Testimony of Richard J. Dove, Waterkeeper Alliance
SENATE COMMITTEE ON GOVERNMENT AFFAIRS
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OPENING STATEMENT

I want to thank Senator Lieberman and the other members of the Senate Committee on Government Affairs for scheduling these hearings and inviting me to testify before you. My testimony is presented on behalf of the Waterkeeper Alliance, a non-profit umbrella organization licensing and supporting more than 80 Waterkeepers protecting rivers, bays and other watersheds throughout the country. My testimony will address concerns about the negative impact of concentrated animal feeding operations (CAFOs) and EPA's failure to regulate such operations.

BACKGROUND

I am Rick Dove, and I have lived on the shores of the Neuse River near New Bern, North Carolina for over twenty-five years. In 1987, after retiring as a Colonel in the United States Marine Corps, I pursued a childhood dream and became a commercial fisherman. With three boats and a local seafood outlet store, my son Todd and I worked over 600 crab pots and more than 2,000 feet of gill nets. Things went well for the first two years. Then the fish began to die, many with open bleeding sores. At first it was only a few but, as time passed, the numbers grew larger and larger. Soon my son and I began to develop the same kind of sores on our legs, arms and hands. It took months for these sores to heal. I also experienced memory loss. At the time I did not connect my son's and my health problems to my work on the water—that connection was established later.

By 1990, the situation became much worse. More and more of the fish in the Neuse River were developing bleeding lesions. Regrettably, my son Todd and I had no choice but to stop fishing. Frustrated and disappointed, I grudgingly returned to practicing law. In 1991, the Neuse suffered the largest fish kill ever recorded in the state's history. Over one billion fish died over a period of six weeks during September and October. There were so many dead fish that some had to be bulldozed into the ground. Others were left to rot on the shore and river bottom. The stench produced by this kill was overwhelming and will never be forgotten.

In 1993, I became the Neuse Riverkeeper. In that capacity, I was a full-time, paid citizen representative of the non-profit Neuse River Foundation whose duty it was to restore, protect and enhance the waters of the 6,100 square mile Neuse River watershed. Due to ill health attributed in large measure from my exposure to the toxins in the river, my work as Neuse Riverkeeper ended in July 2000. A short biographical outline together with a detailed description of the Neuse Riverkeeper Program is attached as APPENDIX A

As the Neuse Riverkeeper, I was in a position, personally, to study the river, to work with scientists and state officials, and to closely monitor the various sources of pollution. I patrolled the river by boat, aircraft, vehicle and waders along with a corps of approximately 300 volunteers. All sources of pollution were exhaustively documented in thousands of photographs and hundreds of hours of video. By the time the next major fish fill occurred in 1995, I was in the best position to observe, report and document the cause and effect of one of the river's most serious problems, nutrient pollution.

In the 1995 fish kill, for over 100 days, fish were once again dying in large numbers. Nearly all of them were covered with open bleeding lesions. In just 10 of those 100 days, volunteers working with the Neuse River Foundation documented more than 10,000,000 dead fish. At that time, many citizens who were exposed to this fish kill complained about a number of neurological and respiratory problems. North Carolina health authorities documented these problems and wrongly dismissed them. Later, researchers working similar fish kills on Maryland's Pokomoke River would link these same symptoms to the cause of the fish kills, *Pfiesteria piscicida*.

By 1995, we knew what was killing the fish. It was *Pfiesteria piscicida*, a one-cell animal, so tiny 100,000 of them would fit on the head of a pin. This creature, often referred to as the "cell from hell" produces an extremely powerful neurotoxin that paralyzes the fish, sloughs their skin and eats their blood cells. It is capable of doing the same thing to

humans. This neurotoxin is volatized to the air and is known to cause serious health problems, including memory loss, in humans who breathe it. Its proliferation has been directly linked to nutrient pollution from CAFOs, as well as other sources. One of the most exhaustive websites related to Pfiesteria piscicida can be found at www.pfiesteria.com

The fish kills continue today. Depending upon weather conditions, some years are worse than others. Many smaller kills are not even counted. Fishermen continue to report neurological and respiratory symptoms, and a dark cloud still hangs over the state's environmental reputation and economy.

