

From: [Andrea Rodgers](#)
To: [Moore, Bill \(ECY\)](#); [Jennings, Jonathan \(ECY\)](#)
Cc: [Charlie Tebbutt](#); [Sarah Matsumoto](#)
Subject: Comments on Preliminary Draft of WA CAFO Permit
Date: Friday, October 02, 2015 9:27:02 AM
Attachments: [WA CAFO.Prelim Permit.Cmts.Final.pdf](#)

Bill and Jon-

Attached are our comments on the preliminary draft of the WA CAFO Permit. The exhibits are being uploaded to Ecology's FTP site, as directed by Jon. Please let me know if you have any questions and I would appreciate if you could confirm receipt.

Thank you,
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From: [Andrea Rodgers](#)
To: [Jennings, Jonathan \(ECY\)](#); [Moore, Bill \(ECY\)](#)
Subject: Comments on Preliminary Draft
Date: Monday, October 05, 2015 9:11:43 AM
Attachments: [WA CAFO.Prelim Permit.Cmts.Final.pdf](#)

Jon and Bill-

Attached is a revised version of our comments. Only change is that one other organization signed on. Let me know if you have any questions.

Thanks,
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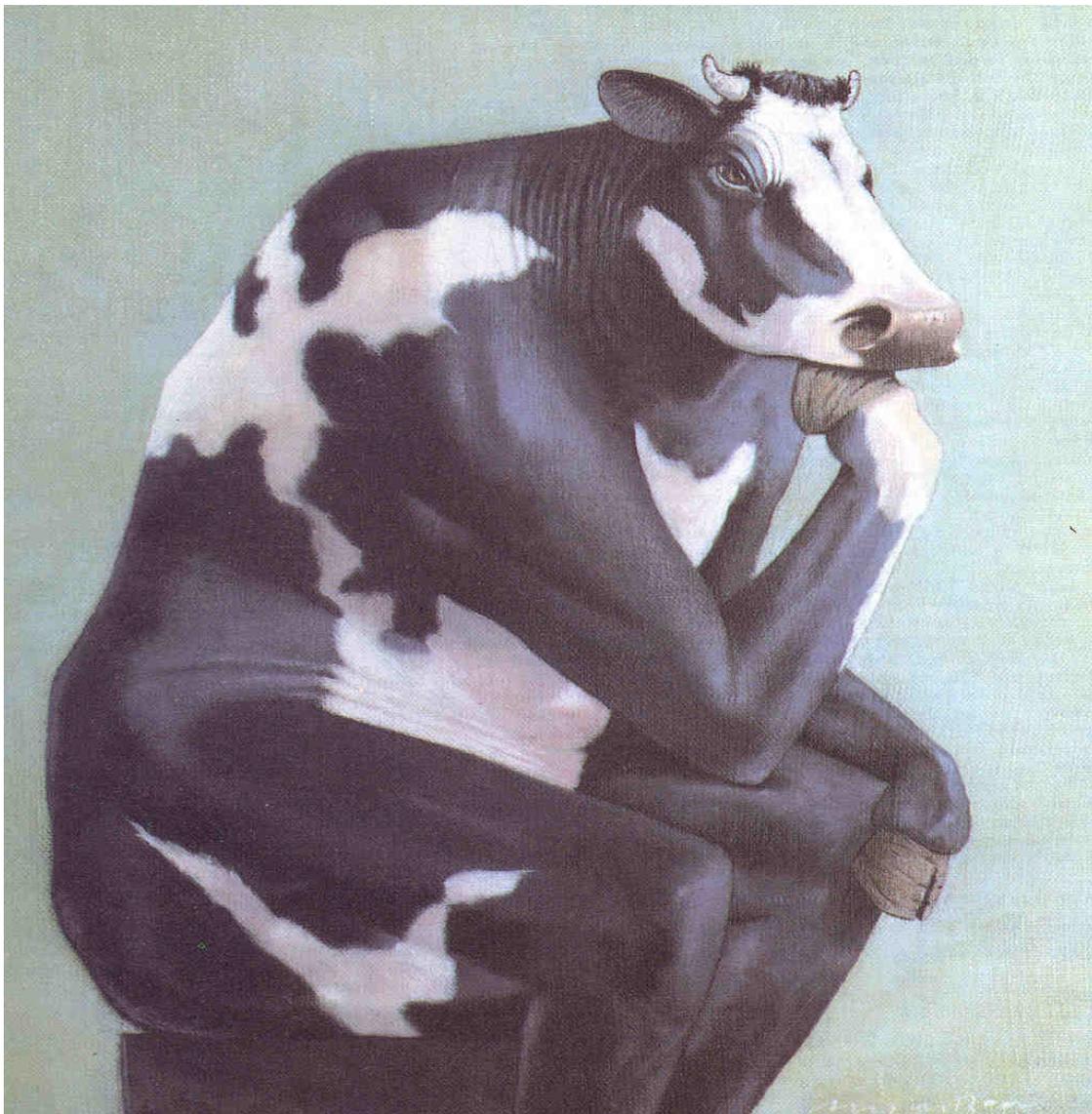
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Conservation Organization Comments on Washington Department of Ecology's Preliminary Draft of Concentrated Animal Feeding Operation General Permit October 2, 2015



October 2, 2015

Via Electronic Mail

Bill Moore
Jonathan Jennings
WA Department of Ecology
Email: Bmoo461@ecy.wa.gov
Email: joje461@ecy.wa.gov

Re: Conservation Organization Comments on Preliminary Draft of WA
CAFO General Permit

Dear Mr. Moore and Mr. Jennings,

These comments are being submitted on behalf of Puget Soundkeeper Alliance, RE Sources for Sustainable Communities, Community Association for Restoration of the Environment, Friends of Toppenish Creek, Waterkeeper Alliance, Sierra Club Washington Chapter, Center for Environmental Law and Policy, Spokane Riverkeeper, Concerned Citizens of the Yakama Indian Reservation, Snake River Waterkeeper, Socially Responsible Agriculture Project, Friends of the Earth, and Center for Food Safety (collectively referred to as “Commenters”). These organizations are committed to conserving and protecting the surface and ground waters of Washington state from the numerous pollutants that are being discharged into waters of the state from Concentrated Animal Feeding Operations (“CAFOs”). It is long overdue for the Washington Department of Ecology (“Ecology”) to take meaningful regulatory action to implement federal and state clean water laws in a manner that fulfills statutory goals and protects the public’s interest in clean water.

While the preliminary draft permit is a substantial improvement over the last iteration, there are still many changes that need to be made to bring the permit into compliance with all applicable legal requirements. Most importantly, the next draft of the CAFO permit needs to include groundwater monitoring and a requirement that CAFOs stop the discharges coming from manure lagoons. In addition, the permit must include the minimum requirements set forth in the federal NPDES regulations for CAFOs at 40 C.F.R. Parts 122 and 412, and must be tailored to the particular industry and

water quality problems in Washington as detailed in these comments. We appreciate the opportunity to submit these written comments and look forward to discussing our comments with you in person as you continue to improve the draft of the WA CAFO General Permit. We recognize that the agricultural industry is pressuring you to “get this permit functional and voluntary,”¹ but you should not be bullied into abdicating your statutory responsibilities to protect water quality and public health.

I. Introduction

The scope of the pollution problem from CAFOs in the state of Washington is well documented. The CAFO pollution issue has been documented and litigated in courts of law in Washington for nearly twenty years. *See, e.g., CARE, et al v. Cow Palace, et al.*, 80 F. Supp.3d 1180 (E.D. Wa. 2015); *CARE v. Nelson Faria Dairy*, 2011 WL 6934707 (E.D. Wa.) (Dec. 30, 2011); *CARE v. Henry Bosma Dairy*, 65 F. Supp.2d 1129 (E.D. Wa. 1999), *aff'd* 305 F.3d 943 (9th Cir. 2002); *CARE v Sid Koopmans Dairy*, 54 F. Supp.2d 976, 981-82 (E.D. Wash. 1999).

The historic lack of regulation of CAFOs by federal and state agencies has led to a public health crisis of the first order. It is undeniable that CAFOs throughout the state of Washington are contaminating the surface and ground water and drinking water resources of this state with nitrates, phosphorus, bacteria and pharmaceuticals. CAFOs generate so much manure that it must be stored in large storage lagoons or piled on the ground. This vast amount of waste is not sent to any kind of wastewater treatment plant, like we do with human waste, but is dumped into unlined lagoons and placed in huge quantities onto the ground.

Because animals at CAFOs live in their own feces 365 days per year, the animals are given significant doses of antibiotics to stave off rampant illness and death. No animal is adapted to live in its own manure on a daily basis. The different way in which we treat human vs. animal manure is reckless and illegal. Ecology and the U.S. Environmental Protection Agency (“EPA”) have recognized that dairy manure is actually stronger and more highly toxic than human waste and thus a strong WA CAFO General Permit prohibiting CAFO discharges to waters of the state is an imperative.

¹ Washington State Dairy Federation, *available at* <http://wastatedairy.com/> (last visited Sept. 17, 2015).

II. Legal Background

In developing an effective and legally compliant CAFO Permit, it is essential that Ecology recognize the purposes of the permit in the first place. First, the permit must ensure that CAFOs operate in a manner that results in zero discharge of pollutants into waters of the state, which includes both surface and ground water. This is a National Pollution Discharge *ELIMINATION* System (“NPDES”) Permit. This reflects the goal of the federal Clean Water Act (“CWA”) to regulate and ultimately prevent the discharge of pollutants from point sources into waters of the United States.² Specifically, Congress declared, “it is the national goal that the discharge of pollutants into the navigable waters be *eliminated* by 1985.”³ That is why permits are to last five years, not in perpetuity.

Second, in order to achieve the elimination of the discharge, the permit must force the CAFO operators to implement the best technology available. Congress, and the Washington legislature, anticipated that when a point source obtained a permit, it would push the permittee towards the implementation of the technology necessary to accomplish the elimination of the discharge and the need for the permit. *Santa Monica Baykeeper v. Kramer Metals, Inc.*, 619 F. Supp.2d 914, 923 (C.D. Cal. 2009) (citing 33 U.S.C. §§ 1311(b)(2)(A), 1342(b)(2)) (“[B]y statute, effluent limitations are inextricably linked to BAT/BCT [Best Available Technology/Best Control Technology].”); RCW 90.58.520; WAC 173-201A-020 (“**AKART**” is an acronym for “all known, available, and reasonable methods of *prevention*, control, and treatment.” AKART shall represent the most current methodology that can be reasonably required for *preventing*, controlling, or abating the pollutants associated with a discharge.”) (emphases added). For a more thorough description of the concept of “technology-forcing” and its legal basis, see **Exhibit 1** at pp. 4-6.

Finally, the permit must fulfill Ecology’s responsibility to protect Washingtonians’ fundamental, constitutionally reserved rights to a healthful and pleasant environment. A recent Court of Appeals decision makes it clear

² This goal should be reflected in section S4.A setting forth the objectives of the permit: “To implement management practices to identify, reduce, eliminate, AND [not or] prevent CAFO related water pollution.” Preliminary Permit at 10. These objectives are all legally required and should not be mutually exclusive.

³ 33 U.S.C. § 1251(a)(1) (emphasis added).

that Ecology, when exercising its delegated statutory and regulatory authority, must act in a way that protects citizens' constitutionally reserved rights to a healthful and pleasant environment. *See Puget Soundkeeper Alliance*, ___ Wn.2d ___, ___ P.3d ___, 2015 WL 4540664 (Wash. Ct. App. July 28, 2015) (emphasis added) (recognizing that under SEPA "the responsibilities of each generation as trustee of the environment for succeeding generations," RCW 43.21C.020(2)(a), and the recognition that "each person has a fundamental and inalienable right to a healthful environment and that each person has a responsibility to contribute to the preservation and enhancement of the environment." RCW 43.21C.020(3). *Although these policies apply to the State generally, they speak with an insistent voice to the Department of Ecology. See, e.g., RCW 43.21A.010. By condoning violations of its own standards through this permit, the Department has not acted in keeping with this trust.*"). For the reasons set forth herein, Commenters respectfully request that Ecology revise the preliminary draft of the WA CAFO permit so that it complies with the law and protects the waters of Washington.

III. Universal Coverage

A. Universal Coverage for Medium & Large CAFOs Required Because All Are Discharging To Groundwater Via Leaking Lagoons.

On January 26, 2015, we submitted a letter to Ecology outlining the factual and legal basis for Ecology to mandate permit coverage for all medium and large CAFOs located within the state of Washington. A copy of the letter is attached as **Exhibit 1** and is hereby incorporated by reference. We *strongly* agree with Ecology's scientific finding in the Preliminary Permit:

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.

Preliminary Permit at 5. The science overwhelmingly supports Ecology's decision on this issue (although as we point out in section V.R below, double liners with leak detection systems are available at equal or superior technology so the permit should not prescribe a specific technology, but rather a system *at least as technologically proficient*). Attached and

incorporated into these comments as **Exhibit 2** is a letter we submitted to Ecology on June 5, 2014 summarizing the scientific studies that confirm all lagoons leak. In addition, more recent science supporting the notion that all lagoons leak is included at pages 36-41 of **Exhibit 1** (universal coverage letter).

