

Jon Jennings  
PO Box 47696  
Olympia, WA 98504-7696  
Via e-mail and US mail

August 18, 2016

Dear Mr. Jennings:

Thank you for the opportunity to comment on the draft Concentrated Animal Feeding Operation (CAFO) permit. These comments are submitted on behalf of our membership, which is about 20,000 citizens in Whatcom, Skagit, and Island counties. The mission of RE Sources is to promote sustainable communities and protect the health of northwestern Washington people and ecosystems through application of science, education, advocacy and action. Our vision is to see people living satisfying lives in accord with the ecosystem we depend on, generation after generation.

The Clean Water Team here at RE Sources believes that we can have viable farms and clean water. Along with these comments, we express our dedication to working with local farmers that advocate for approaches to the CAFO permit that focus first on those farms that have the most work to do to address water quality impacts. Phasing in new technologies over time and exploring reasonable approaches to groundwater monitoring makes a lot of sense economically for the farmer while protecting water quality. We also want to work with the agricultural community to research and explore funding and financial assistance options for implementing any potential permit requirements.

**Permit Hearings:** Our staff attended both CAFO draft permit public hearings. We were disappointed by the way these hearings were organized. Because of the long length of the introductory presentation, followed by a question and answer session, more than half of the attendees departed before they had an opportunity to comment. For future meetings, we encourage you to make the public meeting agenda available to the public so that the public may choose to show up only for the comment portion if they do not wish to sit through an hour and a half of presentation and question and answer. Clear communication of the permit hearing format, length, and schedule (particularly when the floor will be opened up for comments) would be very beneficial in the future.

At the Yakima hearing, several people mentioned that there had been no publicity in Spanish. Because the Latino community is very large in Yakima, we feel that this was a serious oversight. Again, we urge Ecology to take these important matters into account for future public meetings.

**Permit organization:** We request that the permit be organized in a manner that includes the appropriate citation listed in the Federal Clean Water Act (CWA) 33 U.S.C. We are familiar with the CAFO permits from several other states, which are organized in a manner that makes it reasonable to check the federal rule. We urge you to do the same.

**Lack of requirement to submit a nutrient management plan (NMP) as part of the permit application:** The requirement to submit a NMP has been removed from the draft permit. NMPs are the core of the permit, and are required to be reviewed as part of the permitting process. 40 CFR § 122.21(i). Must submit NMP with permit application. The Director must review notices of intent submitted by CAFO owners or operators to ensure that the notice of intent includes the information required by § 122.21(i)(1), including a NMP that meets the requirements of § 122.42(e) and applicable effluent limitations and standards, including those specified in 40 CFR part 412. By omitting the requirement to submit a NMP, this removes the regulatory review and acceptance process that is necessary for strictly following the federal CAFO rule. This permit requires a Manure Pollution Prevention Plan (MPPP) in lieu of a NMP. MPPPs should have the same regulatory requirements as NMPs and not be used in a way to lessen regulatory requirements to prevent pollution. See:

- **Waterkeeper Alliance, Inc. v. U.S. E.P.A., 399 F.3d 486 (2005)** (Invalidating portions of the 2003 CAFO Rule, in part, based on EPA's failure to require that the NMP be incorporated into the permit and that the public have an opportunity obtain, scrutinize and comment on the NMP.) and
- **National Pork Producers Council v. U.S. E.P.A., 635 F.3d 738 (2011)** As previously noted, the 2003 Rule established a mandatory duty for all CAFOs applying for a permit to develop and implement an NMP, EPA must incorporate CAFOs' site-specific NMPs into their permits, and the 2008 Rule requires that "[a] permit issued to a CAFO must include a requirement ... to develop and implement" an NMP.)

