan is submitted by hard copy, the submittal process shall be as follows:~~ The owner of the AFO shall ~~also~~ submit the updated MMP on an annual basis to the board of supervisors of each county where the confinement feeding operation is located and to the board of supervisors of each county where manure from the confinement feeding operation is land-applied. If the owner of the AFO has not previously submitted a MMP to the board of supervisors of each county where the confinement feeding operation is located and each county where manure is land-applied, the owner must submit a complete MMP to each required county. The county auditor or other county official or employee designated by the county board of supervisors may accept the updated plan on behalf of the board. The updated plan shall include documentation that the county board of supervisors or other designated county official or employee received the MMP update.
>
> ~~(2) If the plan is submitted electronically, t~~The submittal process shall be as follows: The owner of the AFO shall submit the updated MMP to the department through the department's electronic web application. Once the submittal has been completed, the department shall provide electronic access of the updated MMP to the public through the online AFO Siting Atlas and database~~board of supervisors of each county where the confinement feeding operation is located and each county where manure is land-applied~~.

[139] Email from DNR Records (dnr.records@dnr.iowa.gov) to Michael Schmidt (Dec. 17, 2020).

[140] *Id.*

Electronic forms, along with supporting software, would significantly decrease the DNR staff time necessary to review MMPs and NMPs. It would increase transparency and accountability. It would also save costs for public records requests. DNR must make use of the online submissions by populating a database with the information and creating a geospatial layer.

DNR should also specify the electronic geospatial component of manure application locations in proposed rule 65.111(5):

> *a.* The MMP shall identify each field where the manure will be applied, the number of acres that will be available for the application of manure from the confinement feeding operation, and the basis under which the land is available. The locations shall be submitted to DNR in an electronic geospatial format. DNR shall add the geospatial data to the online AFO Siting Atlas and AFO database for public access.

If DNR has preferred file formats, it could specify those formats in the rule.

DNR has allowed electronic MMPs for years. The benefits to DNR of this approach and the limited resources available to the agency justify online submissions.

O. 65.111 and 65.209(8). MMP and NMPs Must Fully Address Risks of Water Quality Pollution.

Agriculture is the primary source of pollution in Iowa, including 92 percent of nitrate and 80 percent of phosphorus entering surface waters.[141] Much of that pollution originates as manure that is applied to cropland without prior treatment. To address that pollution source, statute requires plans to manage manure application. The proposed rules fail to address the fundamental problems of manure application and oversight by allowing facilities to avoid submitting plans entirely, allowing inappropriate application rates and locations, and failing to ensure compliance through permitting and enforcement.

1. Background

Confinement operations must submit manure management plans (MMPs) if they were built or expanded after May 31, 1985.[142] Most confinements in the state were built or expanded after 1985 and therefore must have an MMP.

Open feedlots, regulated under a different chapter of statute, do not have to meet the same

[141] "Iowa Nutrient Reduction Strategy – A science and technology-based framework to assess and reduce nutrients to Iowa waters and the Gulf of Mexico." Updated December 2017. Section 1.2 at 8.
[142] IOWA CODE § 459.312(1).

requirements. An open feedlot must submit a Nutrient Management Plan (NMP) with a construction permit,[143] but only if they have at least 1,000 animal units.[144]

The MMPs and NMPs must document the nutrient concentrations of manure, as well as the locations, timing, and rates where the operation will apply the manure.[145] The AFO "shall not apply manure in excess of the nitrogen use levels necessary to obtain optimum crop yields."[146] Nor shall the manure rates exceed the phosphorus index.[147] These restrictions should act as a limitation on application rates and implement the EPC's legal authority to adopt rules that mitigate water quality impacts from AFOs. The plans should also provide adequate information to enforce the requirements. In practice, the plans have failed to do either.

The information provided in MMPs and NMPs determines whether DNR can assess compliance with basic requirements to protect water quality. Inaccurate or insufficient information will lead to water quality problems.