From an office located in North Carolina, I now serve as the Southeastern Representative of Waterkeeper Alliance. The Alliance's headquarters is located in White Plains, New York. A major part of my duties involves assisting other Waterkeepers and investigating and documenting the environmental degradation resulting from CAFO operations, especially those involving hogs. The background on the Waterkeeper Alliance is set forth at APPENDIX B.

INTRODUCTION TO THE AMERICAN MEAT FACTORY

American meat production is currently undergoing the most dramatic consolidation in our history. Family farmers are disappearing and ceding control of the American landscapes and food production to industrial meat factories owned by a handful of giant corporations with little or no interest in or capacity for socially responsible agriculture.

Meat factories do not produce meat more efficiently than traditional family farmers. The industry's willingness to treat the animals with unspeakable cruelty and to dump thousands of tons of toxic pollutants into our nation's waterways, and their ability to get away with it, however, has given it a dramatic market advantage over the traditional family farm. Indeed, the industry's business plan is based upon its ability to use its political clout to paralyze the regulatory agencies, thereby escaping the true costs of producing their product.

For a decade, the Neuse Foundation and its Riverkeeper Program have been the leading voice against industrial hog production in North Carolina and one of the nation's leading repositories for information on industrial meat production. In December of 2000, Waterkeeper Alliance launched a national campaign designed to reform this industry and to restore healthy wholesome landscapes and waterways and bring back humanity, prosperity and democracy to America's rural communities. The Alliance is partnering with animal welfare advocates, family farm advocates, other environmental groups and others concerned about rural life in America to fight hog factories in the courts, at all levels of legislative decision-making and before the public. The Alliance has also created an elite legal team of attorneys from fifteen prominent class action law firms who will use the courts to challenge the industry's control of America's rural landscapes and waterways. In February 2001,Waterkeeper staff attorneys and the legal team simultaneously filed a series of lawsuits against the industry in federal and state courts across the nation.

I. INDUSTRIAL PORK FACTORIES: A THREAT TO THE ECONOMY, THE ENVIRONMENT, AND OUR DEMOCRACY

A. Industrial Animal Factories, Invented in North Carolina, Now Threaten to Extinguish Family Farming in Thirty-Four States.

In the late 1980s, a North Carolina state senator, Wendell Murphy and his partners, Smithfield slaughterhouses, helped invent a new way to produce pork. Thousands of genetically enhanced hogs would be shoehorned into pens and tiny cages in giant metal warehouses, dosed with subtherapeutic antibiotics and force-fed growth enhancers in their imported feeds. Their prodigious waste would be dumped, sprayed, spilled and discharged onto adjacent landscapes and waterways. Within a few years, traditional North Carolina style hog farming gave way to the state's infamous pork factories mostly owned by a single corporation.[1] In 1983, there were approximately 24,000 hog farms in North Carolina. Today, traditional family hog farmers are virtually extinct in North Carolina, replaced by 2,200 hog factories, 1,600 owned and/or controlled by Smithfield. Pork factories owned by Smithfield and a tiny handful of other large corporations, known as integrators,[2] have now moved into thirty-four states and are effecting the most dramatic consolidation in United States agricultural history.

By gaining control of every aspect of pork production from feed for baby pigs, to slaughterhouse packaging plants, to rendering facilities and transportation, Smithfield and other industrial producers were able to drive down the price of pork - through overproduction - and drive independent family farmers out of business while making up their own losses through greater profits at their slaughterhouses and packing plants.[3] By late 1998, pork prices to farmers dropped as low as 10 cents per pound at a time when the feed cost of raising a pig was 30 cents per pound. Adjusted for inflation, farmers were getting less for their hogs than during the Great Depression. The American consumer never saw the benefits of this extraordinary price reduction. Pork prices in the grocery stores remained stable. The industrial producers, most notably, Smithfield, pocketed the profits at the slaughterhouses and thousands more family farmers went out of business.