#### **General comments on MPPPs:**

- We request that in section S4.R. Pollution Prevention Plan include that MPPPs be made publicly available. By allowing the MPPPs to be transparent, solutions and lessons learned on pollution prevention will be more readily available. By MPPPs following the same requirements as NMPs, we believe that this is the only way that producers will be able to accurately apply manure and account for all possible pollution sources.
- Instead of requiring a one-time lagoon report, we request that the MPPP from each farm include technical details specific to how each operation will prevent and monitor pollution (such as by installing groundwater monitoring wells and lined lagoons). We know that in Whatcom and Yakima Counties there are portions of each county where groundwater contains elevated levels of nitrate. In these areas, the MPPP should include locations where producers will install groundwater monitoring wells and/or synthetic liners for



lagoons. We understand that in some cases, these facilities will be phased in and not installed immediately. In some areas, where no pollution associated with CAFOs has been documented, it may be appropriate that the MPPP not include installation of groundwater monitoring wells or synthetic liners for lagoons.

- We request that the MPPP for each facility include more information than is specified on pages 29-31 of the draft permit. We request that the location of all known drain tiles be mapped. We request that all known information about groundwater wells be included. If the well has a tag or ID number, it must be identified.

**Lack of requirement to include nitrogen and phosphorus limits on land application – a requirement of the NMP that MPPPs should also require. See:**

- 40 CFR § 122.42(e) Additional conditions applicable to specified categories of NPDES permits (applicable to State NPDES programs, see § 123.25). (Excerpt)
- (5) Terms of the nutrient management plan. Any permit issued to a CAFO must require compliance with the terms of the CAFO's site-specific nutrient management plan.
- The terms must address rates of application using one of the following two approaches, unless the Director specifies that only one of these approaches may be used:
  - (i) Linear approach. An approach that expresses rates of application as pounds of nitrogen and phosphorus, according to the following specifications:
  - (ii) Narrative rate approach. An approach that expresses rates of application as a narrative rate of application that results in the amount, in tons or gallons, of manure, litter, and process wastewater to be land applied, according to the following specifications:
- (A) The terms include maximum amounts of nitrogen and phosphorus derived from all sources of nutrients, for each crop identified in the nutrient management plan, in chemical forms determined to be acceptable to the Director, in pounds per acre, for each field, and certain factors necessary to determine such amounts.

**Comments by Section:** The following section references comments to specific sections of the permit.

S2.A(1) and (2) Who Must Apply for Permit Coverage. If Ecology knows which large and medium CAFOs have had discharges, these should be listed in the permit. Likewise, if Ecology has already designated that some small CAFOs are significant contributors of pollution to surface or groundwater, they should also be listed. Otherwise, there might be a significant delay in gaining coverage. This would be consistent with the Industrial Stormwater Discharge General Permit, which lists all the SIC codes of industries that need to apply.

S4.A. Production Area Run-off Controls may have a grammatical error in the last sentence of the section.



**S4C. Other Above and Below Ground Infrastructure.** “Timely manner” for repairs and replacements to infrastructure should be quantified.

**S4.E. Prevent Direct Animal Contact with Water.** This section has been changed from the preliminary draft. Please re-insert this language: On grazing areas that are part of the CAFO, livestock must be fenced out of surface water, vegetative buffers, and conduits to surface water by a minimum of 35 feet from the top of the bank. Animals may not be allowed access to buffers or conduits to surface water.

**S4.G. Livestock Mortality Management.** If this section remains as is, it will be contrary to Whatcom County Code. We do not support the changes that were made to this section. Whatcom County code does not allow burial of dead livestock in seasonally flooded low areas or 100-year mapped flood plains (Local Health Jurisdiction has the lead under Chapter 246-203 WAC GENERAL SANITATION). Please re-insert this language: Carcasses may be rendered only by a rendering plant licensed under chapter 16.68 RCW (Directly from WAC 16-25-025). Also, please re-insert this language: Natural decomposition may be used if the carcass is 1,320 feet or more from any groundwater well, spring, sinkhole, or body of surface water, including wetlands, such as a river, stream, lake, pond, or intermittent stream; and not located in an area that has a seasonally high water table, seasonal flooding, or within a hundred-year floodplain.