2. 65.111(2). Manure Sales

Our prior comments during the stakeholder process highlighted the water quality problems resulting from inadequate regulations controlling manure. Proposed section 65.111(2) describes the required contents of the MMP. This section used to apply to the portion of manure which will not be sold from "Confinement feeding operations **that will not sell all of their manure.**" The proposed rule applies to "Confinement feeding operations **that do not sell manure**." The changed language would mean that a CAFO does not need to submit an MMP for unsold manure so long as they sell *any amount* of manure. DNR must not change the applicability of 65.111(2) and must prevent CAFOs from evading manure management regulations on unsold manure by simply selling some manure. In a meeting on June 12, 2023, DNR indicated that the intent was not to exempt confinements that sell any amount of manure, but the language has not changed.

3. 65.111(3). Nutrient Concentrations in Manure and Process Wastewater

When determining the nutrient concentration of manure, existing rules allow MMPs to use the values in Chapter 65, Table 3 or "other credible sources for standard table values or the actual nitrogen and phosphorus content of the manure …. determined by a laboratory analysis … from a manure storage structure with design and management similar to the confinement feeding operation's manure storage structure."[148] The rules do not address how DNR verifies the sampling

[143] IOWA CODE § 459A.205.
[144] IOWA CODE § 459A.208.
[145] Proposed rules 65.112; 65.208(8).
[146] IOWA ADMIN. CODE r. 567-65.17(1); proposed rule 65.111(1).
[147] *Id.*
[148] IOWA ADMIN. CODE r. 567-65.17(5).

or the frequency at which manure is tested. We recommend the following addition to proposed rule section 65.111(3):

> b. For new AFOs, a~~A~~ctual concentration and production values from the operation or a similar operation. If an actual sample is used to represent the nutrient content of manure, the sample shall be taken in accordance with Iowa State University Extension and Outreach publication AE 3550, "How to Sample Manure for Nutrient Analysis." The department ~~may~~ shall require documentation of the manure sampling protocol ~~or~~ and take a split sample to verify the nutrient content of the operation's manure. If actual nitrogen and phosphorus are used for concentration in the MMP, actual manure production must also be used. Any sample used to estimate the concentration of manure must be less than ~~four~~ two years old.
> c. After the first year of operation, the manure must be tested at least once per year using protocol in paragraph "b" for total nitrogen and total phosphorus and the MMP must be revised to reflect the results of the actual nutrient concentration.

The rules also fail to give adequate guidance for calculating manure concentrations in NMPs. The rules require the applicant to submit "[a]n estimate of the nitrogen and phosphorus concentration of the manure, process wastewater and open feedlot effluent" without further explanation.[149] The NMP requirements should similarly limit manure to samples from facilities with "design and management similar to" the proposed facility. Relying on concentrations from a different type of facility introduces significant risk of inaccuracy. We recommend the following change to 65.209(8)(a):

> An estimate of the nitrogen and phosphorus concentration of the manure, process wastewater and open feedlot effluent, as shown by laboratory analysis from the facility or from a manure storage structure with design and management similar to the open feedlot's manure storage structure. The NMP must also include ~~and~~ an estimate of the manure, process wastewater, and open feedlot volume or weight produced by the open feedlot operation.

NMPs should require annual manure testing for nutrient concentrations, consistent with our recommendation above for MMPs. We recommend the following addition to section 65.209(8)(a):

> After the first year of operation, the manure must be tested at least once per year using protocol in 65.111(3), paragraph "b" for total nitrogen and total phosphorus and the MMP must be revised to reflect the results of the actual nutrient concentration.

This testing regimen will prevent MMPs from relying on long-outdated or inaccurate assumptions

[149] *See* IOWA ADMIN. CODE r. 567-65.112(8)(b)(1); proposed rule 65.209(8)(a).

during operation.