Based upon Ecology’s finding that all CAFOs with manure lagoons are actively discharging to groundwater, the agency must require universal coverage for all medium and large CAFOs in the state.⁴ That is because if Ecology recognizes the discharge is occurring, it is legally obligated to take action to prevent the discharge or issue a permit that will ultimately lead to the elimination of the discharge. RCW 90.48.080 (the discharge of pollutants into waters of the state, including groundwaters, is prohibited); WAC 173-220-020 (“No pollutants shall be discharged to any surface water of the state from a point source, except as authorized by an individual permit issued pursuant to this chapter or as authorized by a general permit issued pursuant to chapter 173-226 WAC.”); WAC 173-216-040(1) (discharge of waste into waters of the state, including groundwaters, is prohibited absent a state discharge permit).

Ecology departs from the law, however, because the permit does not clearly identify the facilities that do not have manure lagoons that meet this standard, and thus would be subject to the permit requirement. Under RCW 90.48.160, “[a]ny person who conducts a commercial or industrial operation of any type which results in the disposal of solid or liquid waste material into the waters of the state . . . shall procure a permit” There can be no question that CAFOs with leaking manure lagoons that are discharging to ground water and hydrologically connected surface water (in addition to having other documented surface water discharges) must be required to seek permit coverage under Washington law. Commenters urge Ecology to follow the practice utilized for the recently issued General Permit for Biosolids Management and include a list of facilities that will be required to seek coverage under the new WA CAFO General Permit. If this was done for the Biosolids permit, there is no reason it cannot be done for the CAFO permit and it would enable a full analysis of the scope of the WA CAFO permit and

⁴ Virtually no CAFOs in Washington have manure lagoons with double geomembrane liners with a leak detection system between the liner layers.

any economic consequences associated with compliance.⁵ There is no separate legal requirement for this practice for the Biosolids permit and it should be utilized in this context. Information regarding which CAFOs have unlined manure lagoons, as well as which CAFOs have had discharges to surface waters, is plainly known and available to Ecology. In fact, much of this information has already been provided to Ecology. **Exhibit 1** at pp. 41-44.

There is no legal basis for Ecology's apparent decision to restrict the universal permit requirement to only those "areas where there are known groundwater impacts from nitrate, or where the groundwater is susceptible to impacts from nitrate" Preliminary Permit at 5. The quality of the receiving waters does not dictate whether or not there is an actual discharge of pollutants that triggers the permit requirement. Rather, the law is clear that "[i]t shall be unlawful for any person to throw, drain, run, or otherwise discharge into any of the waters of this state, or to cause, permit or suffer to be thrown, run, drained, allowed to seep or otherwise discharged into waters any organic or inorganic matter that shall cause or tend to cause pollution of such waters" RCW 90.48.080. The quality of the receiving water is of no consequence for purposes of determining whether there is or is not an actual discharge. The permit requirement is triggered only by "the disposal of solid or liquid waste material into waters of the state," not only for those waters that are already impaired. RCW 90.48.160.

The quality of the receiving water is, however, relevant in two other ways. First, Ecology has a legal obligation to deny a request for a new discharge permit when the receiving waters are impaired and the discharge will contribute to the existing impairment. *See, e.g., Friends of Pinto Creek v. U.S. Evtl. Prot. Agency*, 504 F.3d 1007, 1012 (9th Cir. 2007) ("no permit may be issued to a new discharger if the discharge will contribute to the violation of water quality standards."). Second, more stringent water quality control measures must be in place when a facility proposes to discharge into

⁵ Commenters do not contend that the economic impacts associated with permit compliance are legally relevant in regards to the permit coverage issue, but anticipate that the CAFO industry will make arguments regarding the economic impacts of the permit. In addition, Ecology will be preparing an Economic Impact Analysis for the permit and this information is critical to understand and review that analysis. WAC 173-226-120. Therefore, it is necessary and appropriate for Ecology to provide information to the public regarding the facilities that will be required to seek coverage as was done for the Biosolids permit.

already-impaired waters. Under the state’s anti-degradation policy, which is designed “to ensure the purity of the state’s groundwaters and to protect the natural environment”:

Existing beneficial uses shall be maintained and protected and no further degradation which would interfere with or become injurious to existing beneficial uses shall be allowed.

WAC 173-200-030(1), (2).⁶ The groundwater quality standards make it clear that:

Whenever groundwaters are of a higher quality than the criteria assigned for said waters, the existing water quality shall be protected, and contaminants that will reduce the existing quality thereof *shall not be allowed to enter such waters*, except in those instances where it can be demonstrated to the department’s satisfaction that

(i) An overriding consideration of the public interest will be served; and

(ii) All contaminants proposed for entry into said groundwaters shall be provided with all known, available, and reasonable methods of prevention, control, and treatment prior to entry.

WAC 173-200(2)(c) (emphasis added). Therefore, Ecology has it backwards. Discharging “in areas where there are known groundwater impacts from nitrate, or where the groundwater is susceptible to impacts from nitrate” is not what triggers Ecology’s authority to permit the discharge in the first place, but rather invokes Ecology’s legal responsibility to prevent the discharge from happening and to require additional protections. WAC 173-200-030(2). While we agree with Ecology’s scientific finding that all lagoons that do not have a double geomembrane liner with a leak detection system (or equivalent technology) leak, Ecology must acknowledge that this finding triggers *universal coverage*⁷ for all medium and large CAFOs with unlined manure lagoons, regardless of the quality of the receiving waters into which the lagoons discharge.

⁶ There is a similar anti-degradation policy for surface waters. WAC 173-201A-300.

⁷ Commenters emphasize that the request for universal coverage for medium and large CAFOs only applies if the permit is compliant with all applicable laws and operates to eliminate all CAFO discharges to surface and ground waters of the state.

B. Ecology Has Authority To Designate Medium and Large AFOs as CAFOs Because They Are Significant Contributors of Water Pollution

Ecology's legal obligation to mandate universal coverage for large and medium CAFOs in the state is supported not only by the fact that medium and large AFOs in the state meet the definition of a CAFO, but also based upon Ecology's legal obligation to designate medium and large AFOs as CAFOs, thereby triggering permit coverage. This obligation applies to medium and large CAFOs that are discharging to waters of the state through leaking manure lagoons, or through over-application of manure. EPA regulations make it clear that "[o]nce an animal feeding operation is defined or designated as a CAFO for at least one type of animal, the NPDES requirements for CAFOs apply with respect to all animals in confinement at the operation and all manure, litter, and process wastewater generated by those animals or the production of those animals, regardless of the type of animal."⁸ Ecology, as the state agency with delegated authority from the EPA to issue NPDES permits to CAFOs, has the authority to "designate any AFO as a CAFO upon determining that it is a significant contributor of pollutants to waters of the United States."⁹ Even though Ecology has delegated authority, the Regional Administrator of the EPA retains its authority to make CAFO designations, but only if he/she determines "that one or more pollutants in the AFO's discharge contributes to an impairment in a downstream or adjacent State or Indian country water that is impaired for that pollutant."¹⁰

In making a CAFO designation, after an on-site inspection is conducted, Ecology or the Regional Administrator considers the following factors:

- (i) The size of the AFO and the amount of wastes reaching waters of the United States;
- (ii) The location of the AFO relative to waters of the United States;
- (iii) The means of conveyance of animal wastes and process waste waters into waters of the United States;

⁸ 40 C.F.R. § 122.23 (b) (emphasis added).

⁹ 40 C.F.R. § 122.23(c); RCW 90.64.020 (same).

¹⁰ 40 C.F.R. § 122.23(c)(1)(i).

- (iv) The slope, vegetation, rainfall, and other factors affecting the likelihood or frequency of discharge of animal wastes manure and process waste waters into waters of the United States; and
- (v) Other relevant factors.¹¹

In order to trigger EPA's or Ecology's authority to designate an AFO as a CAFO, there must be an actual discharge of pollutants into waters of the state *or* the facility must be an "otherwise significant contributor[] of pollution."¹² Ecology, along with WSDA, the WA Conservation Commission, and local conservation districts are in possession of documents confirming that all medium and large AFOs in the state should be designated as CAFOs in order to trigger the permit coverage requirement, both because of leaking lagoons and overapplication of manure to fields that inevitably reach surface and ground waters.

For example, attached as **Exhibit 3** and incorporated herein by reference is a table of data produced by WSDA in response to a public records request. This table identifies each dairy CAFO in Whatcom County and provides a range of how much nitrogen and phosphorus is produced by each facility, how many acres of land each facility owns and rents for manure application, and the number of facilities that receive off-site exports of manure. This data can and must be used to require universal coverage for all medium and large CAFOs in the state that have an insufficient amount of acreage to support the number of animals that they have.

IV. Permit Discharge Limits

A. Federal Zero-Discharge Effluent Standard

Ecology neglected to include the requirement that all discharges comply with the zero discharge federal effluent guideline for CAFOs in the section regarding permit discharge limits. For dairy CAFOs, "there must be no discharge of manure, litter, or process wastewater pollutants into waters of the U.S. from the production area." 40 C.F.R. § 412.31(a). A discharge to

¹¹ 40 C.F.R. § 122.23 (c); RCW 90.64.020 (emphasis added) (mirroring the language of the federal rule, except Ecology may also designate a CAFO "that is a significant contributor of pollution to the surface *or ground waters* of the state.").

¹² RCW 90.64.005.

surface waters is only permitted when “(i) [t]he production area is designed, constructed, operated and maintained to contain all manure, litter, and process wastewater including the runoff and the direct precipitation from a 25-year, 24-hour rainfall event; (ii) [t]he production area is operated in accordance with the additional measures and records required by § 412.37(a) and (b).” 40 C.F.R. § 412.31(a)(1). Because this permit is an NPDES permit, in addition to a state discharge permit, it must also be at least as stringent as the federal permitting requirements for CAFOs. 33 U.S.C. § 1370 (delegated states “may not adopt or enforce any effluent limitation, effluent standard, prohibition, pretreatment standard, or standard of performance which is less stringent than the” federal standard); *City of Pasco v. Ecology*, PCHB No. 84-339 (Final Findings of Fact, Conclusions of Law & Order) (Sept. 23, 1985) (“Notwithstanding the existence of a federal statute, the state continues to have power to impose more stringent requirements than federally demanded.”). Compliance with the federal surface water effluent limitations was a requirement of the old 2006 permit and thus the new permit cannot now disregard those standards as that would violate the anti-backsliding requirement. *Port of Seattle v. Pollution Control Hearings Bd.*, 151 Wn.2d 568, 604, 90 P.3d 659 (2004) (citing 33 U.S.C. § 1342(o)) (“NPDES permits are subject to an ‘anti-backsliding’ provision, which does not allow a subsequent NPDES permit to create a lesser effluent limitation . . .”).

B. Compliance With AKART Must Be Required in the Permit

Commenters agree with Ecology that permittees must use AKART when operating their production and land application areas, but the permit must specify what measures constitute AKART. The law is clear that AKART is required to be implemented as part of *this permit*; this requirement cannot be deferred to the next permit cycle. *Puget Soundkeeper Alliance v. State, Dep’t of Ecology*, 102 Wn.App. 783, 785, 9 P.3d 892 (2000) (“RCW 90.48.520 requires that wastewater discharge permits issued under the federal Clean Water Act (CWA) and Washington’s Water Pollution Control Act (WPCA) include conditions requiring the permit holder to use all known, available, and reasonable methods to control toxicants in that wastewater.”); WAC 173-200(2)(c)(ii). Ecology itself has stated that it only

permits the land treatment of waste “provided AKART is described and approved in an engineering report.”¹³

“Ecology approves as AKART the design and operation and maintenance for land treatment systems that includes: (1) the application of wastewater and its nutrients at rates, times and durations that do not exceed the crop’s agronomic rates; (2) the storage of wastewater in properly lined lagoons that is produced in excess of the crop’s requirement or outside of the growing season.”¹⁴ For manure lagoons, AKART is clearly a “double **geomembrane liner** with a leak detection system between the liner layers [or equivalent technology].”¹⁵ For more information in regards to what constitutes AKART for other components of dairy CAFO operations, see section 5 below.¹⁶

C. TMDL Compliance

We also support Ecology’s decision to require permittees to comply with applicable Total Maximum Daily Load (“TMDL”) requirements.¹⁷ There are a number of CAFOs located in close proximity to impaired waters in this state. Attached as **Exhibit 4** to these comments is a map depicting the location of all dairy CAFO manure lagoons in Puget Sound counties and their close proximity to impaired waters. This map was produced using data collected by WSDA when it conducted dairy CAFO lagoon inspections in 2012 at the request of the EPA. Given the close proximity of dairy CAFOs to impaired waters, it is imperative that Ecology treat and address CAFOs as a source of that impairment.

However, it is inadequate for Ecology to simply direct Permittees to “comply with the specific requirements identified in the TMDL for CAFOs,” because often there aren’t any.¹⁸ For example, in the Nooksack River Watershed Bacteria Total Maximum Daily Load prepared in June 2000, Ecology Publication No. 00-10-036 (**Exhibit 5**), an area with several dairy

¹³ Ecology, Guidance on Land Treatment of Nutrients in Wastewater, With Emphasis on Nitrogen (November 2004) (**Exhibit 6**).