**S4.H. Manure, Litter, and Process Wastewater Sampling and Nutrient Analysis.** Please add clarifying language to this section that requires sampling of all sources of manure, litter, and process water that will be land applied prior to beginning any land application. In order for an accurate nutrient load accounting to take place, this needs to be required for all fields where the material is to be used, not just fields that are controlled by the permittee.

**S4.I. Soil Sampling and Nutrient Analysis.** Please add clarifying language on what a unique field is. While each field has a unique field ID, there should be clarity for purposes of manure application to ensure that each “unique” field has the same uniform characteristics.

Spring and fall soil sampling are essential to proper nutrient analysis. Jayasundara et al. (2010)<sup>1</sup> caution that to completely assess the risk of nitrate leaching to groundwater, measuring fall soil nitrate concentration is inadequate; therefore spring sampling is needed and needs to stay in this permit. Fall soil nitrate tests provide feedback on the effectiveness of the manure management practices from the previous season while spring tests should provide indication of the appropriate application rates of manure at the beginning of the growing season. Additionally, spring and fall soil nitrate ranges have different marks as they have different objectives,

<sup>1</sup> Jayasundara, S, C Wagner-Riddle, G Parkin, J Lauzon, M Fan. 2010. Transformations and Losses of the Impacts of Various Agricultural Practices on Nitrate Leaching Under the Root Zone of Potato and Sugar Beet using the STICS Soil-Crop Model, *Science of the Total Environment*, 394, pp. 207-221.

therefore, nitrate ranges for spring sampling should also be provided such as has been done in this permit for fall soil nitrate ranges.

Identify appropriate site specific conservation practices to be implemented, including as appropriate buffers or equivalent practices, to control runoff of pollutants to waters of the United States [40 CFR 122.42(e)(1)(vi)]

S4.J. Land Application. Land application of manure in this section, as written currently, only accounts for “the form of manure being applied, the nutrient needs of the crop at the time the application occur, and the environmental conditions (e.g. precipitation) in order to prevent discharges.” These three factors fall short of a true nutrient management loading equation and therefore cannot accurately indicate what the true application of nitrogen should be nor prevent discharges without any certainty. As outlined in Ecology’s Manure and Groundwater Quality Literature Review (2016)<sup>2</sup>, the follow are cited to affect application rates of manure: all sources of nitrogen (which are currently not accounted for as this permit is written), types of nutrients applied (not just type of manure), the timing of the application, type of crop grown, type of soil (also important to include), and climate (which encompasses more than just precipitation). The same literature review states that researchers agree that all sources of nitrogen need to be considered in the total load and residual soil nitrogen and on-going mineralization of organic nitrogen are often overlooked sources that lead to nitrogen leaching and impacts to groundwater<sup>3</sup>, which should be explicitly included in the CAFO permit to ensure best nutrient load estimations that are protective of groundwater quality.

It would be helpful if the nutrient budget worksheet was made available along with the permit review to review what the permit requirements entail.

S4.J.1.c states that the amount of nitrogen from all sources must be no greater than spring soil test values (permit conditions S4.B.10 and S5.C). The spring soil test values are very important for estimating nutrient loads, so we want to make sure that this section remains in the permit.

We believe the permit allows for extra nitrogen application based on mineralization of nitrogen. Ecology (2016)<sup>4</sup> indicates that the uncertainty in timing and rate of mineralization and nitrification poses a challenge for accurate estimated amounts of nitrogen bioavailable in the soil. Careful consideration of accurate mineralization needs to be taken into account to protect groundwater from nitrate leaching.

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<sup>2</sup> Washington State Department of Ecology. June 2016. Manure and Groundwater Quality Literature Review. Publication No, 16-03-026.  
<https://fortress.wa.gov/ecy/publications/SummaryPages/1603026.html>.

<sup>3</sup> Ibid.

<sup>4</sup> Ibid.

S4.J1.h and j. We request that the nutrient budget for each field be based on the actual yields from the last 3 years, not a goal.

S4.J.2. Permittees should be required to submit an updated field nutrient budget to Ecology any time there is a change in cropping for the season.