The same process of vertical integration has bankrupted five out of six of America's hog farmers over the past 15 years and hammered a strong nail into the coffin of Thomas Jefferson's vision of a democracy rooted in family-owned freeholds. Approximately 70% of the swine raised in North Carolina are under Smithfield's ownership with an even higher percentage among the hog factories in North Carolina's fragile coastal flood plain, including the Cape Fear, Neuse and New River basins.

While hog barons often argue that industrial farming brings economic benefits to rural communities, the reality is the opposite. A mounting body of evidence proves that hog factories are bad for local economies and property values. Pork factories also cause a net loss of jobs. By machine-feeding hogs and keeping them continually confined, the pork barons have eliminated the need for animal husbandry. As few as two workers may tend a factory of 8,800 hogs. Each hog factory displaces three times as many jobs as it creates, replacing quality jobs with low wage itinerant workers.

What has happened to traditional hog farming is also happening to other areas of meat production. North Carolina also produces over 700,000,000 chickens and 40,000,000 turkeys in much the same way as it produces hogs—factory style. This shift from traditional family farming to industrial production (CAFOs) is now taking place across America.

B. A Tradition of Land Stewardship and Animal Husbandry is Disappearing with the American Family Farmer.

In the 1980's, the majority of pork production was still in the hands of efficient independent farmers who kept herds small enough that they could provide husbandry to the animals and manure production did not exceed fertilizer demand. The independent family farmer generally spreads the manure of a few hundred hogs as fertilizer on the same cropland from which he derives produce to feed his herd. Traditional farmers thus achieve a rough balance; growing crops that assimilate the nutrients in hog waste keeps these nutrients from flowing into adjacent waterways and leaching into groundwater.[4]

By contrast, industrial hog producers confine thousands of animals in warehouses, that produce tons of animal waste, liquefies that waste into open pits adjacent to the hog confinement areas, and sprays massive quantities of the liquefied manure onto fields too small to absorb the nutrients. Poison runoff from these fields destroys the public waters that drain them. Smithfield hog factories quickly triumphed over family farmers in the marketplace, not due to their greater efficiency, but because the company adopted the dual strategies of vertical integration and of circumventing environmental and anti-cruelty laws. Hog producers reap enormous benefits by escaping the costs of waste disposal and proper animal husbandry, and, in effect, transferring these costs onto society.

C. Industrial Pork Production Subjects Millions of Animals to Conditions that are Unspeakably and Unnecessarily Cruel

Factory meat production is an industrial rather than an agricultural enterprise. Animal husbandry is nonexistent. Industrial pork barons produce pork chops and bacon and the animals themselves are treated only as industrial production units. Genetic manipulation for meat production has produced hog breeds that are high strung and nervous. They live short miserable lives characterized by extreme cruelty and extreme terror.

By nature, pigs are active, inquisitive and intelligent, and they spend much of their time exploring ground cover and rooting for food. They are communal animals with a highly developed system of vocalization that they use in courtship, self defense and raising their young. The female pig, the sow, has a strong instinct to build a nest before giving birth. She will wean her young for several months and take care of them even longer.

In industrialized hog factories, pigs are raised in intensive confinement for their entire lives in huge windowless structures choked by their own foul stenches. Subject to disease from overcrowding and entirely deprived of exercise, sunlight, straw bedding, rooting opportunities and social interactions that are fundamental to their health, factory hogs are kept healthy only by constant doses of subtherapeutic antibiotics. Their growth rates are unnaturally sped-up by feed additives including antibiotics, hormones and toxic metals. Sows endure in tiny crates that are too small for them to turn around, giving birth on bare metal grate floors, their babies taken away after only three weeks of weaning. Driven by frustration and depression, sows continually gnaw on the metal bars of their crates. Severe restrictions on the pigs' movement over a lifetime impede bone development frequently resulting in broken legs. Injured pigs are "culled" sometimes by being dumped alive into waste lagoons. There are many accounts of brutal treatment of these animals, including teeth pulling, castration without anesthesia, and beating disabled sows unable or too terror stricken to walk to slaughter. According to the U.S. Humane Society**, *one in five of all factory-raised pigs die prematurely*,** before reaching the slaughterhouse.