4. 65.111(11). Phosphorus Index Calculations

Phosphorus can be the limiting nutrient for manure application rates. The proposed rules would allow ephemeral gully calculations consistent with NRCS Technical Note 25, in conjunction with supporting documents or photographs. The Iowa electronic Field Office Technical Guide (referenced in Technical Note 25) contains calculation methods for gully erosion.[150] The calculations can be supplemented by photographs,[151] but the calculations of erosion from ephemeral gullies cannot be completed based on photographs alone. The rules do not make clear that photographs can only be adequate if they consistently show no ephemeral gullies exist. The rule should specify that if photographs show ephemeral gullies exist, the erosion calculations consistent with NRCS Technical Note 25 must be provided.

5. 65.111(4), 65.111(13). Manure Application Rate Calculations

The manure application practices determine whether excess nitrogen and phosphorus remain unused by the crop. DNR has proposed rule changes to address the current science for manure application rates by requiring application rates at the maximum return to nitrogen (MRTN).

Applying at MRTN is consistent with state law and policy. State law calls for plans to assume application rates that achieve "optimum crop yields."[152] Although livestock producers seem to equate "optimum" with something akin to "maximum," the MRTN calculation is consistent with an optimum output from an economic standpoint – that is the very purpose of the calculation. It is by no means optimum from an environmental standpoint, because it can still result in substantial nitrate losses. It is, however, a major improvement from existing practice, in which overapplication of manure leads to significant nutrient losses and externalized costs for other Iowans.

The Nutrient Reduction Strategy science assessment, led by Iowa State University, relied on MRTN for every single scenario evaluated[153] because it provided immediate cost savings while reducing excess nitrate.[154] The NRS calculated that if all fertilizer were applied at MRTN, it would

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[150] "Iowa | Field Office Technical Guide," Natural Resource Conservation Service, available at https://efotg.sc.egov.usda.gov/#/state/IA/documents/section=1&folder=3496 (last visited Feb. 21, 2024).
[151] *Id.* at 2 (the final step in a calculation is to "add photographs of ephemeral gullies to the case file as appropriate and available").
[152] IOWA CODE §§ 459.312(10)"a"(1); 459A.208(7)"a"(1).
[153] "Iowa Nutrient Reduction Strategy – A science and technology-based framework to assess and reduce nutrients to Iowa waters and the Gulf of Mexico" (hereinafter "NRS"). Updated December 2017. Section 2.2 at 42-43.
[154] *See* IOWA CODE § 455B.177 (adopting NRS as state policy); NRS, *supra* note 2, §2.1 at 9.

save $32 million per year.[155] Manure accounted for approximately 25 percent of nitrogen and phosphorus crop needs in 2017,[156] so applying at MRTN would result in cost savings of approximately $8 million per year. The change in application rates has the potential to reverse what Iowa State University has modeled to be an 11 percent increase in nitrate loading statewide resulting from increased nitrate application rates on corn-soybean rotation fields.[157]

Industry comments during the stakeholder process criticized MRTN as inadequate for use as a nitrogen rate calculator. MRTN has provided a basis for limiting manure application in other corn producing states.[158] We recommend the following addition to section 65.111(13)(c):

> c. Nitrogen-based application rates for corn shall be based on current recommendations from an Iowa-based state university for the maximum return to nitrogen. Nitrogen-based applications rates for other crops shall be based on the optimum crop yields as determined in subrule 65.111(4) and crop nitrogen usage rate factor values in Table 4 or other credible sources. The calculation must use a cost factor of at least 0.10. The calculations of manure applied from the facility must account for fertilizer from all other manure and non-manure sources. Liquid manure applied to land that is currently planted to soybeans or to land where the current crop has been harvested and that will be planted to soybeans the next crop season shall not exceed 100 pounds of available nitrogen per acre. Further, the 100 pounds per acre application limitation in the previous sentence does not apply on or after June 1 of each year; in that event subrule 65.111(4) and Table 4 would apply as provided in the first sentence of this paragraph.

Industry comments also criticized MRTN as and inconsistent with the statutory requirement to calculate a rate that would achieve "optimum crop yields."[159] The comments appear to treat "optimum" yield as a near-synonym for "maximum." The point of MRTN is to optimize yield so the producer does not over-apply fertilizer, such that the fertilizer is more expensive than the benefits of increased yield. Grossly over-applying fertilizer may increase yield, but sending it into surface water for marginal yield gains is not the "optimum" outcome.

