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Western Environmental Law Center

Defending the West Wildlands, Water, and Western Communities

December 5, 2005

By E-Mail and Facsimile

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Dear Mr. Hancock:

The Western Environmental Law Center submits these comments on Washington's Second Public Draft Concentrated Animal Feeding Operation General Permit. These comments are submitted on behalf of the following organizations: Community Association for Restoration of the Environment ("CARE"), Sierra Club, Sierra Club Cascade Chapter, Waterkeeper Alliance, Northwest Environmental Defense Center, Linda & James Dyjak, and Larry Fendell. Please note that some portions of these comments are identical to those submitted in January 2005. We hereby incorporate those earlier comments by reference herein, and re-submit many of them because it is clear that they were not taken into account in the second draft of the permit. All of the exhibits cited in these comments have already been submitted to DOE along with our earlier comments and are thus not being submitted a second time.

I. Introduction/General Comments

The comments in this section are being reiterated for purposes of perspective on just how significant the consequences of permitting CAFOs can be for the state of Washington. These comments highlight the need for the strictest permitting requirements available to prevent the kind of problems associated with CAFOs that are experienced in Washington and throughout the country. The Department of Ecology ("DOE") has both the legal authority and public health obligation to citizens of this state to enforce stricter requirements than presently mandated under federal regulations.

Congress enacted the CWA to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters," 33 U.S.C. §§ 1251-1378, and established as a national goal the elimination of all pollutant discharges to surface waters by 1985. 33 U.S.C. § 1251(a)(1). "Congress foresaw and accepted the economic hardship, including the closing of some plants, that [Clean Water Act] effluent limitations would cause; and ... [it] took certain steps to alleviate this hardship" *EPA v. National Crushed Stone*, 449 U.S. 64, 79 (1980). As the Supreme Court explained, Congress devised the Act with the economic consequences in mind:

Prior to the passage of the [Clean Water] Act, Congress had before it a report jointly prepared by EPA, the Commerce Department, and the Council on Environmental Quality on the impact of the pollution control measures on industry. That report estimated that there would be 200 to 300 plant closings caused by the first set of pollution limitations. Comments in the Senate debate were explicit: ‘There is no doubt that we will suffer some disruptions in our economy because of these efforts; many marginal plants may be forced to close.’

Id. at 80.

The Clean Water Act seeks to eliminate pollution by requiring all polluters, including CAFOs, to obtain National Pollutant Discharge Elimination System (NPDES) permits for point source discharges. 33 U.S.C. § 1311. The permits contain pollution limits, which are established by EPA through a system of technology-based effluent limitation guidelines, supplemented by water-quality related effluent limitations, which protect specific bodies of water.¹ 33 U.S.C. § 1312. The NPDES permit takes the applicable effluent limitations and other standards and turns them into the obligations borne by the individual polluting entity. NRDC v. EPA, 822 F.2d 104, 110 (D.C. Cir. 1987).

The intended effect of the Clean Water Act permit and effluent limitation process is to gradually reduce pollution to the point of elimination. Congress understood that compliance with the Act would have financial consequences to industry and, accordingly, adopted a phase-in compliance scheme. That scheme uses increasingly more stringent effluent limitation guidelines and NPDES permits to ratchet surface water pollution down to zero. As explained by the court in NRDC v. EPA:

[T]he [Clean Water Act’s] regulatory scheme is structured around a series of increasingly stringent technology-based standards (beginning with the implementation of the best “practicable” technology (BPT) and progressing toward implementation of pollution controls to the full extent of the best technology which would become available (BAT). New sources would, again, be subject to the most stringent technology-based standards of all, namely “new source performance standards” [T]he most salient characteristic of this statutory scheme, articulated time and again by its architects and embedded in the statutory language, is that it is technology-forcing The essential purpose of this series of progressively more demanding technology-based standards was not only to stimulate but to press development of new, more efficient and effective technologies. *This policy is expressed as a statutory mandate, not simply as a goal.*

NRDC v. EPA, 822 F.2d at 123 (emphasis added).

II. CAFOs Are a Known Danger to Human Health, Welfare, Wildlife and the Environment.

In the United States, CAFOs produce an estimated 500 million tons of manure annually, an amount which is more than three times that which is generated by humans. See “Threatening Iowa’s Future: Iowa’s Failure to Implement and Enforce the Clean Water Act for Livestock Operations,” Environmental Integrity Project, May 2004 at v (Exhibit 1). This is an incredible amount of waste that often is discharged, untreated, into the surface and ground water of the United States. To put this number in context, a hog CAFO in Iowa that confines 30,000 hogs produces as much waste as the entire city of Cedar Rapids (122,500 people)! However,

¹ “Whenever a technology-based effluent limitation is insufficient to make a particular body of water fit for the uses for which it is needed, EPA is to devise a water-quality based limitation that will be sufficient to the task.” 33 U.S.C. § 1312(a); see also NRDC v. EPA, 822 F.2d 104, 111 (D.C. Cir. 1987).

unlike Cedar Rapids, there is no sewage treatment plant to treat the hog waste.²

A) CAFOs Transmit Pathogens To Humans And Other Animals

CAFOs endanger public health because animal excrement contains pathogens dangerous to people and wildlife, including a number of known human viral, bacterial, and parasitic pathogens, such as influenza, salmonella, E.coli (particularly 0157:H7), yersinia, leptospora, cryptosporidium parvum, giardia lamblia, and probably several yet to be discovered. See *CARE v. Henry Bosma Dairy*, 52 ERC 1164, 2001 WL 1704240 (E.D. Wa. 2001) (Exhibit 2). Lagoons and sprayfield waste management systems act as a vector for communicable disease transmission and increase the risk of human exposure to these pathogens, which can be transmitted when pathogens in animal waste contaminate human drinking water sources and recreational water sources. CAFO wastes can transmit diseases when sprayed near homes because spraying creates opportunities for the aerosolized spread of the pathogens reaching miles from a spray site. CAFO pathogens are particularly hazardous because systematic overuse of antibiotics in animal agriculture has fostered the emergence of antibiotic resistant organisms in the population of animals raised for food; these pathogens are especially hazardous to immune-compromised people, infants, and the elderly. Antibiotics and hormones used at CAFOs have also been found in the environment, including surface waters, around CAFO facilities.³

B) CAFOs Are Contaminating The Groundwater

CAFOs also endanger public health by contaminating groundwater with nitrates. Groundwater tainted with nitrates can cause methemoglobinemia, or “blue baby” syndrome, and can contribute to the development of some cancers and cause adverse reproductive outcomes. Further, research has documented that people living near large hog facilities, for instance, suffer significantly higher levels of upper respiratory and gastrointestinal ailments than people living in non-livestock areas.

Two groundwater studies that were recently completed in the Lower Yakima Valley provide strong evidence that CAFOs are contributing to the groundwater contamination. These studies, conducted by the Valley Institute for Research and Education and Heritage College provide documented evidence of a geographic correlation between dairies and groundwater contamination, including nitrates and fecal bacteria.⁴ DOE, and other state and federal agencies responsible for protecting human health have thus far ignored the significant public health threats documented by these studies. Over 20% of residential wells sampled near large dairy CAFOs have levels of nitrates in excess of 10 mg/l. As the residents who depend on these wells are often low income families, they have little recourse to protect themselves. Furthermore, as many of the residents are of Hispanic ethnicity, the state must look at the disproportionate impacts from an environmental justice perspective.

²See “Threatening Iowa’s Future,” Exhibit 1 at 1.

³See also “Threatening Iowa’s Future” at vi (Idaho Department of Natural Resources “documented at least 329 manure spills from animal feeding operations between 1992 and 2002. These spills killed over 2.6 million fish and an unquantified number of other aquatic organisms.”).

⁴“Quality of Ground Water in Private Wells in the Lower Yakima Valley, 2001-02,” authored by Ron Sell and L. Knutson, Valley Institute for Research and Education (Exhibit 3); “Sunnyside Groundwater Study Final Report,” prepared by Heritage College, August 13, 2003 (Exhibit 4).

Ecology must take this information into account when drafting the final permit. The evidence in these reports and others shows that it is improper for Ecology to allow an exemption for CAFOs to contaminate the groundwater. It is hard to fathom that there ever could be an instance that groundwater contamination would serve “an overriding consideration of the public interest.” The only interest that is served by allowing a CAFO to contaminate groundwater would be the financial interests of the CAFO owner. How can Ecology put a price tag on the protection of public health? We are pleased that Ecology has clarified the factors that demonstrate an overriding public interest, Fact Sheet at 22, but we still do not understand how financial gain by a single corporation is ever reason to allow groundwater contamination. The citizens of Washington state deserve more protection than this.

