

**From:** [Todd and Kelley Krause](#)  
**To:** [Jennings, Jonathan \(ECY\)](#)  
**Subject:** Re: Draft CAFO Permit  
**Date:** Wednesday, September 16, 2015 1:49:02 AM

---

Dear Mr. Jennings,

Please accept the following comments regarding the draft CAFO rule:

First, I have a background in dairy as I was raised on a conventional family dairy farm with about 150 cows in the milking herd and again as many heifers. As an adult my wife and I have also started a small dairy and now milk six cows. I am a professional engineer registered in the State of Washington. My undergraduate degree is in Biological Systems Engineering and my Masters Degree is in Civil and Environmental Engineering, both from WSU. I currently serve as the engineer representative on Ecology's Technical Advisory Group for Well construction. As such, I am very familiar with both the practical, technical, and regulatory framework regarding waste/nutrient management as well as groundwater management and protection.

One of my primary concerns and comments regarding the draft rule is the fact that a large amount of the code is vague in its language. Starting with "This statewide general permit covers activities associated with operating a concentrated animal feeding operation (CAFO) that results in a discharge of pollutants to waters of the state from the production area or from land application field(s) that is not agricultural stormwater." You will note that discharge of pollutants to waters of the state as defined could refer to any animal operation. In water rights, as administered by Ecology, the measurement for impact is "one drop", or even the "one molecule" standard. If discharge is not defined as a measurable standard, then the de-facto standard can/will become the "one molecule" standard. If we apply the draft rule honestly, a dog kennel in which rainwater runs off onto the ground would be required to obtain a permit. Discharge needs to be defined as having a measurable impact. All animals (and we as people for that matter) contribute to pollution of both surface and groundwater simply by living.

I realize that the above example is an absurd extreme; however, it is important to write an effective rule that regulates those entities that significantly endanger the waters of the state without technically requiring permits of entities which Ecology has no intention of regulating, or upon which Ecology has no intention of enforcing the regulation. A slightly less absurd example, but again one that I cannot imagine Ecology desiring to enforce, would be the number of horse owners who fail to follow responsible housing and manure management practices, and as such should be required to obtain a permit as the proposed rule is written. In our small neighborhood of 30 or so homes, I know of at least three horse owners, and likely more, that would need to obtain a CAFO permit. This is not to mention those with chicken coops with no run-off collection.

We do not know if it is Ecology's intention to regulate the extremely small farms and hobby operations; however, the current draft as written, would regulate many "micro farms" and hobby farms. We would contend that the existing nutrient management plans already in place and required by the WSDA are adequate for small operations.

The cost of developing and complying with a CAFO permit for small farms would cause many

of the farms to either go out of business, fail to follow best management practices in order to avoid regulation, or attempt to deceive or misrepresent their operations. A single waste management accident on a large CAFO operation (or even a moderately large operation) would discharge far more pollutants than a life time of normal operation, including accidents, on a small farm. We all know that no matter how many safeguards are put into place, that all facilities eventually fail from time to time. Requiring the same permit for a farm of 20 cows vs 2,000 cows simply does not make sense.

The proposed rule as written would place a greater burden on small farms on a per-animal, or per unit income basis. This de-facto policy results in decreasing the number of small farms, and increasing the size of large farms. Making big farms bigger may be easier to regulate; however, "mega farms" have been shown to cause more harm to the environment, reduce the employment base, and result in a greater disconnect between agriculture and the average citizen. In my experience those with connection to working farms are more educated regarding agricultural pollution. This awareness has a "trickle-down" effect to hobbyists and even pet owners. While the social and environmental advantages and disadvantages of mega farms vs small family-run farms can be debated, it is an undisputed fact that the citizens of Washington State value smaller farms. The proposed rule would result in additional pressure to reduce the number of smaller working farms and make the big farms bigger. While I would assume this is not the intent of the rule, and certainly is not the purpose of the rule, State law requires that Ecology must consider the social and economic impacts of a new rule. In my personal and professional opinion, the potential environmental damages of small farms is already addressed through the WSDA rules. In addition, I believe that the reduction in small farms caused by the rule would degrade rather than enhance the quality of our state's waters.

I would assume that Ecology carefully reviewed and considered the WSDA's nutrient management regulations in developing the proposed CAFO rule. If not, I strongly encourage the authors of the rule to research the WSDA regulations. Many entities that would be covered under the proposed CAFO rule as written would more effectively be regulated under the WSDA nutrient management plans.

Administration of the CAFO rule will not only have a cost to farmers, but to Ecology as well. While I believe that this is a good and appropriate use of Ecology's resources, the amount of time and money that Ecology would need to dedicate to extremely small farms in relationship to the small environmental impact imposed by those farms is not an effective use of Ecology's funds.