In 1999, Smithfield made a major foray into Poland. At the invitation of the Animal Welfare Institute, Andrzej Lepper, the President of Poland's largest farmers' union, came to the United States and toured Smithfield hog factories. Mr. Lepper later recounted that he was shocked by what he saw in the American hog factories which he referred to as "animal concentration camps." He added that, "industrial husbandry methods of raising hogs are not in harmony with nature."

The Catholic Church Catechism holds that it is legitimate for humans to raise animals for food but also says that it is, "contrary to human dignity to cause animals to suffer or die needlessly." In December 2000, a Vatican official wrote that factory livestock operations, with their cramped and cruel methods, may cross the line of morally acceptable treatment of animals.

D. Pollution-based Profits

Industrial hog factories cram thousands of hogs into pens and cages for a lifetime over slatted concrete and metal grate floors.[5] Their waste falls though the floor to a cellar below the buildings that the operators periodically flush into an open air earthen pit, euphemistically referred to as a "lagoon." Flushing liquid comes from the lagoons themselves. These manure pits are really putrid cesspools one to twenty acres in size and up to fifteen feet deep, brimming with tens of millions of gallons of untreated feces, urine and toxic waste generally destined to ooze its way onto soils and into subsurface waters and rivers.

Using a variety of water cannons, hog factories spray this ***raw urine and fecal marinade*** from their waste pits onto adjacent land, ostensibly as fertilizer. Industrial hog factories illegally deposit hundreds of millions of pounds of untreated hog feces and urine and other contaminants into the sprayfields each year. However, the frightening tonnage of liquid and solid hog excreta generated by swine cities vastly exceeds the absorption capacity of the crops on sprayfields for nitrogen, phosphorous and metals. Most sprayfield are heavily ditched to carry subsurface and surface runoff directly to public waters.

These discharges overload public waterways with nutrients, injuring aquatic life and endangering human health. According to the federal Environmental Protection Agency, sixty percent of river miles, fifty percent of lake access, and thirty four percent of estuary acres are degraded by agricultural pollution, mostly from factory farms. In addition to nutrients, swine waste lagoons contain a witch's brew of nearly 400 volatile organic compounds and toxic poisons including pathogenic microbes (protozoas, bacteria, viruses), biocides, pesticides, disinfectants, food additives, salts, heavy metals (especially zinc and copper), antibiotics, hormones, and other materials.

Industrial pork producers' primary economic advantage has been their ability to have the public subsidize their waste disposal. A single hog can produce ten times the fecal waste and four and a half times the nitrogen produced by a human being. A hog factory with 100,000 hogs can produce fecal waste loads equivalent to a city of one million people.[6] According to a formula developed by Professor Mark Sobsey, University of North Carolina, School of Public Health (Chapel Hill), in ***North Carolina's environmentally sensitive coastal plain (area between the coast and I-95) hogs produce more fecal waste on daily basis than that produced by all the people combined in the states of North Carolina, California, New York, Pennsylvania, New Hampshire, North Dakota and Texas.*** While human waste must be treated at sewer plants or in septic systems, industrial pork producers simply dump thousands of tons of equally virulent and far more concentrated hog waste onto lands and into waters.

If hog factories were to construct sewer plants for each of their pork factories, as cities are required to do for human waste, it would raise production costs by upwards of $170 per hog. This is the equivalent of over sixty cents per pound at kill weight, a price that would destroy the industry's market dominance. Alternative treatment technologies, all of them less effective than conventional sewer treatment, would still raise production costs high above market levels.

