



CAFOs and density of animals increases the risk of manure overapplication or runoff into surface and groundwater.

4. Supreme Beef is located in the watershed of Bloody Run Creek, designated as an Outstanding Iowa Water. Supreme Beef also proposes to apply manure on fields in the watersheds of other streams: Silver Creek, Sny Magill, Mossy Glen, Dry Mill, Howard Creek, and Hickory Creek. Sny Magill, Mossy Glen and Hickory Creek are cold water trout streams. The other streams are generally spring fed and support diverse aquatic life. Manure will also be applied near two State Preserves: Roberts Creek and Mossy Glen.

5. In order to operate the proposed open feedlot, Supreme Beef was required to submit and have approved by the DNR a nutrient management plan (NMP), pursuant to Iowa Code § 459A.208 and 567 I.A.C. § 65.112.

6. Supreme Beef submitted its initial NMP on July 27, 2020, but because of deficiencies it was not fully approved. It was approved for only 13 of the originally designated 47 manure application fields. So Supreme Beef, with the apparent complicity of the DNR, submitted a “revised” NMP on October 7, 2020, listing only the 13 approved fields and reducing the size of the initial operation to 2,700 head of cattle. This is confirmed by an October 2, 2020, e-mail from Becky Sexton, who prepared the NMP, to DNR staff, stating as follows:

After your phone call earlier today to advise we had two options, either withdrawal our application or be denied by the DNR, Jared Walz and I have had many lengthy discussions. He ultimately spoke with his state senator, Dan Zumbach, who made a call to Kayla Lyons [sic] about this site. She said he could apply for 2750 head at this time and apply for the remaining number in the future. How long must we wait to apply for the remaining 8,900 head?

DNR approved the NMP submitted on October 7, 2020, through a letter dated October 5, 2020.

7. DNR only has statutory authority to approve or deny the NMP, not to allow it to be amended. Iowa law required that the new NMP for 2,750 head be published and public comments allowed. That did not occur. After the October 7 approval, Steve Veysey reviewed the new NMP and found a glaring mistake with the calculation of the sediment delivery ratio (SDR) values which should have disqualified 7 of the 13 fields. While DNR admitted that Mr. Veysey's analysis was correct, the agency did nothing about it.

8. On February 1, 2021, Supreme Beef submitted the NMP at issue in this Petition for Review. The NMP stated that the operation would involve 11,600 head of cattle and designated 45 fields where manure would be applied. The Petitioners herein submitted oral and written comments objecting to various aspects of the NMP. Those comments are incorporated into this Petition as appendices and they provide the factual basis for assertions about the NMP in this petition. Despite those objections, the DNR approved the NMP. The purpose of this Petition for Review is to request that the Environmental Protection Commission reverse the DNR decision and deny approval of the NMP.

9. Because Supreme Beef claims to be an open feedlot, it was required to submit a nutrient management plan, rather than a manure management plan. Iowa Code § 459A.208. The purpose of an NMP is to prevent overapplication of manure on crop fields to avoid discharge of pollutants into Iowa waters. Iowa Code §§ 459A.401, 459A.410. This requires correctly calculating the amount of manure that can be applied to designated crop fields. For several reasons the Supreme Beef NMP does not make the correct calculations.

10. In order to calculate the appropriate agronomic rate for manure application the correct calculation of nitrogen (N) and phosphorus (P) must be made. The problem with correctly calculating the amount of N and P for Supreme Beef, first of all, arises from the fact that the regulations for open feedlots assume that the operation will have a “formed settled open feedlot effluent basin” as defined in 567 I.A.C. § 65.100. However, Supreme Beef will have an earthen lagoon with a polyethylene liner handling the manure in a manner similar to a confined animal feeding operation. The basin has capacity to hold one year of manure plus calculated barn-runoff from precipitation. DNR presumes that the basin contents will be removed annually during fall and/or spring. DNR presumes that the contents – to a depth of 30 feet – will be agitated into a slurry.<sup>1</sup> In that case, N and P will not be partitioned between clear effluent to be siphoned off, and the sludge and solids left behind; it will all be in the slurry. However, this is all speculation. The question on the NMP form at Page 7 to describe the operation and maintenance of the manure storage structure was left completely blank.

11. The proper measure for the Supreme Beef operation is the total amount of N and P in the basin, which DNR has informed us will be removed as an agitated manure slurry. In this situation, the N & P content will be most similar to values in 567 I.A.C. Chapter 65 Appendix Tables associated with “liquid, deep pit or basin.” Using these values as the minimum “as-excreted” content the annual N and P from the 11,600 head of finisher cattle will be at least 1,102,000 pounds of N and 684,400 pounds of P. The values used by Supreme Beef to calculate manure N and P content will only account for 290,347 pounds of N and 115,588 pounds of P. More than 1.3 million pounds of N and P per year remain

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<sup>1</sup> Agitation into a slurry may prove to be difficult or impossible because the basin will have a depth of 30 feet, far deeper than a typical settled open feedlot effluent basin.

unaccounted for in this NMP. The basin was not designed or constructed as a facultative or anaerobic lagoon, nor does the applicant or DNR suggest that it will be operated in that fashion. All manure will be agitated and removed from the basin for liquid injection. Therefore, all of the P and most of the N “as-excreted” will still be present in the “as-applied” manure. The applicant has vastly underestimated the number of acres that will be required to receive the manure.