S4.J.4. We request that this section be revised to require tillage after land application. Our staff has observed many situations where manure solids were dumped on fields in piles, and left in place all winter. Because this material usually contains viable fecal coliform for many months, this continues to pollute unless the applications are carefully managed.

S4.J.5. If manure, litter, or process wastewater is to be applied to land not owned, leased, or controlled by the Permittee, a MPPP should be required in addition to a written permission from the landowner or controller of the land if leased.

S4.J.6. How often is calibration required by Permittee for equipment used for land application that may have a variable rate? It is unclear as currently written. In addition to including calibration records, we request that each piece of equipment (pumps, injectors, sprinklers, splash plate applicators) be listed by name and manufacturer.

S4.J.7. This section should also include no land application prior to expected freezing conditions or snow, not just when freezing conditions occur, which can occasionally occur out of season.

S4.J.7.d. Please edit to note that no application should occur in any portion of the field if any of the field where application is to occur has a water table that is within 12 inches or less of the surface to avoid misinterpretation.

S4.J.8. No land application should occur in the fall after the growing season. There is too high of a risk for nutrient loading. We have observed and documented many risky applications undertaken in the winter in Whatcom County. Because there is no uptake of nutrients during the winter, it is never appropriate to spread manure in the winter. Please clearly specify that application of manure in winter is not allowed.

Also, if left in, clarifying language should be added so that the Permittee is required to submit an updated yearly field nutrient budget to Ecology showing that nutrients from fall land application are necessary 30 days prior to land application taking place, or otherwise require approval from Ecology for this update before application occurs.

This section references permit condition "S4.J.g" but doesn't clarify if it's section "g" from S4.J.1 or S4.J.7, though it should, or otherwise be corrected to reference the proper section.

Additionally, permit condition “S4.B.11.i” is referenced in this section, but no such section exists. This should also be fixed so that Permittees know what an “emergency situation” entails.

S4.K. Adaptive Management for Areas with ≤ 25 Inches Precipitation. This section has two sets of S4.K.1-3, which makes it difficult to reference specific sections. Perhaps a different configuration could eliminate this problem.

In the decision matrix for adaptive management, the overall goal should be to reach Action Level D0, instead of stating at D4 and 5 that the goal is to get to D2 and 3, as is currently indicated.

S4.K. TABLE 3: Adaptive Management Action Level Matrix. Testing to soil depths of the 3rd foot should always be required. This is below root zones and would give a good indication of whether nitrogen is leaching into groundwater. There is no way to definitely determine if groundwater is impacted without testing groundwater quality.<sup>5</sup> Spring testing should also have a similar Adaptive Management Action Level Matrix with consideration of how well last year’s manure management went based on fall soil samples. This would make for a solid adaptive management approach.

Additionally, the numerical values in Table 3 don’t appear to match recommendations in peer reviewed scientific literature. There should be a reference to where these numbers were derived. The ranges also should be presented in both lbs/acre and ppm to accommodate a variety of audiences and easy review among scientific literature.

S4.K.2.b (the second S4.K.2.) This section states that Permittees should review records to determine if fall soil test results are due to factors beyond the Permittee’s control such as crop failure or unusual environmental conditions. If this is the case, then the Permittee records the reason as required by permit condition S6.B.2, which provides very little guidance. There is no indication of where these records should be noted or filed and to whom the Permittee submits these recorded reasons for exceeding nitrogen levels. Adaptive management actions may be needed to avoid high soil test results in the future and should be included.

S4.K.3.a. The example of “historic land use” is given for a reason for reaching Action Levels D4 and D5. This is a terrible example and should be replaced with a real excuse. Historic land use should be accounted for in the MPPP, where all sources of nitrogen should be accounted for, and therefore high levels of nitrogen should never occur due to historic conditions as manure should not be applied to the land if it has high levels of nitrogen to begin with.

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<sup>5</sup> Washington State Department of Ecology. June 2016. Manure and Groundwater Quality Literature Review. Publication No, 16-03-026.  
<https://fortress.wa.gov/ecy/publications/SummaryPages/1603026.html>.

S4.L. Adaptive Management for Areas with > 25 Inches Precipitation. We have similar comments as in S4.J.