The existing manure application calculations for MMPs and NMPs allow a calculation method

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[155] NRS, *supra* note 2, §2.2 at 27.

[156] "Too Much Manure? Can Iowa use all its manure for fertilizer?" Iowa State University Extension (2017), Publication AE 3608, available at https://store.extension.iastate.edu/product/Too-Much-Manure-Can-Iowa-use-all-its-manure-for-fertilizer.

[157] "Iowa Nutrient Reduction Strategy – Water Quality," Iowa State University, available at https://www.arcgis.com/apps/dashboards/29460d40c6a74379a90b42f3e770db07 (last visited Feb. 21, 2024).

[158] *See* Minnesota General Permit MNG440000 (2021), item 13.3 (citing "Manure Nitrogen Rates For Corn Production," which relies on MRTN).

[159] Iowa Cattlemen's Association, Iowa Farm Bureau Federation, Iowa Pork Producers Association, and North Central Poultry Association, "Comments on EO-10 & 5-year review of chapter 65 dated May 2023" (June 2023), at 13-15.

that will result in over-application of manure, even before accounting for any synthetic fertilizer inputs. Adopting the recommendations of Iowa State University in the Nutrient Reduction Strategy - which has been adopted by the state legislature as the policy of the state[160] - is the appropriate way to ensure MMPs and NMPs contain rates to achieve the "optimum crop yields."

6. 65.110(4). Approval Criteria.

The phosphorus index calculation accounts for conservation practices that reduce nutrient losses. Statute requires these practices as a component of the MMP, and rule requires them in an NMP.[161] Proposed section 65.112(10) further describes the methods for reducing soil loss, requiring MMPs (and NMPs by reference) to include field-specific data for the practices used to calculate the phosphorus index.[162]

DNR, however, has approved MMPs even when facilities have submitted incomplete plans that fail to identify field-specific data and practices. This was the case for Supreme Beef. To ensure compliance with section 65.112(10), we recommend the following modifications to section 65.110(4) regarding approval of MMPs:

> **65.110(4)** The department shall review and approve or disapprove all complete MMPs within 60 days of the date they are received. The department shall deny an incomplete MMP within 60 days.

The above change also makes clear that the options presented to DNR are approval and denial. Rather than deny the Supreme NMP entirely for failing to contain required content, DNR partially approved the application without any rules allowing for such a process. Our recommended change above makes clear that DNR cannot modify an application to achieve approval.

7. 65.111(15). Use of Manure as a Soil Conditioner Requires Definition and Limitation.

The proposed rules exempt dry manure being sold "as a commercial fertilizer or soil conditioner" from having to meet the requirements for MMPs. DNR has proposed to expand this in section 65.209(8)"f" to include manure sold as a soil conditioners by open feedlot operations.

Chapters 200 and 200A do not specify what type of "processing" is required to qualify for treatment as soil conditioners. DNR needs to define the applicability of this process to address the

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[160] IOWA CODE § 455B.177.

[161] IOWA CODE § 459.312(10)(f); IOWA ADMIN. CODE r. 567-65.112(8)(e)(7), proposed rule 65.208(8)(e)(7).

[162] Proposed rule 65.112(10) in the DNR's draft deletes the initials "MMP" rather than adding them. We assume this was inadvertent on DNR's part.

widespread and dangerous use of soil conditioners derived from byproducts of AFOs.[163] This change would clarify applicability of the rule without creating a new regulatory burden.

Supreme Beef has attempted to use this loophole to avoid regulation of its scraped solids, apparently seeking an alternative regulatory path for its manure by claiming that it was selling the solids fraction of its manure. This provides a clear example of an open feedlot operation attempting to circumvent the NMP requirements to avoid having to detail the application of the vast majority of the manure nutrients. The proposed rules expand this loophole to undercut the purpose of NMP requirements in statute.