12. In attempting to determine the amount of nutrients in the manure, the Supreme Beef NMP uses manure samples from a meat processing facility, Upper Iowa Beef, as allegedly representative of the Supreme Beef manure. But Upper Iowa Beef is not an animal feeding operation and there is no indication that its manure is similar to the manure that Supreme Beef will be generating. We do know that the Upper Iowa Beef manure consisted of approximately 97.5% moisture. The Supreme Beef manure will be stored in more concentrated form with limited dilution. Cow manure "as-excreted" is approximately 92% moisture. It would need to be diluted by a factor of times 3.2 to measure 98% moisture. This suggests Upper Iowa Beef may have taken a sample from the top layer of a true “settled effluent basin,” which excludes settled solids and does not reflect the full N and P content of the manure. This improper calculation will clearly lead to overapplication of manure.

13. An NMP is required to show that “[t]here is adequate storage for manure, process wastewater, stockpiled manure and open feedlot effluent, including procedures to ensure proper operation and maintenance of the storage structures.” 567 I.A.C. § 65.112(8)(e)(1). The Supreme Beef NMP simply describes, on page 1, the manure storage and manure type as “storage basin effluent” and “rainwater added to basin.” The NMP may

be using the addition of rainwater to claim the manure is diluted. But that does not establish the actual quantity of manure, only a concentration, which is relevant only to the manure applicator at time of injection. It has no bearing on total content, and therefore the number of crop acres necessary to agronomically use the manure nutrients.

14. Using the correct assumptions and correctly calculating the N and P values leads to the conclusion that there are insufficient acres in the designated application fields to accommodate all of the manure to be applied.

15. The NMP must show that the grid-based soil sampling data for the proposed application fields correctly calculates the phosphorus present in the respective fields. The P index calculation cannot rely on P-test data that is more than four years old, or on single-point sampling except in the case of an original NMP. 567 I.A.C. § 65.17(16). But the February 1, 2021 NMP is not original. It is a supplemental NMP to the October 7, 2020 NMP. On this basis, 23 of the fields designated in the current NMP do not have a current correct soil test for phosphorus.

16. The NMP claims that a substantial amount of commercial fertilizer will be added annually to every field. Yet none of the RUSLE2 management plans include a step for the application of commercial fertilizer. This affects the calculation of erosion on the fields and the subsequent calculation of total P index. Therefore, the amount of manure that can appropriately be applied to these fields has not been correctly determined.

17. Calculation of the P index requires a determination of the total erosion factor. The total erosion factor includes rill erosion and interrill erosion (calculated by the RUSLE2 program), ephemeral gully erosion, and classical gully erosion. DNR admits this. The NMP in this case uses only rill and interrill erosion, thus understating the total erosion

and incorrectly calculating the P index for all 45 fields. It is inconceivable that ephemeral gully erosion would be zero for every one of 45 fields, most of which are designated highly erodible land. In its response, DNR states “because ephemeral gullies are not apparent year-round, they are often not apparent at the time of plan submittal and therefore are not included in P index calculations.” The required P index protocol specifically refers to procedures outlined in the Iowa Natural Resources Conservation Service Field Office Technical Guide for DNR and applicants to use. These procedures provide an estimate of *annual* ephemeral gully erosion to be included in the total erosion factor required for use in the P index calculation.

18. The sediment delivery ratio (SDR) component of the P index is incorrectly low in at least 13 cases. The SDR value is a factor in the erosive P index term of the total P index equation. It derives directly from the estimated distance from field center to the nearest perennial or intermittent channeled stream. Iowa Administrative Code incorporates the procedures of Natural Resource Conservation Service (NRCS) Iowa Technical Note No. 25 (ITN 25), which requires measurement to intermittent streams because phosphorus attached to soil particles moves during rain events. 567 I.A.C. § 65.17(17); ITN 25 at p. 3. During rain events there is flow in intermittent streams carrying the phosphorus directly to perennial stream segments with aquatic life that must be protected. DNR did not require the use of the USGS-EPA National Hydrologic Dataset (NHD) for Iowa in measuring distance-to-stream. This is the only accredited dataset that contains identifiable intermittent streams. The NMP overestimated the distance from field center to streams by 100% or

more with respect to at least eight fields.<sup>2</sup> This results in an underestimation of the erosive P index value and the total P index value.

19. Pursuant to 567 I.A.C. § 65.17(17)(f)(4), manure cannot be applied to fields that have a P index greater than 5. When appropriate RUSLE2 calculations (even without ephemeral gully soil loss included), are made, three application fields designated in the NMP have P index values greater than 5. In addition, there are numerous additional fields that may have P index values greater than 5 when ephemeral gully erosion is included in the P-index calculations. There is insufficient information in the NMP to make that determination, and thus, the NMP is deficient in calculating the P index.