All this being said, I also realize that small farms also have a potential to cause significant pollution to waters of the state. If in the review of the WSDA rules Ecology determines that there are inadequate protections, then provisions in the proposed rule need to be put in place such that those farms that are likely to pollute are covered, while those farms that are not likely to pollute are not. For example, the proposed rule states that "Ecology has determined that if the CAFO has a lagoon that does not have a double geomembrane liner with a leak detection system between the liner layers that it is discharging to groundwater." A dairy with 40 cows and a small lagoon constructed in clay-loam soils will, over time cause less pollution to waters of the state than a 1,000 cow feedlot with the double lined lagoon and leak detection. I can say this with confidence, because given enough time, there will be a large accident on the feedlot: a dike will break, an alarm will fail, a transmission line will burst, an earthquake/fire/flood will cause a major spill. Meanwhile, the 40 cow lagoon may very

slowly leach a small amount of nutrients into the groundwater. Using the one molecule argument, it can be guaranteed that a small amount of nutrients are leached; however, a mass transport and groundwater travel model could be relatively easily developed to demonstrate that the impact of such a lagoon would be insignificant compared to the background sources of non-point pollution in the greater environment.

The argument could be made "what if everyone installed a 40-cow lagoon?". First, this is a rather ridiculous premise since a 40 animal operation requires a niche market and direct sales to survive. In the extremely unlikely event that small farms ever became the primary source of food again, there would need to be diversity in a given area in order to meet consumer demands, and sustain a customer base. Most of this diversity would not be focused on animal production, but rather plant production. For the sake of argument, if a specific area had a high concentration of small animal operations, small lagoons in clay-loam soils still would not exceed the background levels of nutrient pollution as compared to residential and crop uses of commercial fertilizers.

On the other hand, a hog barn with ten sows and a small lagoon in sandy-gravelly soils and a shallow perched aquifer could very definitely lead to very significant pollution. If the WSDA rules would allow them to utilize a lagoon without adequate environmental protections, then such a farm should be regulated under the proposed rule.

The following are some additional items I believe are likely unintentional oversights:

In the definition of CAFO it should expressly state that all three conditions must be met.

Under the construction and modification of wastewater facilities, engineered plans are required. This section should describe what modification means. In addition, there should be a provision for like-for-like replacements without engineering with like-for-like defined. In my professional career, I have seen many individuals "get in trouble" over failing to have engineering done when required, simply because they assumed it was not needed. Similarly, I have had to convince other clients that a project did not require engineering from a regulatory standpoint.

Mapping is required in several sections of the MPPP. Does the map need to be to scale? Size of drawings? Level of accuracy? Level of precision? Are details required, or just a layout? Plan view only, or are elevation drawings required?

What level of detail is needed on the facilities inventory?

Why is mobile equipment not inventoried? Many farms have little or no static equipment.

The permit requires 1-foot of free-board after a 25-year 24 hour precipitation event. This is an arbitrary standard. Depending on the ratio of the area drained relative to the surface area and geometry of the lagoon, one foot may not be adequate. Is this to say that over-topping is acceptable after a 50 or 100-year storm?

The rule states that silage leachate and similar contaminants must be collected and stored with other liquid manure. It may be more appropriate to collect, store, and treat these potential pollutants separately. The rule should require that they be collected and stored in a safe and appropriate manner, not that they must be combined with the manure.

"Conduit to Surface Water" should be defined. If any seasonal stream, dry gulch, etc that has water that flows to surface water is defined as a conduit to surface water, then a tremendous amount of pasture and range land would be taken out of production.

Manure must not be applied to the 100-foot Sanitary Control area of Group B wells also (not just Group A). Manure must not be applied within 200 feet of a public (Group A or B) spring source.

I'd certainly at least put in the rule that it is recommend that the owner choose some degree of set-back/buffer to private drinking water sources.

Potable drinking water lines must be sleeved within 10 feet of waste water or manure handling components.

The incorporation of manure, (or lack there of) within 24-hours when applied to bare soils should be a site-specific requirement. Best management practices, including no-till, should be considered. In addition, there are many, many cases where there is no benefit to 24hr-incorporation, and no harm if an application to bare soils is left for months. Topography, precipitation, loading rates, soil types, time of year, etc. are all factors to be considered. Requiring immediate tillage could result in accelerated erosion, which could in turn, not only erode soils and contribute to topsoil depletion and stream sedimentation, but actually increase the amount of manure run-off into surface waters.