We recommend modifying the language of 65.111(15) as follows:

> shall submit a copy of their site-specific IDALS license, ~~or~~ the IDALS license documentation, and the IDALS product registration approval for any scraped solids or settleable solids that ~~manure~~ will be sold pursuant to Iowa Code chapter 200 or 200A, along with the department-approved MMP form for sales of dry manure.

The proposed rules also fail to address or restrict manure from open feedlots sold for use as a soil conditioner. Parallel changes should be made in section 65.209(8)(f), applicable to NMPs.

Exempting soil conditioners without defining what qualifies as a soil conditioner creates loopholes for manure application requirements. DNR must amend the rules to prevent AFOs from evading manure management regulations by reclassifying the manure as a soil conditioner.

P. 65.202. DNR Must Ensure NPDES Permit Compliance for CAFOs.

Iowa DNR has been delegated authority to administer the National Pollutant Discharge Elimination System (NPDES), and therefore must ensure the state permit program complies with section 402 of the federal Clean Water Act. Accordingly, all non-exempt discharges of pollutants from a point source to navigable waters must comply with NPDES permit requirements.[164] While we appreciate a change to section 65.202(2) that clarifies modification of an AFO can trigger NPDES coverage, and other changes that more fully incorporate federal requirements into state law, we remain concerned that many CAFOs in Iowa are discharging pollutants in violation of both federal and state law.

Iowa has had approximately 400 documented manure releases in the last ten years. Considering the disincentive to self-report as well as the lack of mandatory monitoring to detect discharges,

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[163] Donnelle Eller, "Unbearably foul-smelling Iowa pit prompted complaints for weeks; state didn't act until worker died," Des Moines Register (Oct. 5, 2021), available at https://www.desmoinesregister.com/story/money/agriculture/2021/10/05/algona-iowa-pit-fumes-no-violations-before-worker-death-pork-production-peptones/5826240001/.

[164] 33 U.S.C. § 1342; IOWA ADMIN. CODE r. 567-64.4(1).

this number vastly underestimates the true magnitude of the manure discharge problem. Several factors contribute to the amplified risk of hazardous discharges in Iowa. First, Iowa's AFO industry produces 109 billion pounds of animal waste annually—more than any other state in the country.[165] Not coincidentally, Iowa also has more tile-drained land than any other state. Pattern tiling can provide direct conduit for liquid manure to reach surface water, especially when operators do not monitor tile drains during and immediately after land application of AFO waste. When liquid manure applied to the surface flows immediately through cracks or fractures in the soil into the tiles, it provides no agronomic benefit.[166] Wastes that discharge to surface waters in this manner do not qualify as "agricultural stormwater discharges," and are therefore not exempt under the Clean Water Act, because they are not storm-related.[167] Ample evidence demonstrates that large amounts of nutrients from land applied waste in Iowa are not being beneficially used by crops, but rather running off into waters as pollutants.[168] Despite this, very few facilities in Iowa – less than 2 percent – have obtained discharge permits under the Clean Water Act.[169] In contrast, U.S. EPA estimates that 75 percent of CAFOs discharge as a result of their "standard operational profiles."[170]

Despite this unexplained inconsistency, DNR has not proposed adopting suggestions from our 2022 comments that would bring more CAFOs into compliance with NPDES requirements. We therefore reiterate those recommendations. Ongoing noncompliance with the Act subjects dischargers and the agency to legal risk.

We have identified several issues regarding NPDES Permit compliance in proposed rule section 65.202:

- *Existing AFOs not holding a NPDES permit.* The April 14, 2003 date by which non-NPDES-permitted CAFOs needed to apply for a NPDES permit under proposed rule section 65.202(1) was over twenty years ago. Despite extensive evidence of ongoing harm from discharges of CAFO pollutants, Iowa's CAFOs overwhelmingly operate without NPDES permits. This conspicuous lack of permits indicates that CAFOs with non-exempt

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[165] "Iowa Produces More Factory Farm Wate Than Any Other State, Analysis of New USDA Data Finds." *Food & Water Watch*, 14 Feb. 2024, https://www.foodandwaterwatch.org/2024/02/14/iowa-produces-more-factory-farm-waste-than-any-other-state-analysis-of-new-usda-data-finds/.