An evaluation of Liberty and Hank Bosma Dairies in the Yakima Valley revealed that unlined lagoons, which were approved by Ecology, allowed staggering amounts of leakage into the groundwater.⁵ With respect to the lagoons at Liberty Dairy, “[m]odeling indicates that the permeability is actually between 0.001 and 0.01 inches per hour. This is equivalent to an annual volume of between 2.0 million gallons and 17 million gallons of seepage from the *Liberty Dairy Lagoons* alone.” See *CARE v. Henry Bosma Dairy*, Civ. No. CY-98-3011-EFS E.D. Wa.) (Expert Report of Alan Gay) (Feb. 24, 1999) at 8 (Exhibit 5). Similarly, at the Hank Bosma Dairy in the Yakima Valley, unlined lagoons, again approved by Ecology, demonstrated an exfiltration rate which was “equivalent to an annual volume of between 2.1 million gallons and 18 million gallons.” *Id.* at 9. This data provides unquestionable evidence that CAFOs, especially those with unlined lagoons, are currently contaminating the groundwater of Washington state. It is now up to Ecology to take this information into account and come up with an NPDES permit that addresses the problem. We appreciate and applaud the fact that Ecology is regulating discharges to both surface and groundwater by the general permit. Ecology is taking a leadership role in this regard and the citizens of Washington are thankful for that.

Other independent studies conducted outside the state of Washington have similarly demonstrated that CAFO lagoons are leaching into the ground water. The Center for Disease Control and Prevention (“CDC”) tested ground water samples for contamination from nine large hog CAFOs in Iowa. The CDC’s “findings suggest that chemical pollutants and microbial pathogens from waste generated by animal confinements contaminate ground water by seeping from earthen lagoons” See “Threatening Iowa’s Future,” Exhibit 1 at 10. Scientists from Iowa State University have similarly found that manure storage structures often leak into ground water. *Id.*

CAFOs also use enormous amounts of groundwater, much more than traditional farms. DOE must require, before operations commence or permits are issued, that CAFOs can demonstrate that they have valid water rights to operate at the levels proposed. The degradation of groundwater quantity inherently results in a degradation of groundwater quality and thus this issue should be addressed in the CAFO general permit. One farmer near the city of Sunnyside reported that his well had gone dry because a neighboring CAFO had used up all of the groundwater. DOE’s solution was to tell the farmer to drill another well or take the dairy to court and incur a tremendous amount of legal expenses. The onus should not be on the citizens of Washington to protect their allocated water rights. DOE should take the initiative to ensure that CAFOs are not usurping ground water resources.

III. History of CAFO Noncompliance with the CWA

“The very nature of a CAFO and the amount of animal wastes generated constitute a large threat to the

⁵Alan Gay, an engineer with the firm of TechCon, Inc., conducted the evaluations of these two dairies for purposes of a CWA lawsuit filed against Henry Bosma Dairy and Liberty Dairy. See *CARE v. Henry Bosma Dairy*, 52 ERC 1164, 2001 WL 1704240 (E.D. Wa. 2001), Exhibit 2.

quality of the waters of the nation.” CARE v. Henry Bosma Dairy, 305 F.3d 943, 955 (9th Cir. 2002) (Exhibit 6). It is well documented that CAFOs contaminate groundwater, surface water, and the air with nutrients, pathogens, and other pollutants. CAFO pollutants leak from lagoons and other storage structures, leach and run off from spray fields and volatilize to the air. CAFO-polluted groundwater and surface water can be dangerous to human health and the environment when people and wildlife come into contact with or consume it. Surface water pollution from CAFOs has already been seen to cause massive fish kills and the loss of other aquatic life.

Those who have suffered most from the water pollution problems associated with CAFOs are those who live in close proximity to these factory farms. In many ways, the growth of the CAFO industry has destroyed the rural economy. In 1915, there were just as many pigs on farms in America as there are today. But, today these millions of animals have been taken from the family farmers, who were active in every state in this nation, and concentrated in a few locations around the country. The result is a complete imbalance in nature’s delicate ecological cycles as well as a reduction in the quality of traditional rural life. This practice has created a corresponding imbalance in rural economic support systems. Independent, rural family farmers are no longer able to compete with the animal factories, even though independent producers create three times as many jobs as corporate contract production. Big corporate livestock operations are also less likely to do business locally than are small and medium sized family farmers, thus having a further detrimental impact on the rural economy.

Washington must consider the social and economic consequences of large-scale CAFO production not only at the facility and production sector levels but also at the community level. As documented in the hundreds of complaints DOE has received regarding these CAFOs, many of the environmental and public health burdens of CAFO pollution are unfairly imposed on local communities. In addition to dealing with problems such as the contamination of private and public drinking supplies, these communities and surrounding landowners may also be faced with falling land values and a shrinking resource base.

A) Ecology Enforcement Of CAFOs Has Not Worked

In a CWA case brought against a large dairy in the Yakima Valley, in response to questioning concerning the effectiveness of Ecology’s attempt to ensure that CAFOs comply with the CWA, Mr. Robert Barwin, manager of the water quality program for Central Washington, responded, “[i]t varies a lot . . . I would guess on balance I would have to say we’ve been weighted toward the ineffective side.” See CARE v. Henry Bosma Dairy, No. CY-98-3011-EFS (Transcript Testimony of Robert Barwin) (June 1, 1999) (Exhibit 7) at 24. Part of the problem is that DOE has historically allowed the CAFO industry to self-regulate. See Id. at 23 (“Sometime between 1987 and 1989, Ecology consciously chose not to cover dairies under the NPDES permit program and instead attempted to work with the industry as a whole and develop the general NPDES permit that took until 1994 to finally put in place.”). DOE took this approach even though CAFOs were, and are, defined as point sources which necessitate the issuance of a NPDES permit. The self-regulation approach continued into the 1990s when DOE negotiated with the industry as to how it should be regulated under the CWA. See id. at 51:

- Q. So, you were in negotiations with the industry over regulation of the industry?
- A. [Robert Barwin, DOE]: Through an advisory committee, yes.
- Q. Isn’t it your job to regulate the industry?
- A. Yes.
- Q. It’s not the industry’s job to regulate the industry, is it?
- A. No, but we –
- Q. That’s why we’re in this mess in the first place, isn’t it?
- A. Perhaps.

A good example of Ecology's failure to enforce the CWA against CAFOs comes from the case of Henry Bosma. A Chronology of Henry Bosma Dairy's file compiled by Ecology demonstrates a 20 year history of CWA violations with virtually nothing being done by Ecology to protect the environment and the health of Washingtonians. See CARE v. Henry Bosma Dairy, No. CY-98-3011-EFS (Plaintiffs' Trial Exhibit: Chronology of Henry Bosma Dairy File) (Exhibit 8). The violations included over-application of manure on frozen ground, direct discharges of manure into neighboring irrigation canals and lagoons overflowing into ditches and drains. For over 20 years, Ecology had been trying to get Bosma to apply for a NPDES permit. When Ecology sent Bosma a NPDES application in the mail, Bosma returned the application, still blank, accompanied by a letter that stated:

From the sounds of the enclosed orders, you must have been promoted to some type of deity. Congratulations. As per your request, I return your forms herewith. Unfortunately, I don't understand any of it, and therefore, can't act on them. I'd be happy to discuss this at your convenience at more reasonable terms.

CARE v. Henry Bosma Dairy, No. CY-98-3011-EFS (Plaintiffs' Trial Exhibit: July 16, 1986 Letter from Hank Bosma to Jim Milton, DOE) (Exhibit 9). After DOE sent an inspector to Bosma's dairy, Bosma sent an angry letter to Jim Milton, a DOE employee, stating:

It was after this incident that I called you and told you that I did not ever want to see this man again, that he was totally incompetent and if he ever showed up again that I would run him off with a pair of dobermans.

CARE v. Henry Bosma Dairy, No. CY-98-3011-EFS (Plaintiffs' Trial Exhibit: May 30, 1988 Letter from Hank Bosma, to Jim Milton, DOE) (Exhibit 10). Uncontradicted trial testimony of a DOE employee indicated that Mr. Bosma, a one-time director of the Washington Dairy Federation, threatened to shoot the DOE inspector if he returned to his dairy.

The undersigned understand that under these circumstances it is not an easy task to enforce the CWA against an industry that is accustomed to using threats and intimidation as a means to avoid compliance with the law. In the litigation that was eventually brought against Henry Bosma for CWA violations, the plaintiffs experienced similar threats by this industry. This threatening behavior continues today as was demonstrated at the public hearing for the first draft of this General Permit in Yakima, WA. Many citizens who attended the hearing were afraid to speak out against these facilities. But, these tactics should not be given validation by the DOE. Instead, the DOE should take this opportunity to regain control of enforcing the CWA against this industry.