¹⁴ *Id.*

¹⁵ Preliminary Permit at 5.

¹⁶ Preliminary Permit at 9.

¹⁷ Preliminary Permit at 9.

¹⁸ Preliminary Permit at 9.

CAFOs,¹⁹ there are no CAFO-specific requirements. This is because the TMDL contemplates that the dairy CAFOs in the watershed will be covered by NPDES permits, which “do not allow effluent or waste discharges, therefore the Wasteload Allocations for all current and future permitted dairies are zero.” *Id.* at iv. The TMDL assumed, incorrectly after the 2006 permit, that “dairies in the Nooksack watershed [] will be under the dairy general permit within a month.” *Id.* at 11. In fact, there are no CAFOs in Whatcom County covered by the 2006 CAFO General Permit. The TMDL erroneously assumed that the pollution from the dairy CAFOs would be prevented through the permit system, not through compliance with the TMDL. Not only does this mistake emphasize the need for universal permit coverage for all medium and large CAFOs, Ecology must also establish specific permit conditions that will address CAFOs as sources of impairment in watersheds in which there is, or will be, a TMDL.

Ecology’s scientific finding 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,” also makes it clear that its earlier assumption in the Nooksack River TMDL that CAFOs should have a zero wasteload allocation is self-contradictory and needs to be revisited. The hydrologic connection between surface and ground water in places such as Whatcom and Yakima Counties is well documented and thus the zero waste allocation myth for CAFOs must be either abandoned or made reality by stopping the ongoing discharges. Commenters propose that Ecology establish special BMPs that should be in place for those CAFOs that are in close proximity to impaired waters in order to bring about cessation of discharges.

D. No Discharge of Sediment

The discharge of sediment into waters of the state from CAFO dry fields should be prohibited. The visible discharge of sediment from these fields are frequently observed and should not be allowed given the harmful

¹⁹ “In contrast, most land in the lower basin is privately held, and is intensively used for agricultural purposes. Dairy farms are abundant (~180 farms in 1998), especially on the Lynden Terrace between Bertrand Creek and the Sumas River. Until 1998, Whatcom County, and the lower Nooksack River valley in particular, had the highest concentration of dairy cows (>68,000 in the county) in the state, and the seventh highest poultry production (Washington Agricultural Statistics Service, 1997).” *Id.* at 3.

effects of increased sediment in surface waters of the state, especially in regards to salmon-bearing streams.

E. Agricultural Stormwater Exemption

Another reason to require universal coverage comes from the proven overapplication of manure at facilities that have been scrutinized (this does not include the grossly negligent inspections and review by Washington Department of Agriculture). The law in this regard was decided in 1999:

The agricultural stormwater discharge and return flows from irrigated agriculture exception in 33 U.S.C. § 1362(14) does not act to relieve CAFO farmers from responsibility for over applications and misapplications of CAFO animal wastes to fields in amounts or locations which will then discharge into the waters of the United States. The instruments or machinery used to apply those animal wastes will be considered "point sources" under the CWA. For example, trucks filled with animal wastes at the animal confinement area which apply those animal wastes to crop production fields in mounds close to the "waters of the United States" would be considered "point sources" and discharges to the waters of the United States from those mounds due to that misapplication would be discharge violations subject to the CWA. Enforcement of the CWA does not stop at the edge of the animal confinement area.

Based on the admissions of the Defendants and the acts and regulations related to NPDES permits, the Court declares that the Defendants dairies are CAFOs and as such, are point sources subject to the NPDES permit requirement and can not discharge animal wastes either without a NPDES permit or in violation of such a permit. The Defendants CAFOs include not only the ground where the animals are confined but also the lagoons and systems used to transfer the animal wastes to the lagoons as well as equipment which distributes and/or applies the animal wastes produced at the confinement area to fields outside the animal confinement area. To that extent, the Court grants CARE's Motion for Partial Summary Judgment. However, there remain genuine issues of material fact regarding the extent to which the Defendants lands, the

operation of the facilities and the actions of manure-spreading equipment are point sources. These are questions of fact for trial. *See Southview Farm*, 34 F.3d 114.²⁰

A more thorough discussion of the agricultural stormwater exemption is set forth in **Exhibit 1** at pp. 9-17 and is incorporated herein by reference.

F. Special Requirements for Shellfish Growing Areas

Shellfish in Puget Sound are in trouble. To remedy this problem, Ecology needs to include special conditions in the permit for those facilities that discharge into waters of the state that feed Puget Sound in places where there are known shellfish growing areas. The reasons that there should be special conditions for those facilities that discharge into waters that affect shellfish growing areas are twofold. First, the nutrient pollution that CAFOs discharge is a contributing factor to ocean acidification, a phenomenon that is already affecting the entire marine carbonate system, including shellfish, in the Pacific Northwest and is predicted to get far worse. Attached as **Exhibit 7** to these comments, and incorporated by reference herein, is a July 21, 2014 letter we sent to Ecology outlining the science linking CAFO pollution and ocean acidification and asking for a WA CAFO Permit that requires universal coverage for all medium and large CAFOs, groundwater monitoring, and a panoply of best management practices designed to prevent the CAFO contribution to ocean acidification. Your agency has repeatedly communicated to the public its desire to address ocean acidification and issuance of a CAFO permit is one means to do just that.

Second, CAFOs discharge vast amounts of fecal coliform into waters of the state through leaking manure lagoons and over-application of manure to fields. Requiring those CAFOs that are in close proximity to and upstream of shellfish growing areas to be covered by the WA CAFO General Permit and subject to special permit conditions is the only way to eliminate this pollution. Several CAFOs with manure lagoons are in close proximity to shellfish beaches, many of which are closed due to high levels of fecal coliform. Attached as **Exhibit 8** and incorporated herein by reference are two maps produced from data collected by WSDA and the Washington Department of Health showing the location of manure lagoons, with lagoon depth, lagoon distance to nearest surface water body, and closed recreational

²⁰ *CARE v. Sid Koopmans Dairy*, 54 F.Supp.2d 976, 981-82 (E.D. Wash. 1999).

and commercial shellfish harvest beaches. Based on these maps it is apparent that there are several unlined manure lagoons (which Ecology acknowledges are leaking pollutants into waters of the state) in close proximity to Puget Sound shellfish beaches that are in peril.

There have been countless shellfish bed closures in Portage Bay, Drayton Harbor and other areas in North Puget Sound due to fecal coliform pollution. In September 2014, the Lummi Nation was forced to close 335 acres of Portage Bay shellfish beds due to high levels of fecal coliform contamination.²¹ The Lummi Nation explained the problem to EPA Regional Administrator Dennis McLerran:

[T]he re-closure of a portion of the Portage Bay shellfish beds that are relied on by Lummi tribal members for ceremonial, subsistence, and commercial harvest purposes indicates that the current system intended to prevent water quality degradation due to land management practices is not effective. The elevated fecal coliform levels are attributed to manure and land management practices in the Nooksack River watershed, which discharges to Portage Bay²²

By December 2014, the Lummi Nation had to close additional acres of Portage Bay shellfish beds. More recently, “[r]ain in Sunday [September 20, 2015] ‘resulted in absurdly high fecal coliform counts in the Samish River’” leading to the closure of commercial shellfish beds in Samish Bay.²³ In fact, “[w]ater samples collected Monday morning showed the highest fecal coliform count in the river since April 2008, with the bacteria 10 times the state limit.”²⁴

It is not disputed that the dairy CAFOs in Whatcom County and along the Samish River in Skagit County are one of the pollution sources that are

²¹ Letter from Lummi Nation to EPA Administrator Dennis McLerran (September 3, 2014) (**Exhibit 42**).

²² *Id.*

²³ Kimberly Cauvel, “Fecal Coliform Fights Continue,” *The Skagit Herald*, available at http://www.goskagit.com/all_access/fecal-coliform-fights-continue/article_24891289-4320-5a68-8f7a-bb620e36af55.html (last visited Sept. 28, 2015).

²⁴ *Id.*

leading to the shellfish bed closures.²⁵ For example, In January-February 2014, a dairy in Whatcom County was found to be the source of manure pollution that was discharged into Terrell Creek and then flowed into Birch Bay, a place with several shellfish beaches.²⁶ Because of the elevated fecal coliform levels, the Whatcom County Health Department was forced to close the beach at the mouth of Terrell Creek and posted a sign that said “CLOSED: WATER CONTAMINATED! STAY OUT OF THE WATER.”²⁷ More recently, on September 30, 2015, Ecology fined a CAFO \$12,000 for discharges of manure pollution into waterways that flow into California Creek in the Drayton Harbor watershed.²⁸ Ecology issued the penalty because the facility had a “lack of adequate covered manure storage, improper manure spreading, and accumulations of manure in pastures and confinement areas that slope to water bodies, as factors that led to discharges. In addition, the animals have had direct access to the stream.”²⁹ Commenters ask that Ecology not only mandate permit coverage for those medium and large CAFOs that are adjacent to and upstream of shellfish areas, but also that Ecology require special permit conditions for these facilities given the urgent need to protect and reopen shellfish beaches in Puget Sound.

G. Compliance Determinations

Ecology must clarify how it intends to determine whether or not a permitted facility is in compliance with all applicable effluent standards and limitations in the permit. To do that, Commenters ask that Ecology clarify what activities constitute a permit violation. For example, Ecology must clearly state that applying manure to fields above agronomic rates as

²⁵ The Washington Department of Health identified agricultural wastes from dairy farms into the Nooksack River as the only high probability potential source of pollution. The other sources such as storm water and domestic wastes were characterized as low probability sources. Washington Department of Health, Sanitary Survey of Portage Bay (August 19, 1997) (**Exhibit 43**) at 3. For purposes of the WA CAFO General Permit, it does not matter that there are other sources of fecal coliform and nutrients contributing to the closure of the shellfish beds. The WA CAFO Permit should be the tool to eliminate the CAFO contribution to this massive problem.

²⁶ WSDA, Notice of Penalty Incurred and Due Number 14AGRDNMP5004 to Snookbrook Dairy (June 27, 2014) (**Exhibit 44**).

²⁷ *Id.* at 3.

²⁸ Ecology, “Livestock Owner Fined \$12,000 For Manure Pollution, *available at* <http://www.ecy.wa.gov/news/2015/140.html> (last visited Oct. 1, 2015).

²⁹ *Id.*

specified in the Manure Pollution Prevention Plan (or Nutrient Management Plan) is a permit violation.

V. Manure Pollution Prevention Plan

It is imperative that Ecology identify best management practices and AKART that must be implemented by Permittees as part of their the Manure Pollution Prevention Plans (MPPPs). In addition, the MPPP must include, at a minimum, all of the federal requirements for Nutrient Management Plans (NMPs). The EPA has been asking Ecology do develop technical standards for CAFOs for several years and Ecology has failed to do so. On May 25, 2010, the EPA reminded EPA of the federal requirement “to establish technical standards that meet the requirements of 40 CFR Part 412(c)(2) within one or two years of the date of promulgation of the 2003 CAFO regulations.”³⁰ EPA stated that “[w]here standards are established as regulations or in permits, which may not be revised prior to the December 31, 2010 deadline, EPA will expect States to address any necessary actions. We would like to work with you to not only ensure the adequacy of technical standards, but to make them publicly available as well.”³¹

In response to EPA, Ecology made it clear that it “has ample authority to fully implement the new federal CAFO regulations without the need to change state law or regulations.”³² Ecology committed to do the following to address EPA’s request for technical standards for CAFOs:

Ecology understands the importance of technical standards and the need to develop them to better implement our CAFO permit. We are currently working on checklists to help permit applicants produce approvable nutrient management plans. Ecology also plans to develop implementation guidance for the CAFO permit and establish CAFO technical standards. Permit implementation guidance and Ecology-developed technical standards will improve the chances of receiving approvable nutrient management plans and streamline the permitting

³⁰ Letter from EPA to Kelly Susewind (Ecology) re: State Technical Standards for Concentrated Animal Feeding Operation (May 25, 2010) (**Exhibit 45**).

³¹ *Id.*

³² Letter from Ecology to EPA (October 8, 2010) (**Exhibit 46**).

process. We would greatly appreciate EPA's support as we develop these necessary tools.³³

Unfortunately, Ecology never developed the technical standards and must do so when it creates the requirements for MPPPs as part of this permit. As Ecology develops the technical standards, it is important that there is very little reliance on the NRCS standards as that was a major failing of the NMPs required by the Dairy Nutrient Management Act. RCW 90.64. Ecology itself has recognized:

Ecology has determined that NRCS FOTG and NRCS technical guidance do not provide the level of protection necessary to assure compliance with Washington State's Water Quality Standards or Water Pollution Control Act, and do not ensure that the effluent limitations of the CAFO permit will be met. Therefore, Ecology does not consider NRCS FOTGs and NRCS guidance to be technical standards for CAFO operations seeking permit coverage.³⁴

Therefore, Ecology must ensure that the MPPP requires technical standards that are at least as protective of water quality as the federal NMP standards in the CAFO rule, and those standards should not be based on NRCS FOTGs and technical guidance documents as the agency has already concluded that NRCS standards do not protect water quality.