E. Antibiotic Use Promotes Resistant Bacteria

Industrial meat producers routinely dose their animals with sub-therapeutic antibiotics for non-medical purposes, primarily to stimulate unnaturally rapid growth in hogs. The excessive use of antibiotics is an integral part of the production system both to bring them to market faster and to keep them alive in otherwise unlivable conditions. Many of the antibiotics given to livestock, such as tetracycline, penicillin, and erythromycin, are important human medicines. Up to 80% of antibiotics administered to hogs pass unchanged through the animal to bacteria rich waste lagoons. This soup is then spread on sprayfields, allowing the antibiotics to enter groundwater and run off into surface waters.

Routine administration of sub-therapeutic antibiotics endangers public health by contributing to drug-resistant pathogens with which humans and animals may come in contact through ground water, surface water, soil, air, or food products. Once antibiotics have entered hog factory effluents, they can enter waterways and spread through the environment in low concentrations – killing susceptible bacteria and leaving resistant survivors to multiply. Resistant bacteria can then infect people who swim in lakes and rivers or drink well water.

In January 2001, the Union of Concerned Scientists issued a report that included the following shocking statistic: ***84% of all antibiotics consumed are used in livestock, the vast majority for nontherapeutic purposes!*** The hog industry uses eleven million pounds of antibiotics annually while a comparatively modest three million pounds are used in human medicine.

Many public health officials have warned that the use of subtherapeutic antibiotics in hogs is extremely dangerous. The World Health Organization, the U.S. Centers for Disease Control and Prevention, and the American Public Health Association have all urged that using the antibiotics of human medicine in hogs should be prohibited. The European Union has banned nontherapeutic agricultural use of antibiotics that are important in human medicine. In some European countries, such as Sweden, using any antibiotics in raising hogs is illegal.

F. Alternatives

There are myriad alternatives to the lagoon and sprayfield system, but the industrial hog barons refuse to adopt innovations that might cut profit margins. For example, in Sweden, where factory farming is banned, hogs are raised in a deep-bedded straw system, where ample straw bedding is provided to pigs and they are allowed to move freely, interact socially with other pigs, and engage in other natural behaviors such as rooting and nest building. There are no farrowing crates. There is no liquefied manure, no waste pits, and none of the stench that envelopes the American hog factories. Under the Swedish system, there is little risk of environmental injury because the manure is not liquefied and is naturally composted in the straw. Pigs raised under these conditions are also unstressed and healthier. The animals in Swedish farms and the people who raise them exist in a much healthier environment because they emit substantially less pollution to the air. In America, there are still a number of family farmers who used improved traditional methods to produce

vegetables, meat and milk. Organic Valley and Niman Ranch are two successful leaders in this field. Their products are wholesome and tasty and they are produced through sustainable farming methods. Where animals are involved, they are treated humanely. These farmers do not use growth hormones or subtherapeutic antibiotics, and their farming practices are environmentally sound. These farmers could easily out compete their industrial competitors if the industrialist were required to bear the full cost of protecting the environment.

G. Hog Barons Proliferate Through A Pattern of Law Breaking

By illegally polluting, industrial hog producers gained a critical advantage over their competitors – the American family farmer – in the marketplace. These are not businessmen making a "honest buck". Instead, they are lawbreakers and bullies who can only make money by polluting our air and water and violating the laws with which other Americans must comply.

Environmental lawbreaking is an integral component of factory pork production. Records of state environmental agencies in over a dozen states demonstrate that factory hog producers are chronic violators of state and federal law. For example, North Carolina's Department of Environment and Natural Resources ("NCDENR") records show thousands of violations by Smithfield's facilities[7] of state environmental laws. This is notable considering North Carolina's lack of inspectors and extremely poor enforcement record. The number of violations is believed to be considerably greater since, prior to 1995, the environmental agency was not even allowed to know the locations of the hog factories, or to inspect them unless 'invited' to do so by the operators or owners. Needless to say, such 'invitations' were exceedingly rare. The massive and persistent drumbeat of violations recorded in these documents prove that hog factories and their facilities are chronic, deliberate and habitual violators of state laws designed to protect the environment and minimize discharges of swine waste.[8]

Indeed, without breaking the law, pork factories cannot make money and produce hogs as efficiently or cheaply as family farmers. Industrial pork producers instead rely on rare inspections and small fines by state regulators. The rare penalties and small dollar amounts occasionally dispensed by state enforcers never provide sufficient incentive for the industrial pork barons to stop their lawbreaking. These fines amount only to a trivial cost of doing business (see APPENDIX C).