The situation of Henry Bosma provides a good illustration of just how ineffective Ecology's prior attempts at getting these dairies to comply with the CWA have been. But, there are many other stories throughout Washington state that illustrate DOE's inability to enforce the CWA against the CAFO industry. Citizens in the Yakima Valley have reported that even if DOE records a complaint of a discharge, which often is not the case, the reports may not reflect the actual complaint alleged. Also, DOE often takes several weeks before investigating the complaint, by which time the discharge has been concealed. One Sunnyside resident stated that he reported so many discharges that the agency did not even want to speak to him any more! The draft CAFO general permit, as written, simply allows this dynamic to continue because the permit essentially leaves compliance in the hands of the dairies, with no incentives or checks on compliance.⁶

⁶See e.g., "Threatening Iowa's Future" Exhibit 1 at vii ("Out of the 180 enforcement actions for discharges to water since 1992, IDNR collected the maximum administrative penalty of \$5,000

IV. Reality Requires Washington to Abandon its Assumption that CAFOs are not Discharging.

The overall structure of the General Permit continues to rely upon the assumption that CAFOs in Washington state generally do not contribute to the significant water pollution within the state. Although the permit facially sets a “no discharge” effluent standard, the monitoring and reporting requirements are so weak that there is no possible way to ensure that this standard is being met and there is nothing in the permit that encourages these facilities to come into compliance. Based on the demonstrable history of discharges from these facilities, a permitting structure needs to be put in place that can force these facilities to come into compliance with the CWA. As discussed more fully below, the draft permit essentially leaves the facility with the discretion whether to comply with its terms. In no place in the fact sheet does DOE recognize the exponential growth of these facilities or their sordid history of water pollution. The DOE merely states that “the frequency of discharge varies from facility to facility.” The DOE’s characterization does not represent the volume of complaints and reports of discharges that have been received regarding these facilities. In order to create a permit that will adequately protect the waters of Washington state and the public health of its citizens, DOE must first recognize the documented, historical pollution caused by these facilities.

When the technology standard and permitting rule for concentrated animal feeding operations (CAFOs) was originally promulgated in the 1970’s, animal feeding operations existed on a much smaller scale. Today, large-scale animal factories, which raise thousands of animals and produce enormous quantities of manure, dominate animal production. Annually, animal feeding operations generate 220 billion gallons of waste, or 130 times more waste than the entire human population in the United States.⁷ This increasing concentration and industrialization of livestock production is devastating our waterways. Conservative estimates reported by states and tribes in 28 states indicate that animal feeding operations pollute 27,751 miles of rivers and streams.⁸ Specifically relevant to Washington, DOE’s own former Director, Tom Fitzsimmons, stated at a 1998 continuing legal education seminar that over 60% of the water pollution in Washington state comes from CAFOs.

CAFOs contribute to water pollution when lagoons break, spill, seep, or fail, releasing wastewater into rivers, lakes, and streams.⁹ In fact, over 1,000 spills occurred at feedlots in just ten states between 1995 and

in only 9 of these actions. IDNR also refers very few cases to the Attorney General for further investigation and prosecution, even though the Attorney General has the ability to seek higher penalties than the IDNR. The result is a regulatory environment where it pays for CAFOs to pollute Iowa’s waters.”). Similarly here, in Washington, there is a lack of enforcement actions taken against these dairies, which has contributed to an environment where CAFOs feel confident that they can degrade Washington’s waters without repercussions.

⁷ Environmental Defense, Animal Waste Summary, *available at* http://www.hogwatch.org/maps/index_wherehogsare.html (compiled using 1997 Census of Agriculture data); Minority Staff of the U.S. Senate Committee on Agriculture, Nutrition and Forestry, “Animal Waste Pollution in America: An Emerging National Problem,” Washington, D.C. (December 1997), p. 1.

⁸ U.S. Environmental Protection Agency, National Water Quality Inventory: 1998 Report to Congress (2000).

⁹ See generally, Merritt Frey et al, “Spilling Swill,” Clean Water Network (1999).

1998, resulting in the death of more than 13 million fish.¹⁰ In addition, liquid waste is often over-applied or inappropriately applied to land, causing runoff into surface water or seepage into groundwater. Furthermore, ammonia emissions from open-air lagoons and spray fields redeposit nitrogen on land and water bodies, adding to nutrient pollution.¹¹ There have even been reports of spray guns discharging manure directly onto a neighbor's residence.

Leaking animal waste storage lagoons threaten human health by contaminating groundwater used for drinking water supplies. This threat should be of special concern to DOE because in the fact sheet, DOE acknowledges that “[s]ome areas, such as northwest Washington, have very shallow groundwater.” Fact Sheet at 2. Nitrate levels above 10 mg/l in drinking water increase the risk of methemoglobinemia, or “blue baby syndrome,” which can cause developmental deficiencies and death in infants.¹² High nitrate levels in drinking water near feedlots have also been linked to spontaneous abortions in humans.¹³ Recently, EPA Region 6 resorted to its federal emergency powers under the Safe Drinking Water Act to require Seaboard Farms to provide safe drinking water to residents in Oklahoma, after discovering that nitrates from five hog operations had contaminated drinking water wells.¹⁴

To better illustrate the problem, the undersigned have enclosed photographs demonstrating the fact that CAFOs are greatly contributing to the pollution of Washington's waters and the impairment of Washingtonian's health. The photographs show large piles of manure deposited along roadways, liquid manure being discharged into canals, dead dairy animals deposited in a waterway, and a big gun spitting liquid manure into an adjacent canal. See *CARE v. Henry Bosma Dairy*, No. CY-98-3011-EFS (Plaintiffs' Trial Exhibit: Photographs documenting discharges) (Exhibit 11). The undersigned urge Ecology to contemplate whether the manure application practices demonstrated in the photographs should be encouraged to occur, or whether Ecology should finally take measures to carry out its mission and protect the public health and environment of Washington by enforcing the CWA. The photos enclosed with these comments provide only a small picture of the devastation associated with the CAFO industry. The numerous comments and complaints filed by citizens who live near these facilities and have documented similar practices should also be taken into consideration.

It should be noted that Ecology is not alone in its historical failure to adequately implement and enforce the CWA against the CAFO industry. In a recent report compiled by the Environmental Integrity Project, the state of Iowa's failure to implement and enforce the CWA against livestock operations is carefully documented and analyzed. See “Threatening Iowa's Future: Iowa's Failure to Implement and Enforce the Clean Water Act for Livestock Operations,” Environmental Integrity Project, May 2004 (Exhibit 1). This report provides further

¹⁰ Merritt Frey, “Spills and Kills, Manure Pollution and America's Livestock Feedlots,” Clean Water Network. August 2000.

¹¹ Eldridge R. Collins, Jr., “Ammonia Emissions From a Large Swine Production Complex,” The American Society of Agricultural Engineers, Chicago, Illinois (December 18-20, 1990).

¹² U.S. EPA, The Report of the EPA/State Feedlot Workgroup, Office of Wastewater Enforcement and Compliance, September 1993.

¹³ “Spontaneous Abortions Possibly Related to Ingestion of Nitrate-Contaminated Well Water-LaGrange County, Indiana 1991-1994,” *Morbidity and Mortality Weekly*, Report 26, Centers for Disease Control (July 5, 1996) pp. 569-71.

¹⁴ *In the Matter of Seaboard Farms, Inc., Shawnee Funding Limited Partnership, PIC International Group, Inc.*, United States Environmental Protection Agency Region 6, Emergency Administrative Order, Docket Number: SDWA-06-02001-1239.

support for the notion that water pollution caused by these facilities is a documented, nation-wide problem that can only be solved on the state level. Washington should take the lead in the fight to protect its citizens from the devastating effects associated with the growth of the CAFO industry.

V. Allowing DOA to Implement and Enforce the CWA Constitutes An Improper and Invalid Delegation of Authority Under the CWA.

The authority to administer the federal NPDES permit program can be delegated to a state or an Indian tribe, provided such a program is approved by EPA. 33 U.S.C. § 1342(b). DOE was granted the authority to administer the CWA in Washington. At this time, the Washington State Department of Agriculture (“DOA”) has not similarly been granted the authority to implement and enforce the state’s NPDES program. Therefore, any part of the general permit that leaves the implementation or enforcement of the CWA in the hands of the DOA is necessarily an illegal attempt to delegate CWA authority without the approval of EPA.

Section S3 of the Draft Permit states that: “Equivalent best management practices may be used by the CAFO if: (a) they result in equal or better protection of surface and groundwater quality and (b) *they are approved by the Washington State Department of Agriculture.*” This provision improperly delegates an important CWA compliance tool, best management practices, to the DOA. Unfortunately, compliance with best management practices is often deemed to be compliance with the CWA. Therefore, it is imperative that these best management practices are the most stringent available to ensure the protection of the public health and environment. Ecology, the agency to whom CWA authority has been designated, must be the agency that approves the best management practices.

Even if Washington submitted a modified permit program for EPA review, DOA is not a proper agency for implementing and enforcing the CWA. DOA has an inherent conflict of interest with the goals and mandates of the CWA. DOA’s primary mission is to support and promote agriculture in the state of Washington. This mission directly conflicts with the CWA’s requirements to prevent pollution and to restore the integrity of our nation’s waters. Without question, CAFOs are significant polluters, and in fact, according to the former Director of DOE, may constitute the largest source of water pollution in the state. Having the agency whose primary objective is to promote the development of such facilities is like having the proverbial fox guarding the hen house. Rather than shunting off the responsibility of enforcement, DOE and the state administration should provide the proper staffing and funding to DOE to do the job required.