A. The Failure of the Nutrient Management Plan

Commenters support wholeheartedly Ecology's decision to require a MPPP as a permit condition in lieu of continued reliance on the flawed Nutrient Management Plans ("NMPs") developed under the Dairy Nutrient Management Act. RCW 90.64. The failure of the ability of NMPs to protect water quality is well documented. For example, a study conducted by Ecology of manure applications by a dairy with an approved NMP was described as follows:

Intensive monitoring of soil, manure, crop, and groundwater showed that management practices at a manured dairy grass

³³ *Id.*

³⁴ *Id.*

field over the Sumas-Blaine Aquifer (SBA) resulted in mean shallow groundwater nitrate concentrations of 5.5 to 30 mg/L-N. Fifty-six percent of monthly mean groundwater nitrate results were above 10 mg/L.³⁵

The legal limit for nitrates is 10 mg/L. Similarly, in the RCRA litigation in the Lower Yakima Valley, where all defendants had “approved” NMPs, there were countless examples of how the existence of the NMP did little to prevent, and indeed facilitated, the massive ground water contamination.

In fact, as Dr. Shaw extensively describes in his expert report, Cow Palace *consistently* made such non- agronomic manure applications. *See, e.g.*, ECF No. 237-2 at ¶¶ 76-78 (February 27, 2007 soil sample for Field 1 showed 480 lbs./ac nitrogen available; alfalfa crop had capacity to use 480 lbs./ac per initial DNMP estimate, yet manure applied on May 15-26, June 19, June 27, and November 5); ¶¶ 83-84 (September 5, 2008 soil sample for Field 1 showed 269 lbs./ac nitrogen available; triticale crop had capacity to use 250 lbs./ac per initial DNMP estimate, yet manure applied September 17-26); ¶ 101 (similar); ¶ 107 (applied 612,000 gallons after soil test showed no more fertilizer needed); ¶ 109 (2.562 million gallons applied after soil test showed no more fertilizer needed); ¶ 133 (similar); ¶ 138 (2.160 million gallons); ¶ 144 (2.4 million gallons); ¶ 147 (1.236 million gallons); ¶ 149 (3.0465 million gallons); ¶ 155(k) (5.994 million gallons); ¶ 155(m) (3.6 million gallons); ¶ 156(e) (2.016 million gallons); 156(f) (4.224 million gallons); ¶ 156(k) (780,000 gallons); ¶ 157(b) (1.260 million gallons); ¶ 157(h) (3.258 million gallons). Based on just these examples (there are countless more), the Dairy applied an astounding **33,148,500 gallons** of manure after receiving soil samples that showed no need for additional fertilization.³⁶

³⁵ **Exhibit 24** (Ecology Sumas-Blaine Aquifer Study (March 2014)) at 89.

³⁶ *CARE et al. v. Cow Palace et al.*, No. CV-13-3016-TOR (E.D. WA) (Plaintiffs’ Combined Reply in Support of Plaintiffs’ Motion for Summary Judgment (ECF No. 211)) (Dec. 22, 2014) (**Exhibit 50**) at 6 (“Cow Palace applied manure in direct violation of the DNMP by, *inter alia*, failing to base applications on current lagoon nutrient sampling, failing to take into account existing residual soil nitrate levels, and failing to calculate application rates based on actual crop yields. These points are undisputed.”). The Bosma and DeRuyter overapplications were even more extreme than the Cow Palace applications.

Again, this facility had an approved NMP that was “enforced” by WSDA. On June 21, 2007, WSDA completed an inspection report regarding the same Cow Palace Dairy that caused and contributed to the significant groundwater contamination described in Judge Rice’s decision.³⁷ In that report, the WSDA inspector said: “Nice clean well run facility. Collection and storage is in great shape.”³⁸ Amazingly, the inspector went on to say: “Thanks for your attention to Nutrients!”³⁹ Needless to say, the citizens around the facility who have had to drink nitrate-contaminated drinking water for years are not so grateful. Had this facility been covered by a CAFO General permit that required AKART and groundwater monitoring, the pollution problem would have been detected, and resolved, by Ecology years ago. As previously discussed, overapplication of manure precludes any argument by CAFOs that they are entitled to an agricultural stormwater exemption.

Water quality data collected by the Lummi Nation in the Nooksack River watershed similarly supports the fact that the NMP system has failed. According to the Nation:

Unfortunately, the deteriorating water quality trends that we wrote about during 2005 have continued. As shown in Figure 1 through Figure 9, the TMDL targets and/or the applicable water quality criteria for fecal coliform bacteria are not being achieved at the monitoring stations. Figure 1 through Figure 8, which were developed by Ecology staff, show a marked reversal of the previously declining fecal coliform levels in the Nooksack River tributaries starting in 2003 and an increasing trend in fecal coliform levels for all the tributaries except for Tenmile Creek. As you may know, on July 1, 2003 the Livestock Management Program within the Washington State Department of Ecology was eliminated and the responsibility to implement the Dairy Nutrient Management Act was transferred to the Washington State Department of Agriculture (WSDA).⁴⁰

³⁷ WSDA Livestock Nutrient Management Program Inspection Report for Cow Palace Dairy (June 21, 2007).

³⁸ *Id.* at 3.

³⁹ *Id.*

⁴⁰ Letter from Lummi Nation to EPA Region 10 Administrator Dennis McLerran (May 27, 2010) (**Exhibit 51**).

The pollution problem in the Nooksack River watershed continues today. A year ago, the Lummi Nation met with federal and state agencies, including Ecology, who “agreed that the re-closure of the Portage Bay shellfish beds makes it clear that there are systemic problems in the current environmental regulatory structure and new tools and new approaches are needed to address manure management and associated water contamination.”⁴¹ We applaud Ecology’s proposal to create Manure Pollution Prevention Plans given the failure of the NMPs, but believe this strategy will only be effective if universal coverage for all medium and large CAFOs is required *and* if the MPPPs are based upon most current and best available manure management science.

B. No Winter Application of Manure

The permit must make it clear that the application of manure at times when the ground is frozen, saturated, or otherwise unable to uptake the nutrients is strictly prohibited.



⁴¹ Letter from Lummi Nation to Washington Governor Jay Inslee (Oct. 9, 2014) (**Exhibit 52**).

On May 2, 2014, the Washington State Conservation Commission organized the “Managing Dairy Nutrients for Stewardship” Symposium, which was intended in part to “learn about the latest research on the effects of winter application on groundwater and surface water quality”⁴² After attending that symposium, scientists within your agency concluded:

We think it is important to clarify that we did not see technical evidence presented at the symposium that winter manure application can be conducted in a manner that is protective of both groundwater and surface water.

* * *

Information presented during the symposium, in fact, indicated that there can be significant negative effects to groundwater quality in the late winter, even on fields where winter manure application has not occurred. Several of the presenters presented strong evidence that nitrate mineralization and nitrate losses to groundwater do occur during wintertime, even under low temperature conditions.⁴³

Other scientists agree with Ecology’s conclusions. According to Dr. Byron Shaw, plaintiffs’ expert in the *Cow Palace* litigation:

As a result of this high mobility [of nitrate through soil], it is important that nitrates be applied only when plants have the ability to use it and only in amounts that a crop can completely utilize. Any residual nitrate present at the end of the growing season is susceptible to leaching from irrigation, precipitation, snowmelt, and further application. Fall rain, winter snowmelt, and early spring rain convey excess nitrate further into the soil before any plant growth can utilize it. Excess nitrogen present during the growing season is also susceptible to leaching from over irrigation, rainfall, and additional manure application.⁴⁴

⁴² Letter from Martha Maggi, LHG; Barb Carey, LHG; Charles Pitz, LHG to Mark Clark, WA State Conservation Commission (May 12, 2014) (**Exhibit 47**).

⁴³ *Id.*

⁴⁴ *CARE, et al. v. Cow Palace, LLC, et al.*, Expert Report of Byron Shaw (**Exhibit 15**). At ¶ 20.

Other Ecology studies have shown that a ban on winter manure application is necessary to protect groundwater quality:

Ecology has collected and interpreted data from soils monitoring and from groundwater monitoring at a number of permitted land treatment facilities around the state. The period of record from some sites is more than a dozen years.

Ecology's evaluation of these monitoring data shows a correlation between excessive, non growing season wastewater application and groundwater contamination. Conversely, when facilities have converted from year round application to seasonal application, groundwater quality has improved.⁴⁵

Ecology has made it clear that “[l]and treatment of nutrients in waste water during the non-growing season does not reliably protect groundwater quality and does not meet AKART requirement for permit issuance according to the ground water quality standards.”⁴⁶

Therefore, as part of the MPPP, Ecology must require that facilities not apply manure to the land during the winter, or other times when the ground is frozen, saturated, or otherwise unable to uptake the nutrients that are being applied. Ecology employees have stated that the dormant season for plants starts on September 15, rather than on October 15. Therefore, manure should not be applied to crops after September 15, not the October 15 date that is specified in the permit. Allowing the application of manure after the September cutoff date simply increases the risk that there will be a discharge to waters of the state.

C. Management of V-Ditches

Dairy CAFOs often construct “V-Ditches” in bare fields to drain puddled water from the application fields into waters of the state. This should be considered an illegal discharge into waters of the state and must be prevented.

⁴⁵ Ecology, Guidance on Land Treatment of Nutrients in Wastewater, With Emphasis on Nitrogen (November 2004).

⁴⁶ Ecology, Guidance on Land Treatment of Nutrients in Wastewater, with Emphasis on Nitrogen (November 2004).

D. Manure Application on Grass

There should be no visible signs of manure on the grass fields after application. This is an indication that manure has not been absorbed into the soil or absorbed by the crop, thereby indicating a discharge to waters of the state. There have been several documented instances where manure piles up after being applied using the big gun. This problem can be solved through elimination of use of the big gun, given the documented health hazards associated with aerial application of manure.



E. Equipment Maintenance

Manure spreading hose equipment should be regularly checked for leaks and manure application should be prohibited when there are leaks. In addition, hoses used to spread liquid manure are often coupled together in order to connect to the big guns and other equipment used for application. When the hoses are uncoupled, manure frequently spills into the ground,

resulting in an unplanned manure application that can be substantial. Hoses should not be allowed to be uncoupled near waters of the state, including areas that reach waters of the state such as drain tiles, V-Ditches, etc.

F. No Manure Application Near Drinking Water Wells

Commenters ask that Ecology prohibit the application of manure near drinking water wells. The Department of Health has recognized that CAFOs can be a significant threat to drinking water.”⁴⁷



Under Washington state law, the Board of Health has the statutory responsibility to “adopt rules and standards for prevention, control and abatement of health hazards and nuisances related to the disposal of human and animal excreta and animal remains” in order to protect public health. RCW 43.20.050. In exercising this authority, the Board of Health has enacted a regulation that states, “Manure shall not be allowed to accumulate

⁴⁷ Email from Kitty Weisman (DOH) to Jonathan Jennings (Ecology) re: CAFO Permit (Jan. 26, 2012) (**Exhibit 53**).

in any place where it can prejudicially affect any source of drinking water.” WAC 246-203-130(3). To ensure compliance with this provision of state law, Ecology must include a condition that MPPP do not permit the application manure near drinking wells, or in ways that threaten drinking water supplies. The public health problems caused by CAFO manure pollution of drinking water is well documented. Attached as **Exhibit 9** to these comments, and incorporated by reference herein, is a comment letter submitted by the undersigned to the Board of Health regarding a proposal to revise the agency’s existing manure management regulation. Pages 19-30 of this letter describes the existing science that confirms that improper manure management practices can lead to ground and drinking water contamination. Attached as **Exhibit 10** to these comments, and incorporated by reference herein, is a July 14, 2014 letter to the Board of Health providing further support for Ecology to prohibit the application of manure near drinking water wells.

In comments on an earlier draft of the WA CAFO Permit, the Washington Department of Health (“DOH”) recommended that manure not be applied as a fertilizer in close proximity to Group A drinking water sources.⁴⁸ The DOH also advised that Ecology “work on ensuring dairies and CAFOs not apply or dispose of any manure within a public water system’s drinking water source’s five year time of travel.”⁴⁹ Commenters agree, but recommend that such a manure application ban be expanded to all drinking water sources.

In addition, an expert report prepared by world-renowned public health expert Dr. Robert Lawrence from Johns Hopkins Bloomberg School of Public Health explains how groundwater contamination from CAFO pollution threatens public health. A copy of that report is attached as **Exhibit 11** to these comments and is hereby incorporated by reference. Dr. Lawrence testified:

Based on the materials I have reviewed in connection with this matter, in my opinion it is clear that the Defendant’s [Cow Palace Dairy, LLC et al.] manure management practices not only cause, but are and have been, causing an imminent and

⁴⁸ Governor Briefing on Ag/Dairy Waste Issues in the Royal City and Sequim Areas, prepared by the Washington Department of Health (September 17, 2012) (**Exhibit 12**).