S4.L. TABLE 4: Adaptive Management Action Level Matrix. Testing to soil depths of the 2nd and 3rd foot should always be required. The 3rd foot is below root zones and would give a good indication of whether nitrogen is leaching into groundwater. There is no way to definitely determine if groundwater is impacted without testing groundwater quality.<sup>6</sup> Spring testing should also have a similar Adaptive Management Action Level Matrix with consideration of how well last year's manure management went based on fall soil samples. This would make for a solid adaptive management approach.

Again, the numerical values in Table 4 don't appear to match recommendations in peer reviewed scientific literature. There should be a reference to where these numbers were derived. The ranges also should be presented in both lbs/acre and ppm to accommodate a variety of audiences and easy review among scientific literature.

S4.M. Irrigation Water Management. Please require that water moisture sensors be used to ensure that water applied from precipitation, irrigation, and liquid manure applications does not exceed the water holding capacity in the top two feet of soil.

S4.N. Field Run-off Prevention Management Practices. Please retain the 100 foot setback from top of the bank distance for calculating manure application rates. Please include and specify that the 100 foot setback be applied to ditches and V-ditches, as well as other downgradient surface waters, open tile line intake structures, etc.

According to Department of Ecology reports from 2012<sup>7</sup>, 2014<sup>8</sup>, and 2016<sup>9</sup>, groundwater monitoring at the water table is the only way to determine the amount of nitrates reaching the water table. Groundwater monitoring is essential because it is the only feedback mechanism that will inform farmers and regulatory agencies about whether their operational practices are effectively reducing and preventing nitrate pollution in groundwater. We propose that groundwater monitoring be added as a phased-in requirement for large CAFOs.

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<sup>6</sup> Washington State Department of Ecology. June 2016. Manure and Groundwater Quality Literature Review. Publication No. 16-03-026.

<https://fortress.wa.gov/ecy/publications/SummaryPages/1603026.html>.

<sup>7</sup> Washington State Department of Ecology. June 2012. Sumas-Blaine Aquifer Nitrate Contamination Summary. Publication No. 12-03-026. <https://fortress.wa.gov/ecy/publications/documents/1203026.pdf>

<sup>8</sup> Washington State Department of Ecology. July 2014. Spreadsheet Models for Determining the Influence of Land Applications of Fertilizer on Underlying Groundwater Nitrate Concentrations. Publication No. 14-03-018. <https://fortress.wa.gov/ecy/publications/documents/1403018.pdf>

<sup>9</sup> Washington State Department of Ecology. May 2016. Washington State Nitrate Prioritization Project. Publication No. 16-10-011. <https://fortress.wa.gov/ecy/publications/documents/1610011.pdf>



S6.C Export. We find this section is seriously lacking important requirements. Over the last 9 years, we have documented at least 50 instances of risky manure applications (which have been submitted in the past through Ecology's Environmental Incident Report Form and are part of public record). We believe most of these applications were caused by off-farm manure export.

We ask for the following inclusions: Each time manure is exported off-farm, a manure tracking manifest must be filled out. At a minimum, it will include the name and address of the recipient, a certification statement that the acceptor is responsible for the potential or realized pollution arising from the manure, the owner of the field where it will be applied, and the parcel number and address of the field where it will be applied. In addition, the owner/operator of the field where it will be applied must be in receipt of the most current representative information on the nutrient content of the manure, bedding and/or process water that is being accepted. These records must be maintained on site for 5 years and submitted as part of each facility's annual report.

S7.E. Noncompliance Notification. We request that the permittee notify Ecology immediately if an unauthorized discharge occurs. This can be accomplished in a variety of ways, including a phone call, email, etc.

Thank you for your serious consideration of these comments. We hope that Ecology will end up with a permit that will allow for viable farms as well as protection, and much needed improvement in water quality.

Sincerely,



Lee First, North Sound Baykeeper  
RE Sources for Sustainable Communities



Eleanor Hines, Lead Scientist  
RE Sources for Sustainable Communities