Moreover, CAFOs should not be considered an agricultural activity and thus should have nothing to do with the DOA. CAFOs are defined by statute, regulation and case law as industrial activities. They are not agriculture as we commonly understand that enterprise to be. That is why so many farmers who are practicing traditional forms of agriculture are fighting these CAFOs who invade their neighborhoods and threaten to ruin their way of life. In theory, DOE is the regulator of all industrial activities in Washington so that it can meaningfully carry out its mission to protect human health and the environment. Its mission does not include promoting any particular type of industry, nor properly could it while protecting the health and environment of the state of Washington. There are other departments within the state that are designed to promote industry. To take the source that contributes the most amount of water pollution in Washington away from DOE’s regulatory reach would entirely undermine DOE’s ability to carry out its mission and work toward eliminating water pollution in order to comply with the mandate of the CWA.

VI. DOE Should Require Individual NPDES Permits for CAFOs

The proposed general permit does not ensure compliance with the CWA because it does not realize the need to develop and enforce site-specific pollution prevention measures. Further, individual permits are needed to protect water quality from the growth of the CAFO industry. Allowing CAFOs to be covered under general

permits eviscerates the state's ability to ensure that the major contributor of water pollution within the state is doing what it can to minimize and eventually abate the pollution that is coming from these facilities. Assuming that DOE ignores the statutory, regulatory and judicially recognized definition of CAFOs as industrial sources and considers CAFOs to be agricultural enterprises, EPA has nevertheless recognized that "the agricultural sector . . . is the leading contributor to identified water quality impairments in the nation's rivers and streams."¹⁵ Undoubtedly, CAFOs are a significant part of this problem. As EPA has recognized, in the last twenty years, there has been a "trend toward fewer, larger, and more industrialized operations."¹⁶ For example, from just 1987 to 1997, the number of egg-laying operations fell from 141,880 to 69,761 (a decrease of 51%), while losing just 1% of the total amount of egg-laying chickens.¹⁷ What this trend shows is that there has been a significant increase in the concentration and quantity of waste that is generated at a single site. Because of the nature of these facilities, as documented in the specific examples provided throughout these comments, CAFOs present an inordinately high potential to impair water quality. As discussed elsewhere in these comments, there are documented incidences of containment dams, berms or lagoons failing and spilling some or all of their contents into adjacent waters. There also has been evidence of lagoons leaking into groundwater which is typically hydrologically connected to nearby surface waters. Requiring individual permits for all CAFOs would be the tool that DOE needs to carefully regulate and monitor CAFOs in order to protect the waters of Washington.¹⁸

The CWA demands that individual permits should be required for CAFOs because the general permit would not take into account the water quality and designated uses of the waters surrounding a particular CAFO. Water quality standards promulgated under the CWA must encompass three facets: (1) the designated uses of the waterbody; (2) the water quality criteria necessary to attain and maintain each designated use; and (3) the fact that existing in-stream uses and the water quality necessary to protect existing uses must be maintained and protected, i.e. can never be degraded. 33 U.S.C. § 1313. The proposed general permit is designed to cover all CAFOs, regardless of varying locations, soil conditions or other site-specific characteristics. Some CAFOs are located in flood plains, converted wetlands, adjacent to wetlands and surface waters, on agricultural fields with surface drainage ditches or are on land with an extremely shallow groundwater aquifer. Also, some CAFOs are quite close to wells that are used for domestic purposes. Wet weather frequently saturates spray fields, producing large amounts of discharges of animal waste and wash water to both surface and ground water, which necessarily impairs water quality and human health. Individual permits are site-specifically crafted to take into account these differences and thus should be automatically required.

Furthermore, monitoring and reporting needs will vary among CAFOs. Some operations may require more frequent in-stream monitoring in order to protect outstanding waters or salmon streams, other operations may need more frequent groundwater monitoring to ensure drinking water supplies do not become contaminated, or more contaminated, as the case may be. An individual NPDES permit obliges DOE to impose monitoring and reporting requirements necessary to protect the water quality of the surrounding waters. See WAC 173-220-210. Individual permits allow for the imposition of meaningful monitoring requirements that

¹⁵66 Fed. Reg. 2972 (Jan. 12, 2001).

¹⁶Proposed CAFO Regulations, 66 Fed. Reg. 2960, 2972 (Jan. 12, 2002).

¹⁷See USDA Census of Agriculture.

¹⁸The Fact Sheet indicates that there are currently only 161 large CAFOs within the state. Therefore, requiring individual permits would not be overly burdensome, especially given the documented risks posed by these CAFO facilities as well as their history of non-compliance and their unwillingness to voluntarily adopt pollution prevention measures.

both protect water quality and produce records and reports useful for gauging compliance, which is absolutely critical considering the fact that this industry is notorious for skirting its obligations to comply with the CWA. Individual permits issued to other industrial activities require the monitoring of receiving waters and the submission of periodic reports to DOE.

Washington also must require individually tailored management practices specific to the unique conditions on CAFO sites. Site-specific information can be used to impose specific design or operational permit limitations. Individual permits can allow for the evaluation and accounting of the suitability of the land for the application of manure, including the soil and subsoil permeability, the presence of aquifers, the vulnerability of groundwater resources, soil slope, erodibility, the land use of proposed disposal sites and surrounding land uses, and the existence of water withdrawals downstream of the proposed disposal site. Site-specific permit terms might, for example, require the siting of a manure storage facility in the least ecologically vulnerable location on a property, despite the owner's plans to put it elsewhere.

VII. CAFOs Should be Prohibited In Impaired Watersheds

Washington should refuse to issue NPDES permits, general or individual, to new CAFO operations in impaired watersheds. Given the history of water pollution associated with CAFOs, these facilities would invariably discharge pollutants that would exacerbate an already impaired watershed. Any permit for an existing CAFO that is located in an impaired watershed should not only be an individual permit, but should also require additional monitoring, large buffers (minimum 150 feet) between the facility and any surface waters, and other measures to minimize the prospects of contributing to the increased impairment of these waters.

VIII. DOE Should Eliminate the 25-year, 24-hour Storm Discharge Exemption

We emphatically urge Washington to eliminate the 25-year, 24-hour storm exemption from the prohibition on discharges to surface waters. Allowing such an exemption will result in environmental devastation when the inevitable event occurs. CAFOs produce far too much concentrated wastes to be allowed to discharge at any time, especially when there is the technology available to eliminate the need for such an exemption. Ecology has not explained, nor could they, that such technology does not exist. Eliminating the exemption would promote compliance with and give meaning to the no-discharge effluent limitation by simply requiring better engineered facilities. This was the original intent behind the passing of the CWA—that the technology would be developed to eventually eliminate the need to discharge into our nation's waters. The only way to achieve this goal is by forcing the regulated industries to install the necessary technology because history has shown that the dischargers are not willing to move towards not discharging on their own. A discharge at any time should be subject to the strict liability standard of the CWA. The existing penalty factors allow courts to consider the mitigation of a penalty based upon the specific facts surrounding a discharge, such as an inordinate storm event. It is the job of DOE to ensure that discharges do not occur and it is the job of the courts to determine how a discharger should be penalized. Moreover, allowing a 25-year, 24-hour storm exemption allows DOE to disregard the strict liability standard of the CWA, because it exempts a discharger from liability simply due to a large storm, which is impermissible.

As EPA explains in the preamble to its January 2001 proposed CAFO rules, the 25-year, 24-hour storm discharge exemption is an engineering standard for storm water detention devices. See Preamble, National Pollution Discharge Elimination System Permit Regulation and Effluent Limitations Guidelines and Standards for Concentrated Animal Feeding Operations; Proposed Rule, 66 Fed. Reg. 2960, 3006 (Jan. 12, 2001). It is not appropriate to automatically carry over this exemption to another form of waste technology, especially given the fact that there are alternatives available to contain the waste under these circumstances. EPA also acknowledges that “[s]ection 101(a) of the Clean Water Act states that elimination of discharges down to zero is to be achieved where possible.” Id. There are numerous technology evaluations currently underway to

contain the manure of all animal types that strive to achieve a zero discharge standard. The proposed 25-year, 24-hour storm exemption would undercut these efforts by encouraging less ambitious waste treatment technologies that allow discharges in certain circumstances.

A) Ecology Should Abandon The 100-Year, 24-Hour Exception To The “No Discharge” Effluent Limitation

The Second Circuit invalidated EPA’s decision to allow CAFOs to comply with a no discharge effluent limitation “by designing, operating, and maintaining a facility to contain the runoff from a 100-year, 24-hour rainfall event . . .” Waterkeeper Alliance, at 59. The court found “it obvious that *substantially preventing* discharges is not the same as prohibiting them outright.” Id. Therefore, Ecology must reconsider its decision to allow a 100-year, 24-hour exception to the no discharge effluent limitation for new source swine, poultry, and veal Large CAFOs. As stated in our original comments, the technology is available and economically feasible to require that new source large CAFOs comply with a no discharge effluent limitation, with no exception.