In regards to soil testing, less frequent testing should be allowed as appropriate based on the current soil nutrient levels and the theoretical nutrient balance for the proposed application rates.

In several places the permit requires arbitrary set-backs and buffers. A 35-foot buffer is likely excessive if an area is flat with heavy vegetative cover, but is likely inadequate on a hillside where natural vegetation is sparse. Set-backs and buffers should be determined by scientific justification, not on an arbitrary number. Arbitrary standards are convenient, and can be used, if they are incorporated with a statement such as "the setback requirement may need to be increased or may be reduced based on site specific, technical justification."

The manure sampling requirements should be based on the size of the lagoon. Five or ten samples from a lagoon that measures 50 feet square is excessive. Five samples from a 10 acre lagoon may not be adequate. Also, what if a farm has multiple lagoons, or a staged lagoon? Manure sampling may not be appropriate for small farms applying manure over large areas. For such operations, "rule of thumb" assumptions regarding nutrient composition and periodic soil analyses are adequate.

Depending on the management practices of the farm (heavy use of insecticides,etc, it may be appropriate to test for other parameters).

Manure is defined as coming from livestock. I strongly recommend re-defining it as coming from animals so as to not confuse animals which may or may not be considered livestock (or define livestock).

Soil nutrient monitoring is an essential tool; however, small farms applying manure over relatively large areas of land should have greatly reduced soil monitoring requirements. A

sample from a single depth, once every three years is adequate. If levels increase beyond a trigger, then more aggressive monitoring is appropriate.

From a practical standpoint, requiring daily record keeping of visual inspections will only result in owners/operators "gun-decking" the records. It is much better to have honest inspections completed less frequently.

There was no record keeping requirement for spills or accidental over applications during land application. I know that on our farm growing up, we never had a lagoon overflow, spill, or other storage problem; however, we occasionally had a manure pipe joint that came apart, the manure gun be left in a stationary position for several hours because of a malfunction, or a hose leak. We always fixed the problem as soon as we noticed it, but manure is corrosive and application equipment failures are bound to happen.

I would recommend increasing the time to provide records to 30 days. An owner/operator could realistically be on vacation, in the hospital, or otherwise unavailable for two weeks.

Only portions of the MPPP should be required to be made available to the public. Farm safety and security could be jeopardized by providing locations of valuable or essential facilities (including public health facilities such as wells) to potential thieves, terrorists, or vandals. Similarly, there could be proprietary crop information that some farmers, seed companies, or other partners may need to keep confidential.

"Spills", "overflow", etc. should be defined. I doubt Ecology desires to be notified when 50 gallons of manure is dropped in one spot in the middle of a field. However, a farmer may not consider an event significant that Ecology would classify as a permit violation/spill/accident, etc.

The rule needs a provision for a waiver or variance process. No rule can be written as one-size-fits all.

Under the water quality standards section, Group B water systems should be added WAC 246-291.

To return to my first comments, in summary, I strongly recommend exempting certain activities, or sizes of farms from regulation under the proposed CAFO rule. However, as expressed above, I am generally averse to arbitrary standards (even when they work in my favor). Since small farms are already required to comply with nutrient management planning requirements as administered by the WSDA, an additional level of permitting is not required in order to meet the goals stated in the rule. Therefore, I would recommend exempting the following activities: 1) Farms with fewer than 100 animal units in confinement operating under an approved WSDA nutrient management plan, unless Ecology has determined the farm is likely to contribute significant pollution to waters of the state. 2) Farms that install ground and/or surface water monitoring protocols to demonstrate they are not contributing measurable pollution to waters of the state.

Thank you very much for your consideration. If you have any questions regarding my comments, please do not hesitate to e-mail me or call: 360-473-7141.

Sincerely,

Todd Krause, PE

On Mon, Sep 14, 2015 at 9:18 AM, Jennings, Jonathan (ECY) <[joje461@ecy.wa.gov](mailto:joje461@ecy.wa.gov)> wrote:

Hi Todd,

Yes, what you described could be considered a small CAFO if the following conditions are met:

1. Animals are confined for 45 days or more during any 12 month period.
2. Confinement areas do not have crops or forage growth.
3. There is a discharge to surface or groundwater.

An additional factor is that, based on the federal CAFO rule, Ecology would need to determine that a small facility is a significant contributor of pollutants (SCOP) and formally designate the facility to be a CAFO.