⁴⁹ *Id.*

substantial endangerment to human health or the environment, and that to protect public health, actions must be immediately implemented to curb the amount of contaminants reaching groundwater and remediate the contamination caused by Defendant's practices. The amounts of manure generated by the Defendant, the Defendant's lack of protective measures for environmental and health concerns, and the high levels of contaminated drinking water in the aquifers below the Defendant's facility all indicate that the Defendant's contributions to groundwater contamination pose significant health threats to the human population that comes in contact with the contaminated water.⁵⁰

Dr. Lawrence provides detailed testimony (that was uncontested in the Cow Palace case) regarding the public health effects of drinking water contaminated with nitrates. It is imperative that Ecology require that MPPPs do not permit the application of manure near drinking water wells or in ways that contaminate drinking water.

G. Animal Units Per Acre

As part of the MPPP, it is important that Ecology mandate that each permitted facility has a sufficient amount of acreage so that its manure is being applied at agronomic rates. In the Cow Palace case, plaintiffs submitted a declaration by Dr. Michael Russelle, a highly respected agronomist who recently retired after more than 32 years as a Research Soil Scientist with the USDA-Agricultural Research Service. Attached as **Exhibit 13** to these comments, and incorporated herein by reference, is a copy of Dr. Russelle's declaration. Dr. Russelle testified that the Cow Palace case "set a clear precedent that other regulatory bodies should follow" and that after having "conducted research for over 36 years to help farmers and their advisors understand how to manage sources of nitrogen on farms . . . the problems with poor manure management, in particular, continue to grow."⁵¹

Dr. Russelle made it very clear that a regulatory agency, such as Ecology, must play a significant role in ensuring that dairy CAFOs apply manure at agronomic rates:

⁵⁰ Exhibit 11 (Expert Report of Dr. Lawrence) at 8.

⁵¹ *Id.* at ¶ 5.

There are now excellent on-line manure management planners available and private and public farm advisory services that can help farm operators determine how to optimize nutrient utilization from manure. Scientists and Extension Specialists have called for more work with dairy farmers to reduce purchased fertilizer input in proportion to the nutrient supply by manure and by terminated annual and perennial forage stands in crop rotations (Cela et al., 2014; Powell and Rotz, 2015). Despite these advances University faculty in the US felt that *regulation was the primary reason that producers managed manure better* (Schmitt et al., 1999).⁵²

The best way for Ecology to do that is through conditions in the WA CAFO General Permit; specifically the MPPP. Dr. Russelle testified that it is imperative CAFOs has a sufficient amount of acres for which they can apply their manure.

Achieving beneficial use of manure nutrients is easiest with an adequate cropland area, whether crop production is an integral part of the dairy farm, or whether they are separate operations that trade feed and manure (Russelle et al., 2007). Although it is only one of the concerns for long-term sustainability raised by the concentration of animals (Rosenstock et al., 2014), exceeding the carrying capacity of the land for manure nutrients clearly increases the risk of environmental degradation, and changes how manure is viewed by the courts.⁵³

Therefore, as part of the MPPP, Ecology must ensure that each permitted CAFO have a sufficient amount of acreage, based upon the amount of manure they generate and dispose of. What this means, is that Ecology should require that dairies “have one acre of land per animal unit for manure applications in the future once nutrient levels in fields have been satisfactorily reduced.”⁵⁴

⁵² *Id.* at ¶ 10 (emphasis added).

⁵³ *Id.* at ¶ 14.

⁵⁴ *CARE et al. v. Cow Palace, LLC et al.* (Expert Report of Byron Shaw) (**Exhibit 15**) at ¶ 233(h).

H. Cow Palace Consent Decree

The manure management requirements set forth in the *Cow Palace* consent decree that are not otherwise discussed or identified herein should be incorporated as requirements of the MPPP. Attached as **Exhibit 14** is a copy of that consent decree which is hereby incorporated by reference. This landmark settlement agreement creates a new standard, one based upon science, for proper manure management practices. Dr. Russelle testified to the significance of these practices in the *Cow Palace* consent decree:

The settlement reached in the *CARE v. Cow Palace* case provides crucial manure management limitations.

* * *

[G]iven the findings of the Court, the elements of the settlement concerning lagoon lining, adjustments of future nitrogen and phosphorus applications based on appropriate soil sampling for the region, changes in composting operations, and use of impermeable surfaces with runoff collection for animals and ensiled feed *provide the kind of site specific limitations that all facilities with similar pollution problems should adopt.*

* * *

The requirements in the settlement agreement in this case provide dramatically more protective elements of improved manure management that I believe will significantly reduce continued nitrogen and phosphorus loadings to the environment While even these standards may not prevent continuing contributions of nitrate to groundwater due to the legacy of nitrogen accumulation in the soil and conditions at a particular location, they are the type of manure management practices that are critical to providing a more sustainable dairy industry. *I recommend that regulatory agencies adopt and that dairy operators follow these types of standards where similar*

*problems with dairies are encountered or can be reasonably anticipated.*⁵⁵

Commenters ask that Ecology follow Dr. Russelle’s advice and adopt the manure management standards set forth in the *Cow Palace* consent decree as requirements of the MPPP required by the WA CAFO General Permit.

I. Dr. Shaw’s Expert Report

Commenters ask that Ecology require that the MPPP include the remedial requirements recommended by Dr. Byron Shaw in the *Cow Palace* litigation. Those measures are set forth in Dr. Shaw’s expert report (**Exhibit 15**) at ¶ 233 and are herein incorporated by reference.

J. Dave Erickson’s Expert Report

Commenters ask that Ecology require that the MPPP include the remedial requirements recommended by David Erickson in the *Cow Palace* litigation. Those measures are set forth in David Erickson’s expert report (**Exhibit 16**) and are herein incorporated by reference.

K. Composting

It is imperative that Ecology require BMPs for composting operations in this permit as these operations are discharging pollutants to waters of the state. Staff at WSDA has made it clear that composting operations on bare ground cause a discharge of pollutants to groundwater requiring permit coverage. WSDA looked at 24 compost operations within the Lower Yakima Valley Ground Water Management Area (“GWMA”) and found that their “records indicate that the vast majority of these operations are conducted directly on the ground and not on a liner or concrete pad.”⁵⁶ WSDA estimated that 155 tons of nitrate leached to groundwater per year from each of the 24 compost operations, all of whom are not covered by a discharge permit of any kind. Given the recognition of this universal discharge, all CAFO operations that compost their manure should be required to do so:

⁵⁵ *Id.* at ¶ 15, 17 (emphasis added).

⁵⁶ Email from Kirk Cook (WSDA) to Vern Redifer (May 1, 2015) (**Exhibit 17**).

on a lined pad constructed of concrete or similarly impervious material. This will ensure that transport of nitrate through leaching is minimized. The maximum permeability of the material shall not exceed 1×10^{-9} cm/second, all joints must be watertight (using waterstop devices or similar), and the design must include provisions to collect leachate and runoff from lined areas and stored in a lined lagoon until land spread.⁵⁷

The requirement to conduct composting only on lined pads that collect the leachate generated by the composting operations should be considered a known, available and reasonable technology under Washington state law. “Commercial compost operations are required to conduct composting and compost handling on concrete surfaces with storm water collection systems. They are also required to maintain the integrity of the concrete through routine crack and joint sealing.”⁵⁸ The need to address discharges from composting operations is important given the fact that the Dairy Industry claims that “[d]airies are now producing manure as organic compost, exporting 60% to 70% out of the [Lower Yakima] Valley with demand for it continuing to grow.”⁵⁹

L. Cow Pens/Corrals

WSDA has similarly found that cow pens/corrals leach nitrates to the groundwater as well. In the GWMA, WSDA found 95 operations with animal pens (corrals), all of which were estimated to leach 824 tons of nitrate to groundwater every year and none of which were covered by a discharge permit.⁶⁰ All CAFOS subject to the permit should be required to line their cow pens to:

⁵⁷ *CARE, et al. v. Cow Palace, LLC, et al.*, Expert Report of Dr. Byron Shaw (**Exhibit 15**) at ¶ 234.

⁵⁸ *CARE, et al. v. Cow Palace, LLC, et al.*, Expert Report of David Erickson (**Exhibit 16**) at ¶ 149.

⁵⁹ Dairyland News, “Valley Dairies Export 60% to 70% of Manure As Compost,” Vol. 5, #1 (March 2015), available at <https://drive.google.com/file/d/0B6vABbg0aotzVnF4QVJoaUJ4Nmc/view?pli=1> (last visited Sept. 29, 2015).

⁶⁰ Email from Kirk Cook (WSDA) to Vern Redifer (May 1, 2015) (**Exhibit 17**).

ensure that the transport of nitrate through leaching from the cow pens is minimized. The maximum permeability of the material shall not exceed 1×10^{-9} cm/second, all joints must be watertight (using waterstop devices or similar), and the design must include provisions to collect leachate and runoff from lined areas.⁶¹

These requirements for lined cow pens constitute a known, available, and reasonable technology for CAFOs and should be required as a condition of the WA CAFO General Permit.⁶²

M. Public Availability of MPPPs

The Preliminary Permit states that “[t]he Permittee shall provide access to, or a copy of, the MPPP to the public when requested in writing.”⁶³ However, because the MPPP is a condition of the permit, Ecology must maintain a copy of it and make it publicly available upon request. Members of the public should not have to access documents directly from the Permittee. One of the most significant issues that contributing to the rampant CAFO pollution problem is the fact that much of the information about how CAFOs operate and handle their manure is kept from public view. Attached as **Exhibit 18** and incorporated herein by reference is a set of comments the undersigned provided to WSDA regarding that agency’s rule (WAC 16-06-210(29)) requiring the redaction of information concerning the number of animals kept on CAFOs. In addition, attached as **Exhibit 19** and incorporated herein by reference is a response to WSDA’s request for additional information regarding the redaction of animal numbers.

The Clean Water Act mandates that “[p]ublic participation in the development, revision, and enforcement of any regulation, standard, effluent limitation, plan or program . . . shall be provided for, encouraged, and assisted by the Administrator and the States.”⁶⁴ The Washington Court of Appeals has held that “the Clean Water Act requires that public participation in the enforcement of the CAFO nutrient management plans [previously required as an effluent limitation in the 2006 permit, now replaced by the

⁶¹ *Id.* at ¶ 235.

⁶² *CARE, et al. v. Cow Palace, LLC, et al.*, Expert Report of David Erickson (**Exhibit 16**) at ¶ 151.

⁶³ Preliminary Permit at § S.7(A).

⁶⁴ 33 U.S.C. § 1251(e).

MPPP] be ‘provided for, encouraged, and assisted’ by Ecology.’⁶⁵ Ecology is the agency charged with enforcing the WA CAFO General Permit and thus it must retain a copy of the MPPP which is the permit condition designed to “implement management practices to identify, reduce, eliminate or prevent CAFO related water pollution,” and make it available to the public upon request.⁶⁶

N. Require Controls to Reduce Bioaerosols After Manure Application

A recent study has made it clear that Ecology should require manure management practices that are designed to control for the emission of bioaerosols during manure application in order to reduce the risk of disease transmission.



⁶⁵ *CARE v. State Dep’t of Ecology*, 149 Wn.App. 830, 849, 205 P.3d 950 (2009).

⁶⁶ Preliminary Permit at § S4.A(1).

Attached as **Exhibit 20** to these comments, and incorporated herein by reference, is a “report on the human health risk of gastrointestinal infection associated with inhalation exposure to airborne zoonotic pathogens emitted following application of dairy cattle manure to land.”⁶⁷ This study showed “that bioaerosols emitted from manure application sites following manure application may present significant public health risks to downwind receptors.”⁶⁸ In addition, EPA has found that “[a]irborne solids from dairies and other livestock feeding operations can cause respiratory problems for downwind neighbors” and “[o]n hot, windy days, ‘dairy dust’ (AKA BM-10) can spread pathogens over a wide area.”⁶⁹ Therefore, Ecology must take into account this research and requirement manure application measures to protect public health and the environment.

O. Phosphorus Application Limitations

Not only must soil applications be limited by nitrogen, but they must also be limited based on agronomic rates of application of phosphorus. Plants generally don’t need large amounts of phosphorus to grow. The Cow Palace, Bosma and DeReuyter facilities all overapplied manure such that phosphorus has built up far beyond agronomic needs.⁷⁰ Phosphorus levels are so high that groundwater is also being impacted.⁷¹ Applications of manure when soil phosphorus residual levels exceed 30 ppm should also be prohibited.

P. MPPP Objectives

Ecology should make it clear that another objective of the MPPP is to protect human health and to prevent the contamination of drinking water, in addition to the other listed objectives.⁷² Under Washington law:

⁶⁷ Michael A. Jahne, Shane W. Rogers, Thomas M. Holsen, Stefan J. Grimberg, and Ivan P. Ramler, Emission and Dispersion of Bioaerosols from Dairy Manure Application Sites: Human Health Risk Assessment (July 9, 2015) (**Exhibit 20**).

⁶⁸ *Id.*

⁶⁹ Bill Dunbar, EPA Region 10 Policy Advisor, Powerpoint Presentation (**Exhibit 21**).