IX. The Nutrient Management Plan Scheme Does Not Comply with the CWA

Instead of requiring individual NPDES permits for all CAFOs, DOE has required the adoption of nutrient management plans (“NMPs”) to “address manure and process wastewater collection, storage, and transfer; production area management; land application; testing; record keeping etc.” Fact Sheet at 9. In other words, DOE relies upon NMPs as the mechanism to achieve compliance with the CWA. In order for this scheme to work successfully, several changes must be made to both the NMPs and the process used to approve and implement the NMPs, including clear language that the terms of the NMPs are directly incorporated into and enforceable through the NPDES permit. We applaud DOE’s decision to comply with the law by incorporating NMPs as an effluent limitation within the permit. However, the changes recommended below are still necessary to ensure full compliance with the CWA.

A) NMP Must Include Mandatory Land Application Standards

The general permit sets forth general guidelines to be followed should a CAFO land apply manure, litter or process wastewater. In these guidelines, we strongly urge DOE to clarify that the NMP includes all land application areas, even those off-site of the CAFO. It would be illogical to exclude sprayfield runoff because the spray fields are an integral part of the waste management system, even if they do occur off-site. The spray fields serve both treatment functions (by removing nutrients and sediment from the waste stream through crop uptake and atmospheric deposition) and disposal functions. Consequently, any runoff from the spray fields constitutes a discharge of pollutants from a point source and must be subject to the no discharge effluent limitation. This should be true even if the runoff occurs when the manure, litter or wastewater is being applied at agronomic rates. If a discharge occurs when the manure, litter or wastewater is being applied at agronomic rates, then this is a clear signal that the agronomic rates need to be revisited and adjusted so that no discharges occur. Failing to include all land application areas in the NMP, including off-site disposal areas, will cause confusion and undermine efforts to encourage the use of superior waste treatment systems in order to protect and enhance existing water quality. Therefore, DOE should amend their definition of “land application area” so that it includes *all* off-site lands to which the CAFO’s manure, litter or wastewater is applied. An example of a definition that would take this into account is: “land application area means any land, whether it is owned, rented, leased or used by the CAFO owner or operator, to which manure, litter or process wastewater from the production area is or may be applied.” This definitional change will ensure that a CAFO is responsible for all waste produced at their facility.

We applaud DOE’s decision to require a 100-foot setback, but urge DOE to require as much as a 500-foot setback in certain situations. For example, more protection is needed between spray fields or land

applications sites and surface waters, wetlands, drainage ditches, tile inlets and drinking water wells. Setbacks from surface waters are essential to protect water quality.

It is imperative that DOE replace its general guidance concerning land application rates with specific criteria defining improper land application. The language used in Section S3 is far too discretionary. Given the permitting structure selected by DOE, appropriate land application practices are a key component to the success of permits in protecting our waterways. The permit must include language that land application practices must not degrade water quality or place public health at risk. Land application that does not meet at least the criteria below should be considered improper given the likelihood of degrading water quality:

- Rates of land application must be based on the most limiting factor for the site: phosphorus, nitrogen, salts, and/or heavy metals and other pollutants of concern. Rates of land application must be calculated using all sources of nutrient inputs for the site, crops grown on the site, and realistic crop yields. Soil and waste tests must be conducted regularly to ensure that application rates are appropriate.
- The method used to apply waste is a critical factor in determining impacts on waterways and local communities. Waste **must** be injected or incorporated directly into the soil in order to prevent ammonia volatilization.¹⁹
- Manure application on ice, snow, frozen or saturated soil must be prohibited. Manure should not be applied during any precipitation event or when precipitation is expected in the next 24 hours. Additionally, land with a slope of more than 10% must not be used for land application of waste, and for more moderately sloped land, measures should be required to control erosion. Land application must not be allowed on karst topography, sandy soils, playa lake areas, wetlands, prior converted croplands, areas with intermittent or ephemeral streams, or those areas with excessive erosion.
- CAFO operators and contractors must be prohibited from applying waste to land when the soil already contains high levels of nitrogen or phosphorous. It can take years to bring down phosphorous levels in soils with high phosphorous concentrations, a process that will take much longer if phosphorous application continues to be applied in the same manner on these soils. CAFOs should be allowed to continue to apply waste onto land only if the soil phosphorus test is below the phosphorous threshold level.
- Buffer strips, berms and/or tailwater recovery ponds along ecologically sensitive areas, such as wetlands, waterways, or special habitat should be required.
- Wastes or waste waters should not be land applied within 500 feet of houses, schools, offices, religious and community centers, and other habitable structures.

¹⁹See Environmental Quality Board, Generic Environmental Impact Statement on Animal Agriculture: A Summary of the Literature Related to the Effects of Animal Agriculture on Water Resources, University of Minnesota, College of Agricultural, Food and Environmental Sciences (November 1999), p. G-145 (reporting that several studies have found that if manure is not incorporated into the soil, more than half of the manure is lost, presumably to volatilization. See also Pennsylvania State University, Atmospheric Disposal of Manure Nitrogen (Oct. 1993), available at http://www/inform.um.../ATMOSPHERIC_DISPOSAL_OF_MANURE_NITROGEN.htm (finding that soil-incorporated manure may release as little as one-tenth of the ammonia emitted from surface-spread manure, other factors being equal).

- Wastes or waste waters should not be land applied within 100 feet of a property line or a drain tile intake; within 300 feet of a water of the United States; within 500 feet of public or private wells or in such places with a direct hydrological connection to such wells; within .25 mile of any outstanding water, wild & scenic river or water quality limited water.

The list described above must be required, not simply “considerations” because the CAFO undoubtedly will consider the bottom line rather than these protective measures. These practices should be required, as part of the CAFO General Permit, to be in every NMP.

B) NMPs Must Be Approved By DOE And Drafted By A Specialist

In order to comply with the CWA, NMPs must be submitted to DOE, **not** DOA because DOA has not been delegated any authority to implement and enforce the CWA. (See previous discussion concerning improper delegation of CWA authority to DOA). Because DOE has decided to authorize general, instead of individual, NPDES permits, for CAFOs, NMPs are the only place where site-specific considerations are taken into account. Only DOE, not DOA, has the information and knowledge about discharges or other environmental concerns that are occurring within a particular watershed. Therefore, to ensure that waterbodies are protected on a watershed basis, DOE must have a role in approving an NMP for a particular CAFO.

In addition, for an NMP to be effective, it must be drafted by a certified specialist and the general permit must include a provision mandating such a requirement.

C) NMP Must Be Available For Public Review In Spite Of Claims Of Confidential Business Information Exception

We appreciate DOE’s decision to comply with the law by incorporating NMPs as technology-based effluent limitations guidelines within the NPDES permits. The Ninth Circuit’s decision in Environmental Defense Center v. EPA, 319 F.3d 398, 427-28 (9th Cir. 2003), holding that public hearing on notices of intent for coverage under a general NPDES permit must be held, similarly requires that NMPs be part of the permit application. The NMPs are undoubtedly a critical component of the proposed permits. In fact, the NMPs are the primary mechanism to ensure CWA compliance. Without them available for public review and public hearing before issuance of a permit, whether general or individual, DOE will be in violation of the Ninth Circuit’s ruling. The Second Circuit’s decision merely reinforces this legal principle.

DOE continues to leave the door open for CAFOs to prohibit the public from reviewing NMPs if the CAFO alleges the NMP contains confidential business information. However, as the Second Circuit held, because the terms of the NMPs are effluent limitations, they *must* be disclosed as part of the NPDES permit. See 40 C.F.R. § 2.302(a)(2)(I) (any information “necessary to determine the identity, amount, frequency, concentration, temperature, or other characteristics (to the extent related to water quality) of any pollutant” constitutes “effluent data” that cannot be withheld); RSR Corp v. Browner, 924 F. Supp. 504, 510-12 (S.D.N.Y. 1996), *aff’d* RSR Corp. v. Browner, 27 ELR 20822 (2d Cir. 1997) (holding that when a NPDES permit describes effluent limitations in terms of allowable discharge per unit of production, information revealing rate of production is not confidential business information protected from disclosure under FOIA). The D.C. Circuit has previously upheld EPA’s determination that “[i]nformation contained in NPDES permits and permit applications is not entitled to confidential treatment because Section 402(j) of the CWA mandates disclosure of this information to the public, notwithstanding the fact that it might be trade secrets or commercial or financial information.” 66 Fed. Reg. 2960, 3035 (March 22, 1978) (preamble, referencing Class Determination 1-78); Natural Resources Def. Council v. Envntl. Prot. Agency, 822 F.2d 104 (1987). The court concluded that a business could be required to “provide confidential information where the Government had a legitimate regulatory interest in protecting the environment and public health.” *Id.* (citing Ruckelshaus v. Monsanto Co.,

467 U.S. 986, 1007 (1984)). Therefore, even assuming the information in a NMP could qualify as confidential business information, which it is not,²⁰ it must be still disclosed because it is an effluent limitation in the NPDES permit.