The industry locates its facilities in rural states where they can easily dominate the political landscapes. Weak state agencies are the primary consideration in siting the industry's new facilities. A 1998 study found clear evidence that the *level of enforcement* of environmental laws and regulations, even more than their stringency, had a direct influence on the growth of the hog industry.[9] The more lenient a state's enforcement program, the more likely it is to see growth in the hog industry. Hog factories also tend to locate in minority communities where opposition is considered by the industry to be more easily silenced.

II Waterkeeper Alliance Campaign Against Industrialized Hog Factories

A. Waterkeeper's Hog Factory Campaign

The consolidation of pork production by large industries and the proliferation of pork factories with lagoons and sprayfields have caused a dramatic public reaction in farm states particularly among factory neighbors. Many citizen organizations mobilized in the late 1980s to oppose the proliferation of meat factories. These groups began attending meetings of local boards of health, county commissions and drain commissions, and voicing their concerns to state and federal legislative bodies and agencies. Farmers, fishermen, and property owners warned the industry that its public claims that these factories could operate without polluting air and waterways would be exposed as false. Corporate pork production has harmed so many people in different ways that many groups have identified it as a threat to their

constituencies. By the early 1990s watchdog organizations such as the Waterkeeper Alliance (through its local Riverkeeper programs) have been raising concerns and exposing chronic and severe violations of environmental laws.

B. Waterkeeper's Legal Campaign

The Waterkeeper organizations have a strong track record of bringing legal actions against polluters to enforce environmental laws. Waterkeeper Alliance President, Robert F. Kennedy, Jr., founded the Alliance and co-directs the Environmental Litigation Clinic at Pace University School of Law, which is known for its groundbreaking work in environmental enforcement. Waterkeeper has also assembled an elite team of nationally recognized class action law firms to address pollution and health problems caused by the hog industry. Waterkeeper is coordinating a national legal attack designed to civilize the factory pork industry through a series of lawsuits and administrative actions under federal environmental laws, state "nuisance" and health laws and the federal racketeering law (RICO).

In December 2000, Waterkeeper Alliance issued Letters of Intent to Sue to six industrial hog facilities impacting the Neuse, New and Cape Fear rivers in North Carolina for violations of the Clean Water Act, Resource Conservation and Recovery Act ("RCRA") and Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"). Waterkeeper subsequently filed lawsuits under environmental statutes against two Smithfield-owned hog factories in North Carolina and is engaged in settlement discussions with others. Waterkeeper Alliance is working with environmental and farm organizations and activists in Michigan, Minnesota, Iowa and South Dakota to develop other lawsuits to reform the hog industry in each of those states.

In June of 2000, the Alliance and the North Carolina Riverkeeper organizations filed a 36 count lawsuit in North Carolina Superior Court against all of Smithfield's North Carolina operations. Invoking the state's nuisance laws and the public trust doctrine, the suit seeks an order requiring that the hog factories stop polluting local waterways and the air and redress the damage they have caused to North Carolina's rivers and river communities.