20. Almost all (98%) of the manure application acres listed in the NMP are on what is designated as highly erodible land (HEL). 567 I.A.C. § 65.3(5)(f) states that manure application on fields with greater than 10% slopes should be limited to areas where adequate soil erosion control practices exist. There is no indication in the NMP that any of the designated fields have adequate soil erosion control practices in place. To the contrary, DNR has affidavits from landowners confirming the truthfulness of statements made in the RUSLE2 reports. No conservation practices or functioning conservation measures are claimed for these fields. The most appropriate documentation on this would be an NRCS approved conservation plan. No such plan is identified for any of the fields. The failure to document erosion control practices required the DNR to reject the NMP.

21. Approximately 92% of the designated application field acres have phosphorus soil test results in the High or Very High range. Therefore, they do not need any additional phosphorus. 567 I.A.C. § 65.65(3)(5)(19) states that manure should only be applied at rates

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<sup>2</sup> Upon review of the analysis in the public comments, Petitioners now believe the number to be 14 fields.

equal to crop uptake when soil tests indicate adequate phosphorus levels. The current NMP complies with that guidance; however, in the face of possible field limitations or realistic estimates of total N and P, DNR has stated that Supreme Beef need not comply with the 567 I.A.C. § 65.65(3)(5)(19) recommendations.

22. The facility now called Supreme Beef was initially, in 2017, called Walz Energy and was proposed as a waste-to-energy operation, using the manure from the cattle and other inputs to create methane as an energy source. On that basis, the earthen lagoon to store digestate, largely devoid of solids, was permitted for construction as an industrial wastewater system even though the cattle operation was an open feedlot. The permit was not accompanied by an NMP, as rules require for settled open feedlot effluent basin permits. Despite this obvious deficiency, DNR characterizes the basin at the site as a settled open feedlot effluent basin approved in 2019. Though not relevant to the calculation of nutrient content “as-excreted,” as shown above, the proper designation of the manure storage structure impacts how the composition, amount and concentration of the manure “as-applied” is properly calculated.

23. Since Supreme Beef is now clearly an open feedlot operation it must comply with open feedlot regulations. 567 I.A.C. § 109(4) prohibits the construction of settled open feedlot effluent basins in karst terrain. Likewise, an unformed manure storage structure, such as Supreme Beef’s earthen lagoon, cannot be located on karst terrain. 567 § 65.15(8)(a). The DNR AFO Siting Atlas shows that the area where Supreme Beef is located is in karst terrain. According to retired State Geologist Robert Libra:

Shallow karst affected rock aquifers below earthen waste structures are susceptible to seepage, especially from a very large lagoon [as Supreme Beef has]. In addition, seepage from the lagoon may result in sloughing of the underlying glacial materials into voids in the bedrock, under ponded

conditions and up to 30 feet of waste liquid above. Sloughing may result in collapse of the lagoon floor and the draining of the lagoon into the bedrock, as has occurred in Iowa and geologically similar areas.

This clearly shows the likelihood of a discharge of pollutants to water of the state.

24. Based on all of the points set out above, it must be presumed that the Supreme Beef operation will discharge pollutants to waters of the United States. Therefore, Supreme Beef must obtain an NPDES permit. It has not done so.

25. Rules adopted by the Environmental Protection Commission, codified at 567 I.A.C. § 61.2(2), provide for an antidegradation review for facilities if their operation is likely to cause degradation of water quality. Based on the above discussion, it is likely that Supreme Beef's storage, handling and application of manure will cause degradation to Bloody Run Creek, an Outstanding Iowa Water. As an Outstanding Iowa Water, Bloody Run Creek is entitled to what is called Tier 2.5 protection pursuant to the antidegradation policy. 567 I.A.C. § 61.2(2)(c). The rule requires that the water quality must be maintained and protected.

26. Antidegradation review is required for new and expanding operations. Since Supreme Beef is expanding its operation from 2,700 head of cattle to 11,600 head, it is definitely expanding its operation. This review requires Supreme Beef to show that its operation will not cause any degradation of the water quality in Bloody Run Creek.

27. The above-described flaws in the NMP clearly show that an antidegradation review must be part of the DNR's consideration of the NMP. The purpose of the NMP is to ensure that water quality is protected. That, in fact, is why DNR is involved in permitting animal feeding operations. Otherwise, the issues are strictly about agricultural practices.

BASED ON THE FOREGOING, the Petitioners request that the decision of the DNR approving Supreme Beef's NMP be reviewed by the Environmental Protection Commission and reversed. The Petitioners further request to be placed on the agenda of the Environmental Protection Commission to be heard and for the Commission to consider the matters set forth in this Petition.

**Appendices**

- A. Written Public Comments of Steve Veysey
- B. Written Public Comments of Larry Stone
- C. Written Public Comments of the Sierra Club Iowa Chapter
- D. Written Public Comments of the Iowa Environmental Council
- E. Corrections to Written Public Comments of Steve Veysey
- F. Clarification Request of Steve Veysey

Signed: May 7, 2021

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