X. Technology Is Available To Impose A Zero Discharge Standard (Without a 25-year, 24-Hour Storm Exemption)

The CAFO general permit should require that existing operations synthetically line and cover their lagoons to prevent further contamination and should also require the construction of berms around existing lagoons in order to retain waste from bursting lagoons. Other industries that store hazardous substances are required to have secondary containment. So too should CAFO lagoons, especially given the CAFO industry's history of water pollution problems. Whenever possible, all new CAFOs should be required to adopt sustainable animal production systems that protect air, surface, and water resources, such as the use of composting and the installation of covered lagoons. In addition to ensuring that the technology standards the agency requires do not harm surface water, we urge the agency to use all available mechanisms, including the Safe Drinking Water Act, Resource Conservation and Recovery Act, the Emergency Planning and Community Right to Know Act, the Comprehensive Environmental Response, Compensation and Liability Act and the Clean Air Act, to prevent contamination of groundwater and air pollution by CAFOs.

The Best Available Technology ("BAT") standard must establish effluent limitations that utilize the latest technology to reach 'the greatest attainable level of effluent reduction which could be achieved.'" NRDC v. EPA, 863 F.2d 1420, 1431 (9th Cir. 1988). "BAT should represent a 'commitment of the maximum resources economically possible to the ultimate goal of eliminating all polluting discharges.'" Id. at 1426. Indeed, "Congress intended [BAT limitations] to be based on the performance of the single best-performing plant in an industrial field." Texas Oil & Gas Ass'n v. United States EPA, 161 F.3d 923, 928 (5th Cir. 1998). "[I]f the effluent reduction is technologically feasible and economically achievable [to the industry as a whole], *it must be employed.*" 92 Cong. Rec. S2770 (1972) (emphasis added).

One simple BAT requirement in all permits should be that all lagoons be synthetically lined and covered. Some facilities around the country have employed these practices and it has shown to significantly reduce water pollution. Because it is technologically feasible, it is Ecology's duty to ensure that these practices be utilized in order to protect the human health and environment of Washingtonians.

Sewage treatment technology is another available technology to treat CAFO waste. For decades, scientists have worked to develop the safest and most cost effective manner to treat the massive quantities of sewage generated by human populations in urban areas before it can be released to the environment. Animal waste generated by CAFOs is considerably more hazardous and prolific than human waste. DOE should require sewage treatment technology for CAFOs within the state of Washington.

EPA has already recognized that sewage treatment for CAFOs is both necessary and reasonable, as evidenced by its consent decree in Citizens Legal Environmental Action Network, Inc. v. Premium Standard Farms, Inc., Civ. Act. No. 97-6073-CV-SJ-6 (U.S. Dist. W. D. Mo. 2001), available at <http://es.epa.gov/oeca/ore/water/psf.html>. To resolve complaints of pollution to air and water, EPA is requiring

²⁰In fact, a court in Idaho recently held that information contained in NMPs, including cropping practices, nutrient application, irrigation management, crop rotation, animal numbers, manure amounts and amounts of nutrients in manure is not a trade secret or production record that can be withheld from public disclosure. See Idaho Conservation League, Inc. v. Idaho State Dep't of Agriculture, CVOC 0407248D (Memorandum Decision & Order) (Id. 4th Dist. Feb. 25, 2005) (Exhibit A).

a hog CAFO to construct a wastewater treatment system. In the consent decree, the system is described as one that will require the following:

- permeable covers on each lagoon for odor control and gas emissions reduction;
- transfer of the daily inflow (on average) from each existing lagoon to a central nitrification and denitrification system;
- covered anoxic basin (with synthetic liner) for nitrate and biochemical oxygen demand reduction;
- covered aeration basin (with synthetic liner) designed for ammonia conversion to nitrate through nitrification (with recycle to anoxic basin);
- open biosolids storage basin (with clay liner) for settling and further dinitrification;
- open irrigation storage basin (with clay liner) for storage of treated effluent prior to land application.

Washington should require sewage treatment for CAFOs as well.

XI. DOE Must Do More To Adequately Protect Washington's Precious Groundwater Resources

A. DOE Should Adopt A Zero-Discharge Standard For Groundwater

The undersigned are pleased with DOE's attempt to regulate discharges to groundwater through the adoption of a groundwater effluent limitation in this general permit. However, given the history of groundwater contamination caused by these facilities, DOE should remove the "public interest" exemption and should require a zero discharge effluent limitation for discharges to groundwater. The language in the general permit must be clarified and strengthened to demonstrate that preventing leakage to groundwater is an enforceable requirement under the permit. DOE should also clarify that the no-discharge effluent limitation applied to surface waters also applies to discharges to ground water that is hydrologically connected to surface water. Such an approach is consistent with case law interpreting the applicability of the CWA.

Numerous scientific studies have documented groundwater contamination caused by wastewater seepage from both lined and unlined lagoons. See generally Cesspools of Shame, NRDC and Clean Water Network (July 2001). For example, researchers in Kansas found that the four clay-lined swine lagoons they studied leaked between 0.05 and 0.08 inches a day, which translates to between 0.99 million and 4.35 million gallons per year, or 19.8 to 87.1 million gallons of waste over the twenty-year life of the lagoons.²¹ Thus, in essence, waste storage lagoons themselves are point sources of water pollution. Groundwater quality can be enhanced by imposing a zero-discharge groundwater effluent standard or by phasing out the use of lagoons altogether.

At the very least, Ecology should impose a zero-discharge groundwater standard for those CAFOs that are within the vicinity of groundwater wells that are used for domestic purposes. There is no reason that the citizens of Washington state should pay (both economically and with their lives) for groundwater contamination caused by CAFOs.

B. DOE Should Require Waste Storage Practices To Protect Groundwater

It is undeniable, based on the scientific studies previously discussed, that lagoon and other liquid manure systems all leak unless they are properly synthetically lined. In addition to imposing a zero discharge

²¹ See Craig Volland, QEP, "Critique of the Kansas State University Lagoon Research Project," Spectrum Technologies, Kansas City, Kansas (August 7, 1998), p. 1, *available at* <http://www.ukansas.edu/~hazards/lagoon/lagcrit.html>.

standard for discharges to groundwater, we recommend that DOE require the following waste storage practices in order to limit the impacts associated with CAFO manure storage.

Groundwater protection must be a high priority in the design, operation, and maintenance of all CAFOs. The general permit should specify that waste and wastewater not be placed directly in or allowed to come into contact with groundwater. In order to effectuate this purpose, large CAFOs must be required to prove, as part of an NPDES application, that there are no impoundments hydrologically connected to any surface waters. Any discharge to groundwater should constitute a violation of the general NPDES permit. Additionally, the minimum separation distance between the lowest point of the lagoon and a waste storage pond and the seasonal high point of the water table beneath the lagoon should be at least 15 feet. New and expanding CAFOs should be required to meet this standard immediately while existing CAFOs must do so within 5 years or before an NPDES permit is reissued, whichever comes first. All liquid waste storage facilities must be synthetically lined to protect ground water. In addition, existing CAFOs with manure storage facilities that may drain into an agricultural drainage well must close the wells within 2 years. No new manure storage facilities may be built in areas that drain into agricultural drainage wells. All liquid manure storage systems must be covered to prevent overflows, breaks, and spills.

At a minimum, dry manure must be stored in covered, concrete-lined structures which prevent precipitation from entering the structure and storm water from running through it. Composting of dry manure should be encouraged in order to reduce the volume of the waste, stabilize the nutrients, and reduce the pathogen load of the waste.

C. DOE Should Impose A Full-Scale Groundwater Monitoring Program

Groundwater quality should be tested on a regular basis to ensure compliance with the groundwater effluent limit. It is illogical to impose a groundwater effluent limitation, but not require some sort of groundwater monitoring to ensure that this standard is being met. In addition, baseline ground water monitoring should be required before a new facility is constructed or granted coverage under the CAFO general permit. There may be some instances where an aquifer is so contaminated that it would be lethal to public health to allow a new CAFO facility to further degrade the ground water.

Because many residents of Washington rely on groundwater to supply their domestic needs, a full scale groundwater monitoring program is needed to protect the health of these residents. Animal waste contains non-nutrient components such as bacteria, viruses, antibiotics, metals, and salts. In fact, researchers have found that the bacterial indicator levels in hog lagoon effluents are much higher than permissible levels established for municipal wastewater effluents discharged to land or water.²² EPA has noted that, “bacteria and viruses such as *E. coli*, salmonella, and giardia found in dairy waste can contaminate drinking water, cause acute gastroenteritis and fever, kidney failure, and even death.”²³ Scientists have concluded that water contaminated by animal manure significantly contributes to human diseases, particularly from water-borne infections.²⁴ Researchers in North Carolina have found high fecal coliform counts in waterways even more than 60 days after a waste spill

²² V.R. Hill and M.D. Sobsey, “Microbial Indicator Reductions in alternative Treatment Systems for Swine Wastewater,” *Water Science and Technology* 38 (12): 119-122 (1998).

²³ U.S. Environmental Protection Agency, “California’s Dairy Quality Assurance Program, Fact Sheet” (September 1999), p. 2.

²⁴ Jeffrey C. Burnham, “Manure Pathogens: Real Issues & Real Risks,” The J.C. Burnham Company, Naples, Florida (July 1999).

from a CAFO.²⁵ Furthermore, manure can contain trace elements of arsenic, copper, selenium, zinc, cadmium, molybdenum, nickel, lead, iron, manganese, aluminum, and boron; many of these pollutants are added to animal feed as growth stimulants and others are found in pesticides applied to the animals as insect repellent.²⁶ CAFO waste also contains substantial quantities of antibiotics.²⁷ Washington's general CAFO permit needs to require a full-scale groundwater monitoring program to protect the health of Washingtonians from this litany of ill effects.