Finally, Waterkeeper is assisting grass root activists in defending themselves against industry lawsuits to intimidate them from exercising their constitutional rights to petition and to free expression. For example, Waterkeeper's attorneys are currently fighting a so-called SLAPP (Strategic Lawsuit Against Public Participation) suit against a group of Nebraska farmers by Sands, Nebraska's largest industrial hog producer. Sands filed the suit in an attempt to harass farmers who had filed comments with the Nebraska Department of Environmental Quality regarding an application by Sands to significantly expand one of its facilities without appropriate environmental safeguards. Sands is suing for defamation and emotional distress. The outcome of this case could be crucial to the future of public participation in industrial meat factory issues. Waterkeeper attorneys have filed a counterclaim against Sands claiming that the industry lawsuit violates Nebraska's anti-SLAPP statute and are lawsuits intended to silence the community's right to freely express its opposition to this industry.

III. THE FEDERAL GOVERNMENT STEPS IN, THEN BUSH AMINISTRATION BACKS OFF

Although the Clean Water Act, adopted thirty years ago, explicitly recognizes Concentrated Animal Feeding Operations (CAFOs) as a major threat to water quality by enumerating them as a regulated point source, neither the federal EPA nor the state agencies have fully implemented a Clean Water Act permitting program for CAFOs. In fact, some states, such as North Carolina and Michigan, vehemently denied for years that they were required to establish a Clean Water Act CAFO permitting program.

The failure of the states and the federal government to implement the Clean Water Act and enforce existing laws and regulations against CAFOs has resulted in the widespread violation of the statute and its regulations by the livestock and poultry industry. *This widespread violation of the Clean Water Act is acknowledged by EPA itself and the livestock industry (See CAFO NODA, p. 58571), which is now ironically using its failure to comply with existing regulations as an excuse for its inability to bear the cost of proposed, more stringent regulations. They represent a violation of the statutory mandate of EPA to develop regulations for this industry that use the best available technology, a standard that does not permit EPA to disregard an existing technology because it is more expensive for industry.* This universal failure to

implement the nation's most important water protection legislation is a national scandal and has resulted in a substantial degradation of our nation's waters from agricultural pollution.

In recognition of the environmental destruction that large livestock and poultry operations have been wreaking on the environment and because it was sued by NRDC, EPA published proposed new regulations for CAFOs and NPDES permitting guidelines on January 12, 2001. In March 2001, representatives of the major livestock and poultry producers petitioned the Bush administration for an extension of the comment deadline, so the Administration pushed the comment deadline back to July 30, 2001.

Following submission of public comments on the proposed regulations, EPA published a Notice of Date Availability; National Pollutant discharge Elimination System Permit Regulations and Effluent Guidelines and Standards for Concentrated Animal Feeding Operations (referred to herein as "the November 12 regulations" or "the NODA", Federal Register Vol.66, No.225, 58556 (Nov 21, 2001). The NODA states that the January 12 regulations generated a significant number of comments from livestock and poultry industry representatives or land grant university professors who argued that EPA had failed to adequately calculate the costs and/or economic impact. Section V, pages 58566-58591, is devoted entirely to financial and economic analysis.

Reading through the November 12 regulations, one might have guessed that "EPA" stands for "*Economic* Protection Agency." The NODA seeks input on approximately eighty-eight different issues, the majority of which request comments related to cost and economic or financial impact. Virtually every revision proposes a weaker regulation than the earlier version. In fact, in no case does the November 12 version propose a stricter environmental standard.

While the January 12 CAFO regulations moved EPA in the direction of solving some of the ills caused by CAFOs, the November 12 regulations suggest substantially scaling back these efforts and demonstrate a deterioration of the federal government's only serious attempt to address the crescendo of citizen and scientific voices in this country calling for major CAFO reform.

The November 12 regulations are an alarming retreat by the federal Environmental Protection Agency (EPA) from the January 12, 2001 version of the regulations. It is troubling that at the moment in history when the public outcry over CAFO pollution is the loudest, EPA signals its withdrawal from its earlier commitment to address it and finally to require this industry to comply with the Clean Water Act. The January 12 version, the result of years of EPA, citizen, and industry review and dialogue, was crafted to make necessary improvements in the regulation of CAFOs. A copy of Waterkeeper Alliance's submissions to the EPA on July 30, 2001, January 15, 2002 and February 4, 2002 are attached as APPENDIX D.