⁷⁰ *CARE, et al. v. Cow Palace, LLC, et al.*, (Expert Report of Byron Shaw) (**Exhibit 15**) at ¶¶ 10, 15, 36-38, 48, 75-78, 105, 111-113, 128, 139, 168-170, 209, 233.

⁷¹ *Id.*

⁷² Preliminary Permit at 10.

It is declared to be the public policy of the state of Washington to maintain the highest possible standards to insure the purity of all waters of the state *consistent with public health and public enjoyment thereof*, the propagation and protection of wild life, birds, game, fish and other aquatic life, and the industrial development of the state, and to that end require the use of all known available and reasonable methods by industries and others to prevent and control the pollution of the waters of the state of Washington.⁷³

Q. Documents Required In MPPP

Commenters ask that Ecology require additional documents as part of the facility documentation requirements of the MPPP. The Permittee should provide complete descriptions of all pumps and valves, as well as descriptions of all manure application equipment (including brand, size, capacity, etc.). The mapping should also depict neighboring drinking water wells, critical aquifer recharge areas, topography and preferential water flow.

The MPPP should also provide information regarding the volume of the manure lagoon, the number and type of animals confined at the operation, their predicted manure output for the period during which they are confined. Ecology must create requirements for the size of manure lagoons that should be required depending on the number of animals, precipitation, etc.

R. Manure Lagoon Requirements

As discussed above, based on Ecology's finding that all unlined manure lagoons leak, all CAFO manure lagoons must have a "double geomembrane liner with a leak detection system between the liner layers," or a double liner with a leak detection system between the layers of equivalent or superior technology, in order to prevent discharges to waters of the state.⁷⁴ This liner requirement constitutes AKART and should be required as part of the MPPP. There are also technologies of double liner systems that are available, known and reasonable that are at least equal, if not superior, to the geomembrane systems and the permit should not prevent the evolution and

⁷³ RCW 90.48.010 (emphasis added).

⁷⁴ Preliminary Permit at 5.

use of better technologies so long as the double geomembrane liner with a leak detection system is the floor for AKART.



In addition, Ecology should require separate permits for manure lagoons under the dam safety program given the safety risk that manure lagoons present. As far back as 2008 Ecology found that “[d]airy lagoons built with uninspected, unpermitted dams can pose a hazard to property and even lives if they fail and cause flooding.”⁷⁵ Ecology found:

Ecology’s Dam Safety Office has the authority under RCW 90.03.350 and 43.21A.064 to inspect and require permits for lagoons built with more than 10 acre-feet of storage capacity above ground. A lagoon holding 10 acre-feet of dairy waste would be equivalent to a football field 8 feet deep.

⁷⁵ Ecology, Frequently Asked Questions, Ecology Requires Permits, Dam Safety Reviews for High Risk Dairy Lagoons (April 2008) (**Exhibit 22**).

Working in cooperation with Agriculture's LNM Program, Ecology is conducting a statewide inventory of unpermitted dairy lagoons that are large enough to fall under Ecology jurisdiction. Unpermitted jurisdictional lagoons are also being identified through the use of aerial photographs now available for all areas of the state.⁷⁶

As part of this work, Ecology created a hazard classification for dairy lagoon dams. Under the WA CAFO Permit, Ecology should require that facilities with manure lagoons also be required to permit coverage through the Dam Safety Office to protect the risk to property and human life.

VI. 3-Foot Soil Nitrate Benchmark

Commenters support Ecology's decision to require soil sampling at the 3-foot level as this is based upon sound science, except where groundwater is very shallow. In such cases, prevalent in Whatcom County, stricter limitations must be in place for the top one to two feet of soil to prevent migration to the third foot- a situation where the nitrate would get beyond plant root zones and impact the shallow groundwater. Similarly, Commenters support Ecology's condition that "[t]he Permittee must manage its land application fields such that end of season soil test results at the 3-foot depth (S5.C) do not exceed 15 ppm nitrate."⁷⁷ However, Commenters believe that the 3-foot, 15 ppm standard be an effluent limitation in the permit, not a benchmark. When nitrates at this level are detected at the 3 foot level post-harvest, there is only one place for the nitrates to go: into the groundwater. We do not support Ecology's approach to exceedences of this 15 ppm standard because it does not comply with state and federal water quality laws.

Soil testing is an important part of ensuring that manure is being applied at agronomic rates. Under Washington's groundwater quality standards, which are properly discharge limits in the current permit⁷⁸ agricultural operators can only apply "nutrients" (i.e. manure) "at agronomic rates for agricultural purpose *if* those contaminants will not cause pollution of

⁷⁶ *Id.*

⁷⁷ Preliminary Permit at 18.

⁷⁸ Preliminary Permit § S3.A(1).

any groundwaters below the root zone.”⁷⁹ According to Ecology, “[d]ue to the risk that nitrate poses to state drinking water supplies, determining the proper balance between nutrient application rates, crop uptake, and nitrate loss to groundwater is a growing priority in Washington.”⁸⁰ Post-harvest soil nitrate testing provides important information regarding whether the manure has been applied at agronomic rates, but Ecology has made it clear that it cannot be used as a substitute for groundwater monitoring:

The concentration of nitrate in the soil can only indicate the amount left over at that point in time, with no indication of the amount of nitrate that has already leached or the amount that will become available. This suggests that fall soil nitrate monitoring even when conducted at a high frequency, is not a reliable predictor of groundwater responses to nutrient management activities.⁸¹

* * *

The poor correlation of the mass balance and soil sampling residual estimates with underlying groundwater conditions, and the BACKCAST modeling results that frequently suggest mass loading well in excess of these estimates, indicates that these techniques alone are not effective tools for managing nutrients in a manner that is reliably protective of groundwater conditions. Direct monitoring of water quality at the water table remains the most accurate and reliable method for tracking impacts of manure management on groundwater.⁸²

Commenters do not ask that Ecology abandon the soil sampling requirement, but rather it be coupled with groundwater monitoring in order to ensure that nitrates, phosphorus and other pollutants are not getting into the waters of the state.

⁷⁹ WAC 173-200-010(3)(a) (emphasis added).

⁸⁰ Ecology, Spreadsheet Models for Determining the Influence of Land Applications of Fertilizer on Underlying Groundwater Nitrate Concentrations, Ecology Publication No. 14-03-018 (July 2014) (**Exhibit 23**).

⁸¹ Ecology, Nitrogen Dynamics at a Manure Grass Field Overlying the Sumas-Blaine Aquifer in Whatcom County, Ecology Publication No. 14-03-001 (March 2014) (**Exhibit 24**) at 79.

⁸² *Id.* at 84-85.

First, the term “benchmark” is undefined in the permit and thus it is unclear how Ecology intends to monitor compliance with this benchmark. That needs to be clarified in the next draft of the permit. Benchmarks are typically used to flag an issue of concern for purposes of water quality or to determine whether a Permittee has implemented effective best management practices. According to one court’s interpretation of the EPA’s Municipal Stormwater General Permit, benchmarks are different than effluent limitations because benchmarks

are the pollutant concentrations above which EPA determined represent a level of concern. The level of concern is a concentration at which a storm water discharge could potentially impair, or contribute to impairing, water quality or affect human health from ingestion of water or fish. The benchmarks are also viewed as a level that, if below, a facility presents little potential for water quality concern. As such, the benchmarks also provide an appropriate level to determine whether a facility's storm water pollution prevention measures are successfully implemented. The benchmark concentrations are not effluent limitations and should not be interpreted or adopted as such. These values are merely levels which EPA has used to determine if a storm water discharge from any given facility merits further monitoring to ensure that the facility has been successful in implementing a SWPPP.⁸³

Not only should exceedence of the 3-foot, 15 ppm nitrate benchmark trigger additional monitoring, it should constitute a permit violation because at three feet, it has nowhere to go but into the groundwater.⁸⁴ When a Permittee exceeds the 3-foot nitrate benchmark of 15 ppm, it shows that the BMPs in the MPPP are not effective and that the Permittee has overapplied manure in a way that threatens water quality. Overapplication of manure in excess of what is required by the MPPP is a permit violation that must be enforced by Ecology.

⁸³ *Santa Monica Baykeeper v. Kramer Metals, Inc.*, 619 F.Supp.2d 914, 922 (C.D. Cal. 2009) (quoting 2000 MSGP, 65 Fed. Reg. at 64,766-67).

⁸⁴ *Waterkeepers N. Cal. v. AG Indus. Mfg., Inc.*, 375 F.3d 913, 919 n.5 (9th Cir. 2004) (recognizing that exceedences of benchmark values constitutes evidence that a permittee has failed to implement adequate BMPs).

Ecology’s prosed “matrix approach” does nothing to protect water quality. If the Permittee exceeds the 3-foot nitrate benchmark, that is an indication that the Permittee has over-applied manure in violation of its MPPP. In order to come back into compliance, the Permittee must cease all manure applications prior to planting and work with Ecology to plant a crop such as alfalfa, or another crop that will root down to up to five feet and pull the nitrate from the soil at the deeper levels to reduce groundwater contamination. When the Permittee is able to produce soil sampling tests that confirm the soil is ready for manure application, then Ecology can authorize the application in accordance with the nutrient budget in the MPPP.

VII. Irrigation Water Management

Irrigation water management measures, such as the use of soil moisture sensors should be required as a condition of the permit.



We agree with your statement that “[n]itrate moves with water as the water moves through the soil profile” and that “irrigation management is important” “to minimize downward nitrate movement.”⁸⁵

However, there are no permit conditions to ensure that this is not happening. We see that Ecology is considering irrigation water monitoring using soil moisture sensors as an “aggressive action option” in response to the soil nitrate benchmark.⁸⁶ However, soil moisture sensors are a known, available and reasonable technology that must be required as a permit condition. WSDA also believes that soil moisture sensors should be used and is seeking funding to pay farmers for installation of these devices:

Soil moisture sensors could be provided to growers to use. This should be done on a cost-share basis instead of simply gifting the sensors so the grower values the sensors and the information they provide. Training is very important for the grower to know how to properly install the sensors, collect the data, and how to interpret the data to make good management decisions. Simple sensors can be purchased for about \$250 for three depths and a reader, up to \$2000 for more sophisticated systems with telemetry and automatic reporting online.⁸⁷

As part of the Administrative Order on Consent (“AOC”) EPA signed in March 2013 with several dairies in the Lower Yakima Valley, the EPA recognized the importance of irrigation water management when working to prevent groundwater contamination from CAFO pollution. In a December 2014 Update to the AOC, EPA found that “[i]f excess irrigation water is applied to application fields excess water can carry nitrate, which is highly mobile in water, out of the root zone to the drinking water aquifer.”⁸⁸ To prevent this from happening:

The Dairies have agreed to install moisture sensors below the root zone in all of their application fields before the 2015 growing season. These sensors will be monitored during

⁸⁵ Preliminary Permit at 20.

⁸⁶ Preliminary Permit at p. 19.

⁸⁷ Email from Troy R. Peters to WSDA, EPA, SYCD (May 8, 2015) (**Exhibit 25**).

⁸⁸ EPA, December 2014 Update to AOC, *available at* http://www.epa.gov/region10/pdf/sites/yakimagw/consent_order_progress_update_dec2014.pdf (last visited Sept. 25, 2015) at 6.

irrigation. If water reaches the moisture sensors, irrigation to that field will be shut off. Improved IWM will not only reduce the amount of nitrate leaching past the root zone, but will save water and energy too.⁸⁹

In addition to moisture sensors, Ecology should require Permittees to “eliminate[] the practice of furrow irrigation, a type of surface irrigation where water is released into channels dug in the soil along the length of the field” because this practice similarly contributes to nitrates leaching into the groundwater.⁹⁰ Soil moisture sensors and the elimination of furrow irrigation are best management practices that should constitute AKART and be required as part of the WA CAFO General Permit.

VIII. Buffers

Commenters agree that it is very important to require scientifically-supported buffers, designed to protect ecosystem function, as part of the WA CAFO Permit. Unfortunately, Commenters do not support the buffers required as a minimum component of the MPPP (35-foot perennial vegetative buffer and 100-foot land application setback) because they are not supported by science. Riparian buffers are imperative if we have any hope of restoring our imperiled salmonid populations in Washington state.

Populations of wild anadromous and resident salmonids are in decline throughout much of the Pacific Northwest and northern California. Several stocks are presently listed as threatened or endangered under the Federal Endangered Species Act (ESA) and continued losses are likely to result in additional ESA listings. A significant cause of salmonid declines is degradation of their freshwater and estuarine habitats.⁹¹

Requiring scientifically-supported buffers is widely recognized as a critical component of any effective salmon recovery strategy:

⁸⁹ *Id.*

⁹⁰ *Id.*

⁹¹ Spence, B. C., G. A. Lomnický, R. M. Hughes, and R. P. Novitzki. 1996. An ecosystem approach to salmonid conservation. TR-4501-96-6057. ManTech Environmental Research Services Corp., Corvallis, OR. (Available from the National Marine Fisheries Service, Portland, Oregon) (**Exhibit 26**) at 1.