Giving the CAFO the choice to use groundwater monitoring, rather than requiring such monitoring, does not solve the problem. The use of soil sampling is a good first step, but it does not adequately ensure that groundwater contamination is not occurring. Soil sampling only analyzes the top layer of the land application area and does not adequately reflect the saturation and contamination that may have occurred in the groundwater aquifer. Only groundwater monitoring can present an accurate picture of the extent of contamination that is undoubtedly occurring. (See a more full description of this issue below).

XII. Monitoring & Reporting Requirements

Perhaps the part of the permit that best demonstrates DOE's assumption that water pollution from CAFOs is not a significant problem in Washington is the monitoring and reporting requirements, or lack thereof. Instead of exempting CAFOs from traditional monitoring, record keeping and reporting requirements, DOE should mandate that the requirements that are imposed on other industrial dischargers be similarly required in the CAFO general permit. There is no reason to treat CAFOs differently than any other discharger in any other industry. In fact, given the well-documented history of water pollution caused by CAFOs and DOE's own recognition that CAFOs may contribute up to 60% of Washington's water pollution, the monitoring and reporting requirements should be more stringent for CAFOs.

At a minimum, the waste, soil at land application areas (including those off-site), groundwater near storage facilities, and surface waters that pass through or adjoin the CAFO or off-site land application areas must be monitored. This monitoring and reporting will provide a means to ensure that the CAFO is complying with all permit conditions, including the NMP. Monitoring results should be submitted to the DOE on a quarterly basis, as is commonly done in many NPDES permits for other industries. In addition, the permittee must provide all monitoring records, visual inspection logs, land application records, soil tests, animal waste analyses, and other facility information to state authorities at least quarterly. Moreover, this information must be made publicly available. The onus is on DOE to ensure that these CAFOs are complying with their permits. A facility's compliance history should not have to be demonstrated by the litany of citizen complaints filed by neighbors who want to protect their property, health and rural ways of life.

²⁵ Michael A. Mallin, "Impacts of Industrial Animal Production on Rivers and Estuaries," *American Scientist*, (January-February, 2000), p. 26-37; JoAnn M. Burkholder et al., "Impacts to a Coastal River and Estuary from Rupture of a Large Swine Waste Holding Lagoon," *Journal of Environmental Quality*. Vol. 26, no. 6, Nov.-Dec. 1997.

²⁶ U.S. Environmental Protection Agency, Office of Water, *Environmental Assessment of Proposed Revisions to the National Pollutant Discharge Elimination System Regulation and the Effluent Guidelines for Concentrated Animal Feeding Operations* (January 2001), EPA-821-B-01-001, p. 2-14.

²⁷ Center for Disease Control, *Report to the State of Iowa Department of Public Health on the Investigation of the chemical and Microbial Constituents of Ground and Surface Water Proximal to Large-Scale Swine Operations* (1998).

A) Animal Waste Must Be Monitored And Analyzed

The animal waste must be monitored, at a minimum, annually and when there is any change in the feed additives of hormones, antibiotics, or heavy metals as well as any significant change in nutrient content of the feed. The waste must be analyzed for at least the following parameters: pH, nitrogen, ammonium, phosphorous, BOD, percent solids, hormones, antibiotics, pathogens, heavy metals, and any other pollutant of concern.

Constituents that must be monitored include antibiotics and antibiotic resistant strains of bacteria. The waste generated by CAFOs is often laden with antibiotics and antibiotic resistant bacteria that are then released into the environment. The presence and persistence of antibiotic and multiple antibiotic resistant bacteria in soils, sediment, sewage, surface and groundwater, and municipal drinking water is a continuing public health concern. Many bacteria, viruses, and protozoa, some of which are pathogenic to humans, live in the intestinal tract of livestock. The intestinal tract of livestock can also contain antibiotics and antibiotic resistant bacteria, much of which pass directly out of the animals and into the environment where animal waste is stored, sprayed, or applied. The recent incidences of mad cow disease only highlight the importance of monitoring the waste that is generated by CAFOs.

B) Groundwater Monitoring Must Be Required

The undersigned applaud Ecology's decision to require either soil testing or groundwater monitoring, as this is a big step towards ensuring that CAFOs do not exacerbate the groundwater contamination that has already occurred. However, all CAFOs utilizing lagoons, waste storage ponds, or manure storage tanks should be required to install at least one up-gradient and two down-gradient monitoring wells at a depth which the agency considers appropriate, based on site-specific ground water levels and lagoon depth, around the waste storage facility in order to monitor for seepage of waste from the lagoon. Monitoring parameters must include ammonia, nitrate, fecal coliform, total coliform, total chlorides, and total dissolved solids (TDS). Monitoring results must be reviewed regularly by facility staff. CAFOs in vulnerable areas must conduct additional groundwater monitoring.

Similarly, CAFOs must be required to monitor the groundwater beneath the production area as well as groundwater beneath the land application area on at least a bi-monthly basis and submit these results to the permitting authority. Most importantly, CAFOs must immediately, and in no case more than one hour from the beginning of the spill or discharge (not 24 hours as stated in the draft permit), report any waste spills or other discharges to Ecology (and DOA) in order to ensure timely corrective action and public notification in order to mitigate harm to aquatic life and threats to public health.

In many areas of the country, the level of the groundwater table fluctuates in response to rainfall and varies with the seasons such that certain times during the year the groundwater table can be much higher than other times of the year.²⁸ During these periods when the groundwater table is high, risk of groundwater and surface water contamination from the production area can be significant. The ability of shallow groundwater tables to act as waste conduits, often to nearby surface waters, are prevalent during high irrigation activity. More frequent groundwater sampling must be performed in order to ensure that groundwater, surface water, and drinking water supplies are protected. Groundwater monitoring must be a condition in a CAFO's permit, and as such, CAFOs must be required to submit the results of groundwater monitoring to the permitting authority, as is

²⁸ William J. Andrews, *Reconnaissance of Water Quality at Nine Dairy Farms in North Florida*, 1990-91. U.S. Geological Survey Water-Resources Investigations Report 92-4058, Tallahassee, Florida 1992.

the typical requirement for NPDES permits.

No CAFOs should be exempt from regular groundwater monitoring, which is necessary to provide long-term protection to our surface waters. Surface waters across the country are impaired due to CAFO discharges to groundwater. For example, groundwater contaminated with salts and nitrates in California's Chino Basin flows into the Santa Ana River, which is used as a recharge source for the drinking water aquifer in Orange County.²⁹ A 1990 report found dairies contributed up to 88 percent of the agricultural salt load in the basin.³⁰ The onus should not be on the citizens of Washington state, countless numbers of whom are forced to test their own groundwater for fear of contamination from CAFO wastes.

C) Surface Water Monitoring Must Be Required

Water quality monitoring must be performed in drainage ditches and in any stream, river, or lake that borders the facility or application lot upstream and downstream of the facility or lot borders. In addition, in land application fields with drainage tiles, all drainage tiles should be prohibited. Failure to prohibit drainage tiles means that the tiles themselves are point sources. Such point source discharges are prohibited by the terms of the CWA and must be by permit as well. Monitoring samples must be analyzed for at least the following parameters: concentrations of total nitrogen, total phosphorus, total zinc, total copper, pH, ammonia, fecal coliform, and other pollutants, depending on the type of CAFO and type of hormones and antibiotics used. Monitoring must occur within 48 hours of manure applications, 25% of the time; after major storm events that occur within 48 hours of land application; and quarterly. Monitoring results must be reviewed regularly by facility staff. CAFOs in vulnerable areas should be required to conduct additional surface water monitoring, a requirement which should be part of an individual NPDES permit.

D) Groundwater Hydrologically Connected to Surface Water Must Be Monitored

All CAFOs should be required to monitor groundwater to prevent contamination of groundwater that is hydrologically connected to surface water. "Hydrologic connection" should be defined in the CAFO general permit and must be consistent with EPA Region 10's definition, which states that "hydrologic connection means the flow between surface impoundments and surface waters by means of a subsurface conveyance." EPA General Permit No. IDG010000 (May 27, 1997). Courts have found that discharging into groundwater that is hydrologically connected to a regulated surface waterway constitutes a discharge into "navigable water" for purposes of the CWA. See *Quivira Mining*, 765 F.2d at 130 (affirming EPA's determination that the CWA required a permit for discharges into surface arroyos that, during storms, channeled rainwater both directly to streams and into underground aquifers that connected with such streams); *United States v. Earth Sciences*, 599 F.2d at 371; *Friends of Santa Fe County v. LAC Minerals, Inc.*, 892 F. Supp. 1333, 1357-58 (D.N.M. 1995) ("most courts to have considered the issue have held that hydrologically connected ground waters are regulated waters of the United States"); *Williams Pipe Line Co. v. Bayer Corp.*, 964 F. Supp. 1300, 1319 (S.D. Iowa 1997) (same); and *Sierra Club v. Colorado Refining Co.*, 838 F. Supp. 1428, 1434 (D. Colo. 1993) ("navigable waters" encompasses tributary groundwater).