[166] *See* Cooley, E., Ruark, M., & Panuska, J. (2013). Tile drainage in Wisconsin: Managing tile-drained landscapes to prevent nutrient loss. *University of Wisconsin–Extension. http://fyi. uwex. edu/drainage/files/2012/06/3-Managing-Tile-Drained-Landscapes-to-Prevent-Nutrient-Loss-DF. pdf (Page consultée le 08/03 2016)*.

[167] *See* 33 U.S.C. § 1362(14) (defining point source to exclude agricultural stormwater discharges).

[168] *See* Jones et al. (2019) The Urgent Need to Address Nutrient Imbalance Problems in Iowa's High-Density Livestock Regions. *Iowa State University. www.card.iastate.edu/ag_policy_review/article/?a=100.*

[169] IOWA CODE § 459.311(2) (requiring compliance with the Clean Water Act requirements for permits); IEC analysis of DNR AFO database available at https://programs.iowadnr.gov/animalfeedingoperations/ (Feb. 2024).

[170] EPA, National Pollutant Discharge Elimination System (NPDES) Information Collection Rulemaking and CAFOs 1 (Sept. 2010).

discharges have consistently failed to apply for permit coverage. Likewise, DNR has failed to adequately identify and impose penalties on non-compliant facilities. DNR must provide a specific plan with deadlines to address unpermitted, discharging CAFOs before the end of this Chapter 65 review process.

- *Expansion of existing AFOs.* Section 65.202(2) only applies to expansion of existing AFOs. DNR should modify this section to apply to expansion *and modification* of existing AFOs that meet the definition of a CAFO and discharge to waters of the United States.

- *Application forms and requirements.* A basic component of accountability for Iowans and the DNR should be to know who, or what, owns and influences Iowa's agriculture. We suggest that the DNR's application form under proposed rule 65.202(5) for a NPDES permit include disclosure of ownership interests, including the entities, their locations, their percentage ownership interest(s), and the beneficial owners of any entity owners.

- *Permit Conditions*. Subsection (c) of proposed rule 65.202(7) limits certain manure transfer requirements to "large" AFOs only. These manure transfer requirements should be applied to all CAFOs, regardless of size, in order to prevent point source pollution across the industry and across the state. We also suggest that DNR develop a robust waste transfer reporting form, which includes reporting of where the waste goes and is applied, not only who the waste is transferred to.

- *Inspections and recordkeeping.* In addition to the inspections DNR has already mandated, Section 65.202(7)(b) should be amended to include requirements that CAFO operators conduct visual monitoring of downgradient field edges and any other likely discharge locations during and immediately after land application of manure. For instance, CAFO operators applying to fields with tile drains, ditches, or other conveyances should inspect those conveyances during and immediately after land application to ensure applied waste is not leaving the fields where it will be agronomically used. DNR should also add language to this section clarifying that, in the event of a discharge that violates the permit's terms, the permittee must collect a sample of the discharged manure for pollutant concentration testing and immediately report the discharge to DNR. Records documenting these discharges and the results of testing must be maintained for a five-year period in the same manner as other inspection and monitoring records.

  We recommend modifying the language of 65.202(7)(b) to read:

  > (1) Visual inspections. Routine visual inspections of the CAFO production area must be conducted, and at a minimum, the following must be included:

1. Weekly inspections of all storm water diversion, runoff diversion structures, and devices channeling contaminated storm water to the open feedlot operation structure.
2. Daily inspection of water lines, including drinking water or cooling water lines.
3. During and immediately after any land application of liquid manure or processed wastewater, inspection of the downgradient edge of the field and any other probable discharge locations, including tile drains, ditches, and other conveyances.
(2) Corrective actions. Any deficiencies found as a result of the inspections required in subparagraph 65.202(7)"b" or as a result of the liquid level reporting required in paragraph 65.202(7)"e" must be reported to DNR immediately and corrected as soon as possible. If a deficiency results in a discharge of manure, operators must collect a grab sample from the point of discharge for testing at a certified laboratory to determine the total phosphorus, nitrate-nitrogen, and E. coli content of the discharge.
(3) The following records must be maintained on site for a period of five years from the date they are created and must
be made available to the department upon request:
1. Records documenting the inspections required in subparagraph 65.202(7)"b".
2. Records of weekly liquid level observations as required in paragraph 65.202(7)"e."
3. Records documenting any actions taken to correct deficiencies as required in subparagraph 65.202(7)"b"(2).

- *Alternative Technology Systems.* We appreciate the addition of requiring monitoring for the entire operational life of alternative technology (AT) systems under section 65.202(7). However, we do not believe that the option to reduce or revise monitoring requirements after the first five years is justified, and providing this option simply undercuts the lifetime monitoring in the first part of this provision. What is the expected operational life of an AT system? What is the basis behind a five year timeframe for reducing or revising monitoring? DNR should delete the rule language that ends monitoring requirements.

  Furthermore, the proposed revisions to 65.202(7) in subsection (d) would eliminate and reduce significant monitoring provisions for AT systems, both in scope (e.g. tile lines) and timing (by reducing frequency). The rule already contains inadequate monitoring AT requirements and the proposed revisions would allow DNR to revise or reduce them further after 5 years. This renders AT monitoring requirements functionally meaningless. Monitoring is fundamental to understanding the operation of the system. Removing the

monitoring prevents DNR from fulfilling its duty to regulate the facility and protect against water quality impacts. We urge DNR to not remove these monitoring provisions and to make the revisions proposed in these comments at section III.C.

Ensuring proper oversight of facilities as they expand and operate requires ongoing reporting and monitoring. We encourage DNR to develop a form for waste transfers, provide transparency for AFO ownership, and require ongoing water quality monitoring at AT systems.

Q. 65.209(7). DNR Should Ensure Adequate Public Notice of NMPs.

Proposed rule section 65.209(7) retains existing procedures for public notice of NMPs. Statute requires DNR to maintain a website with information "relevant to making public comments," and DNR may post the NMP on its website.[171] DNR maintains a web page with information about NMPs, but it contains little information to aid the public in making comments about an NMP.[172] The page directs the public to the department's regional field offices to request NMPs and does not list NMPs open for comment.[173]

In declining to adopt our prior recommendations, DNR is not facilitating transparent public notices. DNR must receive proof of notice from an applicant, which DNR could post on its Open Feedlots webpage or include in emailed newsletters. These low-cost steps would facilitate public input and transparency in the review process.

Public review of NMPs serves an important purpose. In *Sierra Club Iowa Chapter v. Iowa DNR*, the court identified a number of "oddities" about the DNR approval process for the facility.[174] The court ultimately held that the NMP included illogical interpretations and application of the law to the facts of the case.[175] These issues only came to light due to public review and comment on the NMP for the facility. Refusing to facilitate public review of NMPs increases the risk of NMPs being inappropriately approved.

Recent cases also raise questions about whether DNR has been providing adequate public notice for NMPs that change substantially in response to public comments or DNR feedback. IEC has raised questions about DNR's procedures since at least 2021, when DNR issued approved a nutrient management plan that (1) differed significantly from a prior plan that had been placed on

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[171] IOWA CODE § 459A.208(5)(c).

[172] "Open Feedlots, Iowa DNR," Iowa DNR, available at https://www.iowadnr.gov/Environmental-Protection/Animal-Feeding-Operations/Open-Feedlots#16333358-nutrient-management-plans (last accessed February 21, 2024).

[173] *Id.*

[174] Polk Dist. Ct. No. CVCV062713 (filed Apr. 28, 2023), at 18-19.