As in forest and rangeland management, the practice of leaving riparian buffer strips is central to conservation of streams and rivers in agricultural lands. Vegetated buffer strips greatly reduce the delivery of sediment and chemical pollutants from croplands. In addition, riparian buffers stabilize streambanks, provide shade, and contribute large wood to streams that frequently lack these attributes. Riparian forests, together with fencerows, frequently constitute important wildlife habitats in agricultural landscapes otherwise devoid of suitable habitats.⁹²

Buffers are especially important when regulating agricultural operations such as CAFOs because “[i]n general, the effects of agriculture on the land surface are more severe than logging or grazing because vegetation removal is permanent and disturbances to soil often occur several times per year. In addition, much agriculture takes place on the historical floodplains of river systems, where it has a direct impact on stream channels and riparian functions. Furthermore, irrigated agriculture frequently requires diversion of surface waters, which decreases water availability and quality for salmonids and other aquatic species.”⁹³ It is clear that “[a]lthough riparian buffers alone are insufficient to ensure healthy salmonid habitats, there is consensus in the scientific community that protection of riparian ecosystems should be central to all salmonid conservation efforts on both public and private lands.”⁹⁴

Commenters ask Ecology to follow the science and require buffers that protect ecosystem function and are:

designed to maintain the full array of ecological processes (i.e. shading, organic debris inputs, bank stability, sediment control, and nutrient regulation) needed to create and maintain favorable conditions through time. Consideration should also be given to protecting microclimatic conditions (temperature, humidity, wind speed, soil moisture, etc.) to ensure the persistence of natural vegetation communities and, where

⁹² *Id.* at 171; *see also id.* at 216 (“The establishment of riparian buffer zones is generally accepted as the most effective way of protecting aquatic and riparian habitats.”).

⁹³ *Id.* at 127.

⁹⁴ *Id.* at 215.

applicable, other riparian-dependent terrestrial and semi-aquatic species.⁹⁵

Because the buffer requirement is a part of the MPPP, which is site-specific for each permitted CAFO, Ecology can require buffers that support ecological function, and work with Permittees to ensure that is the case.⁹⁶ Because the permit is designed to achieve compliance with state water quality standards, the buffers must be designed to do so.⁹⁷

The science suggests that buffers need to be wider for CAFOs than other agricultural operations, including a 1:1 buffer area to waste area ratio:

Nutrient and bacteria runoff from poultry and dairy farms or direct manure applications may be substantially higher than from other agricultural lands; consequently, buffers may need to be wider. Vanderholm and Dickey (1978) monitored natural runoff from feedlots and found that buffer widths of 91 m on a 0.5% slope and 262 m on a 4.0% slope removed 80% of nutrients, suspended solids, and oxygen demanding substances from surface runoff (cited in Johnson and Ryba 1992). Shisler et al. (1987) reported that wooded riparian buffers in Maryland removed 89% of excess nitrogen and 80% of excess phosphorus from animal wastes with most of the removal being achieved within 19 m. Doyle et al. (1977) found that forest and grass buffer strips of approximately 4 m reduced nitrogen, phosphorus, potassium and fecal bacteria levels in runoff from manure applications, but they did not indicate the present reduction in these materials. Young et al. (1980; cited in Johnson and Ryba 1992) recommended buffer widths of 36 m for controlling nutrients in runoff from feedlots. Two studies have proposed that buffer strip width should be a function of the total area affected by animal wastes. A 1:1 buffer area to waste area ratio has been suggested as sufficient to reduce nutrients from poultry manure to background levels (Bingham et al. 1980).

⁹⁵ *Id.* at 216.

⁹⁶ *Id.* at 216 (explaining the evaluation criteria to be used when establishing scientifically-supported riparian buffers).

⁹⁷ *Id.*

Similarly, Overcash et al. 1981 reported that a 1:1 buffer area to waste area reduced animal waste concentrations by 90%-100%.⁹⁸

Because the WA CAFO Permit is a zero-discharge permit, Ecology must require scientifically-supported buffers that protect ecosystem function and reduce animal waste concentrations by 100%.

Ecology itself has previously acknowledged that a 35-foot buffer is not based on science:

We understand the balancing act that occurs when natural resource protection potentially impacts the economic livelihood of individuals Best Available Science, published in the Washington Department of Fish and Wildlife Riparian management Recommendations for Washington's Priority Habitats document, indicates that 100 feet is the minimum necessary to provide water quality functions, and greater widths are necessary, for other riparian functions.⁹⁹

Therefore, Commenters ask Ecology to abandon the 35-foot, 100-foot buffer requirement in the Preliminary Permit and require buffers be established and

⁹⁸ *Id.* at 220; *id.* at 220-21 (“The review of Johnson and Ryba (1992) suggests that effective buffers for nutrient control on forest and grasslands range from approximately 4-42 m, but that substantially wider buffers are needed to control nutrients and bacteria (fecal coliform) from feedlot runoff. We recommend that buffer widths for nutrient and pollution control on these lands be tailored to specific site conditions, including slope, degree of soil compaction, vegetation characteristics, and intensity of land use. In many instances, buffer widths designed to protect LWD recruitment and shading may be adequate to prevent excessive nutrient or pollution concentrations. However, where land use activity is especially intense, buffers for protecting nutrient and pollutant inputs may need to be wider than those designed to protect other riparian functions, particularly when land-use activities may exacerbate existing water quality problems. Buffers need to be accompanied by other protective measures when drainage structures (e.g. irrigation canals, drain tiles) bypass the riparian zone.”).

⁹⁹ *Swinomish Indian Comm’y, et al. v. W. Wa. Growth Management Hearings Bd., et al.*, No. 31618-8-II (WA Court of Appeals, Div. II) (Brief of Swinomish Indian Tribal Community) (filed Jan. 4, 2005) (**Exhibit 27**) at 10 (quoting Ecology document in the administrative record). This legal brief contains a summary of the science regarding the need for scientifically-supported buffers and is hereby incorporated by reference into these comments; *see also id.* at 75 (“A 35` foot buffer, especially one that is not “no touch,” is not consistent with the BAS [Best Available Science] in the record . . .”).

required in each Permittee's MPPP that are scientifically-supported and protect ecosystem function.

IX. Manure Export

The export and transfer of manure from the CAFO that generates the manure to be applied at other sites is a significant pollution problem that needs to be regulated under the WA CAFO Permit. We agree with Ecology's permit condition that "the application of manure to land not owned, leased, or controlled by the Permittee without written permission from the landowner is prohibited."¹⁰⁰ We also support Ecology's desire "to address the ongoing issue of CAFOs transporting manure offsite from their operations to avoid regulations and oversight.



This loophole severely limits the effectiveness of the CAFO rule."¹⁰¹ However, more specific permit conditions are needed to address this issue

¹⁰⁰ Preliminary Permit at 17.

¹⁰¹ Letter from Ecology to EPA (October 8, 2010) (**Exhibit 28**).

given the fact that the pollution problems associated with the transport of manure and application of manure on lands not owned or operated by the CAFO are so well documented. Commenters disagree that Ecology is without authority to regulate manure exports under the WA CAFO Permit.

Commenters ask that Ecology adopt the Requirements for Transporting Biosolids contained in the recently-issued General Permit for Biosolids Management, attached as **Exhibit 29** and incorporated herein by reference. Specifically, Commenters request that the following be incorporated as a condition in the WA CAFO General Permit:

If you transport manure, you must ensure that the transportation vehicle is properly cleaned prior to use of the vehicle for the transportation of food crops, feed crops, or fiber crops.

A spill prevention/response plan from a facility with coverage under this permit must be in place for all manure transfers. The plan may be from either the sending or receiving facility, whichever has responsibility for the transfer.

You must submit a spill prevention/response plan to Ecology that describes how you will attempt to prevent and respond to any spills. The spill prevention/response plans must include the following:

- The main route traveled and any possible alternate routes
- Spill prevention measures
- Equipment needed to respond appropriately to a spill that will be carried on the vehicle transporting manure
- Spill response measures should a spill occur
- Contact information for Ecology, Jurisdictional Health Department(s) and Washington Department of Transportation.

Coverage under this permit includes authorization for transferring manure from one facility to another for treatment or management if the following conditions are met:

- Nothing in the permit for either the sending or the receiving facility prohibits the transfer of manure.

- Both the sending and receiving facility exchange adequate information needed to comply with this permit and all applicable state and federal water quality laws. This may include, but is not limited to, information on manure quality and the permit status of each facility.
- Approval from Ecology.

The CAFO that generates the manure is responsible for providing information necessary to determine the agronomic rate to the person/entity who receives the manure.

The CAFO that generates the manure is responsible for ensuring that the manure is not tracked out onto public roadways, whether or not the manure is transported by the facility or another entity.

As part of the MPPP, each Permittee should be required to identify the entities to whom it gives away or sells its manure so that Ecology can ensure that the manure being produced at the CAFOs is not being applied in a way that pollute the waters of the state.

Commenters also support EPA's recommendations regarding the export of manure to third parties:

[T]he state should require that livestock operations and third party recipients of waste that land apply liquid and/or solid waste take additional steps to ensure that manure application fields are not a source of nitrate to the groundwater. It is our understanding that the application of manure that has been transferred to a third party is currently not regulated. All parties applying manure or manure in combination with synthetic fertilizer, including third parties, should implement annual nutrient management plans based on current, annual soil and waste analysis, and application rates should be limited to agronomic rates. Irrigation management practices should also be prescribed to prevent downward migration of nitrates.¹⁰²

¹⁰² Letter from EPA Region 10 to Ecology, WSDA (Dec. 4, 2012) (**Exhibit 30**).

Commenters otherwise support Ecology’s proposed Manure Export Record Requirements set forth on page 27 of the Preliminary Permit.

X. Monitoring Requirements

A. Groundwater Monitoring

The most significant omission in the preliminary permit is that it does not require groundwater monitoring. According to the sworn testimony of Thomas Tebb, former Central Region Director of the Washington Department of Ecology and a licensed hydrogeologist, the Department of Ecology had failed in its duties to require groundwater monitoring and protect public health.¹⁰³ Ecology’s decision to not include groundwater monitoring as a permit condition not only continues this failure, but is in direct contravention to Ecology’s own recommendations after a thorough, four-and-a-half year study conducted on a dairy farm overlying the Sumas Blaine Aquifer in Whatcom County:

Direct monitoring of water quality at the water table [through groundwater monitoring] was the only accurate and reliable method for tracking effects of manure management on groundwater nitrate.¹⁰⁴

* * *

Groundwater monitoring will be needed to evaluate the effectiveness of measures to reduce nitrate loading to groundwater.¹⁰⁵

* * *

Because there is no reliable substitute, direct groundwater monitoring using dedicated monitoring wells is a key component

¹⁰³ See *CARE, et al. v. Cow Palace, LLC, et al.*, Deposition of Thomas Tebb, at Tr. 52:3-53:25 (**Exhibit 31**).

¹⁰⁴ Ecology, Nitrogen Dynamics at a Manured Grass Field Overlying the Sumas-Blaine Aquifer in Whatcom County, Ecology Publication No. 14-03-001 (March 2014) (**Exhibit 24**) at xi.

¹⁰⁵ *Id.* at xxvi.

of an effectiveness [of manure management practices] monitoring program.¹⁰⁶

* * *

[G]roundwater monitoring is the only available way to determine the amount, or the concentration of, nitrate that actually reaches the water table¹⁰⁷

Groundwater monitoring is not only a known and available technology, requiring it as a condition of the WA CAFO General Permit is reasonable. First, groundwater monitoring as a condition has been recommended by EPA staff:

If there is evidence that one or more residential wells within one mile in a generally downgradient direction from the [CAFO] facility boundary exceeds the drinking water standard for nitrate of 10 mg/L, the facility should be required to install monitoring wells.¹⁰⁸

Second, it has been done before. Ecology has required groundwater monitoring at a CAFO facility in Thurston County that is adjacent to the Nisqually River, Wilcox Farms. Attached as **Exhibit 32** to these comments, and incorporated herein by reference, is State Discharge Permit Number ST6144 for Wilcox Farms, Inc., a large chicken CAFO, that mandates groundwater monitoring. Groundwater monitoring is also a condition of numerous other state discharge permits.

Third, Ecology originally recommended groundwater monitoring in an earlier draft of the WA CAFO Permit. Attached as **Exhibit 33** to these comments, and incorporated herein by reference is a January 24, 2014 draft of the WA CAFO Permit obtained through a public records request. This draft required a groundwater monitoring plan to be prepared by Permittees who exceed the soil test nitrate benchmark. In addition, attached as **Exhibit 34** to these comments and incorporated herein by reference is another earlier draft of the permit that similarly requires “zero permeability liners [with] . . .

¹⁰⁶ *Id.* at xxvii.

¹⁰⁷ *Id.*

¹⁰⁸ Email from Nicholas Peak (EPA) to Jonathan Jennings (Ecology) (November 14, 2012) (**Exhibit 35**).

a double layer synthetic (or similar) liner with leak detection, or a groundwater monitoring program”¹⁰⁹ However, in the latest iteration of the permit, this requirement has been abandoned, even though Ecology’s own scientists confirm that groundwater monitoring is an essential component of a permit designed to prevent discharges to waters of the state. There is simply no basis for Ecology to depart from its earlier conclusion that groundwater monitoring is needed.