Numerous courts within the jurisdiction of the Ninth Circuit have adopted this view. See *Northern California River Watch v. City of Healdsburg*, 2004 WL 201502 at *12 (N.D. Cal. Jan. 23, 2004) (holding that

²⁹ Marla Cone, "State Dairy Farms Try to Clean Up Their Act," *Los Angeles Times* (April 28, 1998).

³⁰ California Regional Water Quality Control Board, Santa Ana Region, *Dairies and Their Relationship to Water Quality Problems in the Chino Basin* (July 1990).

adjacent wetlands and subterranean groundwater that flows through it are tributaries of the Russian River and finding persuasive the holding that the CWA “extends federal jurisdiction over groundwater hydrologically connected to surface waters that are themselves navigable waters.”); Idaho Rural Council v. Bosma, 143 F. Supp. 2d. 1169, 1180 (D. Idaho 2001)(same); Washington Wilderness Coalition v. Hecla Mining Co., 870 F. Supp. at 989-90 (E.D. Wash. 1994) (finding CWA jurisdiction where pollution discharged from manmade ponds seeps into soil and groundwater and, therefore, surface waters; and holding that the CWA regulates pollutants entering navigable waters via tributary groundwater); McClellan Ecological Seepage Situation v. Cheney, 763 F. Supp. 431, 438 (E.D. Cal. 1989), *vacated on other grounds*, 47 F.3d 325 (9th Cir. 1995), *cert denied*, 116 S.Ct. 51 (1995) (allowing plaintiff to prove at trial that pollutants discharged to groundwater are subsequently discharged to surface water).

XIII. The CAFO General Permit Must Address Closing Operations

The general permit does not address the increasing problems associated with abandoned lagoons. Across the country, abandoned lagoons are being found at an alarming rate. At a minimum, Washington should require that CAFOs that cease operations must maintain permit coverage unless and until waste storage lagoons are properly closed and reclaimed.

XIV. Off-Site Transfer of Manure

Ecology must ensure that waste transferred off-site does not foul our waterways or jeopardize the health of Washingtonians. Ecology must manage animal waste from cradle to grave, which in this case is from the CAFO to the place where the waste is ultimately applied. The draft permit, as written, only requires that the person to whom the waste is transferred receives the most current nutrient analysis. This practice is akin to a chemical plant putting its waste in drums and giving it to its neighbors to dump into the river, free from regulation! To ensure that the off-site transfer of CAFO wastes does not create a loophole for CAFOs to evade land application requirements based on soil uptake, the recipient of the waste must be a part of the CAFO's NMP. This is the only way to ensure that the recipients of the waste apply them in accordance with proper agricultural practices. In the certification that the recipients provide to the CAFO supplying the waste, the recipient should acknowledge that its waste application activities are subject to both the CAFO general permit and the supplier-CAFO's NMP. The recipient's failure to comply with the terms and conditions in the CAFO general permit and the supplier's NMP must remain the responsibility of the CAFO permit holder because the CWA is a strict liability statute. Furthermore, it is essential for the CAFO to maintain export information, transport records, and to provide the manure hauler or manure recipient with site-specific management information. These provisions must be included to prevent the CAFOs from exempting themselves from CWA liability by simply transporting their wastes off site. In addition, the definition of “land application area” should be amended as described above.

It is imperative that DOE recognize that the off-site transfer of manure has become the norm for CAFOs in Washington state. This is the case because the CAFOs have become so large that the amount of land that is available is typically only large enough to contain the animals. Indeed, there are specific dairies in the Yakima Valley and elsewhere that dispose of nearly all of their waste off-site. The result of this system has been the creation of a “manure super highway.” There has been so much manure on the roads from a dairy in Sunnyside that residents have reported they have not been able to get their mail from a roadside mailbox without getting their boots soiled with manure. One resident reported that a paved road that was used to transfer dairy manure off-site became a packed manure road for nearly 3/8 of a mile. This road-application of manure not only creates a health hazard, but there is a high likelihood that it will run-off into roadside ditches and canals in violation of the CWA. Furthermore, it creates a safety hazard. In Sunnyside, there was a spill of liquid manure on the road which turned the road into an ice rink the next morning. A child walking to school should not have to do so knee high in manure from a CAFO. For these reasons, DOE needs to craft provisions in the General

Permit that prevent these kinds of problems associated with the off-site transfer of manure.

XV. The Permit Must Impose Strict Liability For Discharges

Section S1 of the Permit states that: “Discharges to waters of the state may not cause or contribute to a violation of the water quality standards in the receiving water. The CAFO must minimize all discharges to the extent possible.” Requiring CAFOs merely to “minimize” discharges to waters of the United States violates the strict liability standard of the CWA. The CWA imposes strict liability for NPDES violations and courts have held that a defendant's intent and good faith are irrelevant for purposes of whether they violated the CWA. See, e.g., United States v. Earth Sciences, Inc., 599 F.2d at 374; Save Our Bays and Beaches v. City of Honolulu, 904 F. Supp. 1098, 1105 (D. Hawaii 1994); California Public Interest Research Group v. Shell Oil Co., 840 F. Supp. 712, 714 (N.D. Cal. 1993). Therefore, Ecology is legally obligated to remove the language that a “CAFO must minimize all discharges to the extent possible.” CAFOs have the strict responsibility to ensure that no discharges occur. If there is a discharge, a CAFO must be fully responsible for cleaning it up and paying for any necessary mitigation measures.

XVI. Ecology Should Impose A State-wide Moratorium On Issuing NPDES Permits To New CAFOs Or Existing CAFOs That Seek To Expand

Because of the amount of water pollution created by CAFOs and given Ecology's history of being unable to enforce and implement the CWA on this industry, Ecology should impose a state-wide moratorium on the issuance of NPDES permits to new CAFOs or those CAFOs that seek to expand their operations. A moratorium at this point is especially appropriate given the fact that the legal obligation to inspect CAFOs and ensure their compliance with all relevant laws has recently been transferred, however improperly, to the DOA. Undoubtedly there are administrative hurdles associated with this transfer of authority and the public health and environment should not be impaired as a result. The moratorium should not be lifted unless and until Ecology and DOA have established and sufficient resources to inspect these industrial facilities on a regular basis, ensure compliance with all CWA provisions and be able to take appropriate enforcement actions when there is a discharge to surface or ground water. Residents in the Yakima Valley have reported that it often takes 17-23 days for an agency to respond to a reported discharge. This is unacceptable and shows that Ecology is not presently able to enforce the CWA against these dairies. Thus, a moratorium on the issuance of permits for new or existing CAFOs that seek to expand is appropriate at this time.

XVII. Ecology Should Adopt An Effluent Limitation To Reduce The Introduction Of Pathogens

The Second Circuit noted that EPA repeatedly acknowledged “the presence of pathogens in animal wastes and the potential risk they pose to human health and the environment.” Waterkeeper Alliance, at 55. However, in the final national CAFO Rule, EPA declined to impose an effluent limitation guideline that would reduce the introduction of pathogens into the environment. The Second Circuit invalidated EPA's failure to address the pathogen problem because “[t]he [CWA] requires that the EPA select the best pollutant control technology for reducing pathogens, and [the court] must enforce that requirement.” Id. at 56.

Ecology has similarly recognized the dangerous pathogens found in animal waste. Washington Draft CAFO Permit Fact Sheet at 5. However, there is no indication that Ecology imposed an effluent limitation guideline that sufficiently ensures that these pathogens will not be introduced into the environment. Ecology must take further steps to ensure that the citizens of this state are adequately protected from the introduction of pathogens from CAFO operations.

XVIII. Ecology Should Require All CAFOs To Obtain Coverage Under A NPDES Permit

Ecology should require that *all* CAFOs be covered under a valid NPDES permit. The state is allowed to enact more stringent requirements than the federal government concerning the type of activities that must be regulated under a NPDES permit. As demonstrated above, the CAFO industry has repeatedly discharged pollutants into waters of the state and thus should be required to be regulated under the NPDES program.

XIV. Conclusion

Thank you for the opportunity to comment on Washington's Draft CAFO General Permit. The CAFO industry has been transforming the West in ways never foreseen. It is imperative that Ecology institute the strictest measures possible in order to carry out the agency's mandate to protect human health and the environment from this industrial activity. We applaud Ecology's efforts thus far to draft a permit that will adequately protect the environment and citizens of Washington state. However, it remains clear that Ecology still does not recognize the documented water pollution problems caused by these facilities. Nor does Ecology seem to take into account this industry's deceitful, and often times openly defiant, history of noncompliance. Ecology must come to grips with the reality of the situation in order to craft an NPDES permit that would adequately protect Washingtonians. By implementing the above recommendations, the public health and environment will be better, but not entirely protected. We strongly urge you to carefully consider our comments, especially the specific examples we have provided to you documenting the devastating impacts these facilities have already had on the state of Washington.

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