[175] *Id.* at 22, 25-28.

public notice and (2) was dated after the date of DNR's approval.[176] DNR has continued to approve NMPs with changes from the version placed on public notice.[177] Iowa Code does not provide DNR with authority to change NMPs in response to public comments or allow applicants to change NMPs based on DNR's feedback without initiating a new public process; DNR's role is to approve or disapprove the NMP.[178] This role is similar to that of the Iowa Utilities Board in a recently-decided case at the Iowa Supreme Court.[179] The Supreme Court agreed with appellees that the Board could approve or disapprove plans submitted to it for approval, but could not change them.[180] In addition to inconsistency with DNR's statutory role, DNR's approach of approving plans that have not been subject to public notice undermines the public notice process and results in approval of plans that do not meet legal requirements.[181]

III. Conclusion

Manure is a primary source of pollution to Iowa's streams, rivers, lakes, and groundwater. Ensuring that MMPs and NMPs contain accurate information, propose proper manure application rates, and have proper approval criteria will lead to immediate and long-term water quality improvements. Requiring electronic submission of manure plans and making them available to the public will save agency resources, increase transparency, and facilitate compliance and enforcement efforts. In the same way, ensuring compliance with federal and state NPDES requirements in statute will reduce water quality problems while ensuring future compliance. These changes also have statutory support and DNR should adopt these changes to implement Iowa's Nutrient Reduction Strategy.

The proposed rules make progress in resolving issues raised in the petition for rulemaking filed in 2022 addressing floodplains. However, the proposed rules do not address concerns in the rulemaking petition from 2021 regarding karst or drinking water. The denial of that petition specifically referenced a subsequent rulemaking process to address those issues, and DNR's Karst Team identified deficiencies in the existing rules for karst. Rather than address those problems, the proposed rules make no meaningful changes to the standards for construction in karst terrain.

DNR must also ensure construction of future manure storage structures will not contribute to water quality problems through leaks or other releases to surface water or groundwater. Clearer and

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[176] *See* Letter from Michael Schmidt to Kelli Book, RE: Supreme Beef, LLC Nutrient Management Plan, Mar. 8, 2021, at 2 (noting that DNR approved the NMP on October 5, 2021, and the NMP was submitted on Oct. 7, 2021).
[177] *See, e.g.*, Fawn Hollow Nutrient Management Plan (approved Aug. 2023).
[178] IOWA CODE § 459A.208.
[179] *Environmental Law & Policy Center, et al., v. Iowa Utilities Board*, Iowa Sup. Ct. case no. 22-0385 (Apr. 28, 2023).
[180] *Id.* at 12.
[181] *See Sierra Club v. Iowa Department of Natural Resources*, Ruling on Motion to Strike and Petition for Judicial Review, Polk Co. Dist Ct. No. CVCV062713 (Apr. 28, 2023) (reversing DNR approval of Supreme Beef's NMP).

stronger triggers for construction permits will ensure appropriate DNR oversight. Stronger construction standards will reduce the risk of future failures. Increased monitoring will catch problems before they become more serious. Reducing water quality pollution from storage structures will require adoption of the changes proposed above.

Finally, DNR should adopt a range of changes to other pieces of the rule chapter to close loopholes and ensure the public can properly engage in review of nutrient management plans. Ensuring that facilities cannot evade regulation by creating affiliated corporations and partnerships will level the playing field for other facilities and ensure adequate oversight by DNR. Public engagement on NMPs will improve the plans, as shown by the Supreme Beef comment process and subsequent lawsuit.

DNR and the EPC have the legal authority and duty to reduce the risks to human health and must adopt rules to protect all Iowans. DNR can address the ongoing water quality problems that result from inappropriate production, storage, and application of manure that have increasingly plagued Iowa's lakes, rivers, streams, and groundwater. The proposed rules continue to prioritize AFO production over water quality that would benefit Iowans statewide.

We encourage DNR to adopt the changes proposed in our comments to provide protections for drinking water, groundwater, lakes, streams, and floodplains, for the benefit of Iowans across the state who rely on clean water.