Number 3 sounds like it would be one determining factor in the situation you described in addition to SCOP. Pasture during the summer would not be included, and it sounds like you have contained surface water so there is no run-off that could be considered a surface water discharge. The question then becomes whether a groundwater discharge is occurring. I can't say for the described situation as there are a number of factors to take into account. Some factors (likely others) that increase risk of a groundwater discharge:

- How a lagoon is constructed (does it have a liner of some type – clay, synthetic geomembrane, etc)
- Age of the lagoon
- Soils below the lagoon and their cation exchange capacity (which helps hold ammonia/ammonium in place)

- Depth to groundwater (and seasonal fluctuations)

We've had quite a bit of feedback on the lagoon/discharge to groundwater provisions as they are written in the preliminary draft so we will be working to address the concerns there and clarify.

### Jon Jennings

WA State Dept. of Ecology | Water Quality Program

PO Box 47600 | Olympia, WA 98504-7600 | ph. [360-407-6283](tel:360-407-6283)

**From:** Todd and Kelley Krause [mailto:[krausecougs@gmail.com](mailto:krausecougs@gmail.com)]

**Sent:** Wednesday, September 09, 2015 9:27 PM

**To:** Jennings, Jonathan (ECY) <[joje461@ECY.WA.GOV](mailto:joje461@ECY.WA.GOV)>

**Subject:** Re: Draft CAFO Permit

Thank you Jon. In regards to condition #2, we have a small dairy (currently milking six cows, but we may expand to as many as 20). In the winter they are in the barn and on a small concrete area with contained run-off. Obviously, the concrete does not support forage at any time, but the rest of the year, the cows are out on pasture, which we never allow the animals to defoliate.

The manure is not stored on concrete, but rather in a pit. We would like to eventually move to a small lagoon system, perhaps even with an autoflush.

Would this be classified as a CAFO?

Thank you,

Todd

On Tue, Sep 8, 2015 at 9:26 AM, Jennings, Jonathan (ECY) <[joje461@ecy.wa.gov](mailto:joje461@ecy.wa.gov)> wrote:

| Hello Mr. Krause,

Sending your comments to me via email is the easiest way, though we do have an online form where you can submit comments or we also accept them in hardcopy (address is in my signature block).

In regards to the CAFO definition, a facility must meet all three requirements to be considered a CAFO. So a facility must confine animals for 45 days or more and not have crops or forage growth in the animal confinement area and have or had a discharge.

-Jon

**Jon Jennings**

WA State Dept. of Ecology | Water Quality Program

PO Box 47600 | Olympia, WA 98504-7600 | ph. [360-407-6283](tel:360-407-6283)

**From:** Todd and Kelley Krause [mailto:[krausecougs@gmail.com](mailto:krausecougs@gmail.com)]

**Sent:** Sunday, September 06, 2015 4:36 PM

**To:** Jennings, Jonathan (ECY) <[joje461@ECY.WA.GOV](mailto:joje461@ECY.WA.GOV)>

**Subject:** Draft CAFO Permit

Dear Mr. Jennings,

We have some comments and questions regarding the draft permit. How can we submit these formally?

First, under the definitions, CAFO is defined as a farm with three characteristics. Are these intended to be "and" characteristics, or are the "or" characteristics. This should be very well defined in the rule.

We also believe that the rule should have an exemption for operations under a certain size. While there are very few small farms that meet the definitions of the current draft

rule, there could be operations with one or two animals (or fifty for that matter) that meet the parameters requiring a permit where the expense to both Ecology and the farm associated with administering and complying with the permit are not sustainable; moreover, extremely small farms typically do not pose a significant environmental threat unless they are being managed extremely poorly, in which case, the current regulatory framework is able to address the deficiencies.

Thank you for your insights. We look forward to answers to the above questions as well as the appropriate vehicle for formal comments.

Todd Krause

**From:** [Todd and Kelley Krause](#)  
**To:** [Jennings, Jonathan \(ECY\)](#)  
**Subject:** Draft CAFO Permit  
**Date:** Sunday, September 06, 2015 4:36:24 PM

---

Dear Mr. Jennings,

We have some comments and questions regarding the draft permit. How can we submit these formally?

First, under the definitions, CAFO is defined as a farm with three characteristics. Are these intended to be "and" characteristics, or are the "or" characteristics. This should be very well defined in the rule.

We also believe that the rule should have an exemption for operations under a certain size. While there are very few small farms that meet the definitions of the current draft rule, there could be operations with one or two animals (or fifty for that matter) that meet the parameters requiring a permit where the expense to both Ecology and the farm associated with administering and complying with the permit are not sustainable; moreover, extremely small farms typically do not pose a significant environmental threat unless they are being managed extremely poorly, in which case, the current regulatory framework is able to address the deficiencies.

Thank you for your insights. We look forward to answers to the above questions as well as the appropriate vehicle for formal comments.

Todd Krause