Fourth, groundwater monitoring may be the only way to detect over-application of manure in a way that causes a discharge to groundwater. A federal district judge has found that:

Nitrogen, one of the substances of concern found in manure, is highly mobile. It can readily convert to nitrate and leach through the unsaturated (or vadose) zone of soils and into the local aquifer. For this reason, it is imperative that liquid manure is applied to fields only in amounts that the current crop can completely utilize.

Once nitrates leach below the root zone of crops, it is destined to reach groundwater, unless conditions suitable to denitrification exist. Denitrification is the process whereby nitrate is converted to harmless nitrogen gas. It can only occur in poorly drained soils or organic soils where oxygen is depleted in the root zone.

The major soil type near the Faria Dairy is identified as Kennewick loamy fine sands. Ex. 3 at 18. *Such soils are well drained, Id. at App. B, and are therefore not conducive to the denitrification process. This means that excess nitrates are rapidly transported through the soil and into local groundwater.*¹¹⁰

In the *Faria* case, because of the soil conditions, the groundwater monitoring wells installed by the Plaintiffs were to primary means leading to the court’s determination that “Faria’s manure management practices are the predominant source of the nitrate contamination found in the monitoring

¹⁰⁹ Ecology Draft CAFO Permit (2011), attached to Email from Nora Mena (WSDA) to Jonathan Jennings (Jan. 24, 2012) (**Exhibit 34**).

¹¹⁰ *CARE v. Nelson Faria Dairy, Inc.*, No. CV-04-3060-LRS (Memorandum of Decision) (December 30, 2011) (**Exhibit 48**) at 16.

wells and correspondingly, local groundwater. These practices include consistent over-application of manure to fields located adjacent to, and nearby, the Dairy.”¹¹¹

Fifth, EPA has advised Ecology to require groundwater monitoring:

[T]he state should impose groundwater-monitoring requirements on large livestock operations that are potential significant sources of nitrates to a drinking water aquifer. The specific monitoring system should be designed by a licensed hydrogeologist and include both upgradient and downgradient monitoring. Where nitrate contamination is detected by the monitoring system, the state should require the facility to take additional steps to address the sources. Additional steps should include reduced application rates of nutrients as determined by on site analysis.¹¹²

EPA also stated that “[i]f there is evidence that one or more residential well within one mile in a generally downgradient direction from the facility boundary exceeds the drinking water standard for nitrate of 10 mg/L, the facility should be required to install monitoring wells. (Upgradient and downgradient of manure piles, cow pens, application fields and lagoon systems).”¹¹³

Sixth, the Washington Department of Health has recommended groundwater monitoring to protect public health:

Ensure groundwater sampling around animal operations. This would not only help to [protect] public water systems, but private well owners as well. Require farmers to only fertilize to agronomic rates within a drinking water source’s five year time of travel and take monthly groundwater samples the entire time they are fertilizing to ensure they are keeping the levels appropriate. Work with farms to change irrigation practices

¹¹¹ *Id.*

¹¹² Letter from EPA to Ecology, WSDA (December 4, 2012) (**Exhibit 49**).

¹¹³ Email from Nicholas Peak (EPA) to Jonathan Jennings (Ecology) re: draft on CAFO General Permit (November 14, 2012) (**Exhibit 35**).

around drinking water wells.¹¹⁴

Therefore, Ecology must require groundwater monitoring, in addition to soil sampling, as a requirement of the WA CAFO Permit.

B. Manure Sampling Safety Protocols

Given the recent death of a dairy worker who drowned in a manure lagoon in the Lower Yakima Valley, it is clear that Ecology needs to establish safety protocols that must be followed when manure lagoon samples are being collected.¹¹⁵ This is a critical piece of information for purposes of manure management, but it must be conducted in a manner that does not jeopardize the health and safety of dairy employees.

C. Surface Water Monitoring

Permitted facilities should be required to do significant surface water monitoring at all existing and potential discharge points into surface waters of the state. The monitoring points should be identified in the MPPP and must be approved by Ecology. According to the EPA, surface water should be regularly monitored for nitrate because “[n]itrogen in surface water can result in groundwater contamination if surface water infiltrates the soil column.”¹¹⁶ In addition, surface water should be monitored for nitrates, phosphorus, fecal coliform, temperature, and other applicable pollutants. There should be more extensive and more frequent monitoring requirements for those facilities that are adjacent to or upstream from shellfish growing areas.

Commenters also recommend that the permit require the facility to do upstream and downstream sampling. For example, this could be accomplished by sampling at both property lines where the water body flows through or adjacent to any lands that are a part of the CAFO facility. For large CAFOs, additional surface water monitoring should be required at regular intervals to provide information on whether the Permittee is in compliance with all permit standards.

¹¹⁴ WA Department of Health, Governor Briefing on Ag/Dairy Waste Issues in the Royal City and Sequim Areas (September 17, 2012) (Exhibit 12).

¹¹⁵ For more information on this tragic incident, *see* <http://action.ufw.org/page/speakout/andy> (last visited Sept. 29, 2015).

¹¹⁶ *Id.*

XI. One-Time Lagoon Report

Section S7.C of the Preliminary Permit requires Permittees to “provide a report to Ecology that provides the engineering details of Permittee’s manure lagoons,” including information regarding the “year the lagoon was constructed; Construction (e.g. soils, clay and sand content, slope, compaction, etc.); Depth to groundwater below the lagoon during winter and summer; and Any standard to which the lagoon was constructed.” Preliminary Permit at S7.C. Fortunately, there is no need for Ecology to give Permittees two years to provide this information because much of this data has already been collected by WSDA and is publicly available for the vast majority of dairy CAFOs in the state. WSDA conducted lagoon inspections of all dairy CAFO lagoons in Puget Sound counties (a total of 540 manure lagoons). The lagoon inspection reports prepared by WSDA contain information including but not limited to the farm name, lagoon identification number, latitude and longitude, whether the lagoon is full or empty, a structural review, liner type, and design criteria including total pond depth. These lagoon inspection reports are attached as **Exhibit 36** to these comments and are incorporated herein by reference. In addition, attached as **Exhibit 37** and incorporated herein by reference, is a chart compiling the WSDA lagoon inspection data.

The WSDA has gathered similar data for CAFO manure lagoons in the Lower Yakima Valley. In fact, as part of the Lower Yakima Valley Groundwater Management Area (“GWMA”), WSDA is estimating how much nitrogen is leached out, i.e. discharged, of manure lagoons, from cattle pens, and from composting and into the groundwater. Kirk Cook, WSDA employee, explained:

Within the GWMA it looks like we have 212 livestock lagoons . . . this includes all animal operations not just dairy. This amounts to a capacity of 75,667,000 cu-ft assuming an average lagoon depth of 10 feet. Using the UC Davis report as a starting point we estimate that 54 tons of N is leached to the groundwater every year.

Within the GWMA we have 95 operations with some degree of animal pens (corrals). This amounts to a surface area of 1841.4 acres. Again using the UC Davis report as a starting

point we estimate that 824 tons of N is leached to the groundwater every year from corrals.

Within the GWMA we have 24 compost operations of significant size. This amounts to a surface area of 346.5 acres. Using the UC Davis as a starting point we estimate 155 tons of N leached to groundwater a year from these operations. Our records indicate that the vast majority of these operations are conducted directly on the ground and not on a liner or concrete pad.¹¹⁷

Attached as **Exhibit 38** to these comments, and incorporated herein by reference, is a data chart created by WSDA summarizing manure lagoon data for dairy CAFOs in the Lower Yakima Valley. The actual lagoon assessment reports are attached as **Exhibit 39** to these comments and are incorporated herein by reference. WSDA has also gathered data regarding dairy cattle populations and total lagoon surface area. That data is attached as **Exhibit 40** to these comments and is hereby incorporated by reference. While it appears that Mr. Cook's estimate is significantly underestimated,¹¹⁸ this data provides further support for Ecology's scientific finding that all manure lagoons leak. In addition, it shows that there is no need for Ecology to give a Permittee two years after permit coverage to provide this data that already exists and is in the hands of WSDA. All of this information is a critical part of understanding the extent to each CAFO's discharge to groundwater that must be prevented as a part of this permit.

XII. Economic Feasibility of Science-Based Manure Management Practices

As Ecology works to develop a new draft of the WA CAFO Permit, Commenters urge Ecology to recognize the variety of voluntary incentive programs that are available to Permittees to pay for many of the science-

¹¹⁷ Email from Kirk Cook (WSDA) to Vern Redifer (May 1, 2015) (**Exhibit 17**).

¹¹⁸ Commenters question WSDA's reliance on the UC Davis study and believe this study significantly underestimates that amount of N that leaches into the groundwater from CAFOs. However, Commenters' scientific disagreement with WSDA's work is outside the scope of these comments. What is significant here, is that WSDA has acknowledged that N is leaching from CAFO manure lagoons, animal pens and composting operations, resulting in a discharge to waters of the state that requires WA CAFO General permit coverage.

based manure management practices Commenters believe should be required as part of the permit. While there is no “economic hardship” exemption to federal and state water quality laws, Commenters understand that the regulation of the agricultural sector is politically difficult for Ecology. Therefore, if claims are made that requiring AKART measures such as double lined manure lagoons with leak detection systems will put Permittees out of business, Ecology must investigate and take into account the voluntary incentive programs that are available to Permittees to pay for such necessary improvements.

Just as one of many examples, the United States Department of Agriculture (“USDA”) Natural Resources Conservation Service (“NRCS”) administers the Environmental Quality Incentives Program (“EQIP”) under the authority of the 2014 Farm Bill. NRCS proclaims that it is not a regulatory agency, and landowners participate in programs voluntarily.¹¹⁹ EQIP provides payments to private agricultural landowners based on the estimated incurred cost of conservation practice implementation designed, in part, to protect water quality.¹²⁰ The voluntary program provides contracts for financial assistance to help plan and implement conservation practices that address natural resource concerns and for opportunities to improve soil, water, plan, animal, and air related resources on private agricultural land.

NRCS ranks applications for EQIP funding based on factors relating to environmental benefits and cost effectiveness. EQIP is designed to provide payments for up to 75 percent of the incurred costs resulting from the approved conservation practices and activities. However, NRCS has set rates it provides for each type of practice and landowners are free to negotiate with Technical Service Providers to set the price of the work.¹²¹ EQIP also provides payments for up to 100 percent of forgone income from implementing the conservation practices and activities. Washington State received approximately \$17.8 million in funding from EQIP in 2013. Attached as **Exhibit 41** to these comments, and hereby incorporated by reference herein, is a chart produced by NRCS documenting the enormous amounts of money provided to agricultural operators to implement BMPs. For example, \$243,790.80 was provided to one CAFO in Whatcom County for upgrades to its manure lagoon. This is just one example of many

¹¹⁹ NRCS.590 Factsheet.12.17.13.pdf

¹²⁰ <http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/eqip/>

¹²¹ See <http://tspr.sc.egov.usda.gov/ObtainRates.aspx>.

programs that can be used to fund the science-based manure management measures required as part of the WA CAFO General Permit.

The WSDA is also has funds to assist dairy CAFOs with compliance of permit conditions. For example, in May 2015, there was an email exchange between EPA and WSDA employees describing activities that the WSDA Nutrient Management Program intends to fund, including cost share programs with farmers for irrigation scheduling, training events for irrigators, provision of soil moisture sensors, irrigation system audits, and training for farmers for nutrient application, irrigation water management, feed management on-farm composting, and “how to operate and maintain a lagoon with poly liner.”¹²² Ecology must take this fiscal reality into account when deciding what nutrient management activities constitute AKART under the permit.

XIII. Definitions Needed

Commenters ask that Ecology provide one uniform definition for the term “manure” throughout the draft of the permit. The definition on page 41 of the draft differs from that on page 8. In addition, Ecology must define the following terms: “wastewater control facilities” (p. 9); “saturated fields” (p. 17); T-SUM 200 (p. 18); and “digestate” (p. 22).

XIV. Conclusion

Commenters thank Ecology for the opportunity to submit comments on the preliminary draft of the WA CAFO General Permit. It is our hope that Ecology reworks the permit so that it complies with all applicable state and federal legal requirements and finally works to protect the people and the waters of Washington from CAFO pollution.

Sincerely,

Andrea K. Rodgers
Western Environmental Law Center

Charles M. Tebbutt
Law Offices of Charles M. Tebbutt

¹²² Email from Ginny Prest to Ralph Fisher (May 20, 2015) (**Exhibit 54**).

On Behalf Of:

Puget Soundkeeper Alliance

RE Sources for Sustainable Communities

Community Association for Restoration of the Environment

Friends of Toppenish Creek

Center for Environmental Law and Policy

Spokane Riverkeeper

Snake River Waterkeeper

Socially Responsible Agriculture Project

Sierra Club Washington Chapter

Waterkeepers Alliance

Concerned Citizens of the Yakama Indian Reservation

Friends of the Earth

Center for Food Safety