1. **November 12 regulations fail to consider cost to environment.**

There is no discussion in the NODA of the economic analysis of CAFO pollution. Where is the dollar value assigned to loss of fisheries, loss of swimable waters and drinkable groundwaters, injury to human health, and loss of quality of life? And how is this taken into EPA's economic equations? It appears that it is not.

2. **November 12 regulations fail to consider whether an operation is a family farm.**

At the same time, however, EPA's economic analysis should take greater account of the impact its actions will have on family-owned farms. There are sound environmental policy reasons for this. Farmers reside on their farms, live in the communities, drink from the groundwater under their farms, breathe the air from their operations, worship and shop with the people near their farms, and fish and swim in the surface waters affected by their farms. Simply put, family farmers are the best stewards of the land. Yet, EPA's analysis fails to consider whether the operation is a family farm in its economic analysis.

3. **November 12 regulations would allow states to avoid implementing the Clean Water Act.**

The November 12 CAFO regulations also propose giving the states greater flexibility to implement the Clean Water

Act. Waterkeeper Alliance has had meetings with high level officials of several farm states to discuss CAFO pollution. Without exception, the state officials acknowledge that they have issued few or no CAFO NPDES permits. In most cases, they have attributed this at least partially to a lack of funding. They say that the state environmental agencies barely have funding for their existing programs. The same explanation is given for their failure to prosecute the thousands of known violations by CAFOs of environmental laws, regulations and standards. Given a proven lack of will, and the lack of resources at the state level, granting states continued "flexibility" would ensure that CAFO pollution will go unaddressed.

4. **November 12 regulations move toward fewer NPDES permits.**

The Clean Water Act contains the requirement that point source dischargers get NPDES permits, 33 U.S.C. §1311, and defines CAFOs as point source dischargers, 33 U.S.C. §1362 (14). *Thus the Clean Water Act unambiguously mandates that CAFOs get NPDES permits*. EPA is attempting to circumvent this requirement by seeking "equivalents" of the NPDES permit. Equivalents are whatever an implementing state wants them to be. In North Carolina they are called "General Permits", *ie.*, they apply to all CAFOs in the State without regard to the water quality of the waterbody to which they are adjacent. The non-discharge provisions of these permits are industry friendly. Most provisions of these permits do provide for citizen suits. The issuance of these non-NPDES Permits is counter to the plain wording and the intent of the Clean Water Act. EPA is bound by the law. The EPA must be required to follow the law. There are no exceptions.

5. November 12 regulations reduce critical groundwater protection.

CAFOs are major contributors to groundwater contamination. Thus, it is important that EPA's CAFO regulations require that risks to groundwater be minimized and that CAFOs monitor groundwater quality. In the November 12 regulations, EPA says that it is considering "adopting a performance standard based on …[the] permeability [of synthetic / clay double liners]" rather than a zero discharge that would be verified by groundwater monitoring, which was proposed in the January 12 version. This is another example of EPA looking first at the economic issues to CAFO profits rather than the environmental or public health issues and failing to consider the cost of degraded natural resources. It is irresponsible for EPA to recognize that a waste storage technology is poisoning groundwater and conclude from that that it must change its performance standard rather than change the required, and readily available, technology. This is not the formation of good environmental science and policy, and, moreover, it violates EPA's clear statutory mandate.

EPA must retain the groundwater controls and the zero discharge performance standard it had earlier proposed, which are scientifically possible and technologically available to protect the nation's groundwater supplies.

6. November 12 regulations propose inappropriate Phosphorous "banking."

EPA's November 12 regulations propose to allow the "banking" of phosphorous. The proposal is nonsenscial since the NODA itself states that "EPA is concerned some levels of phosphorous banking would no more prevent discharges to the waters than would unrestricted application rates or application of manure on a nitrogen basis." As noted in EPA's NODA, many CAFO land application areas are vastly over-saturated with phosphorous. It is poor environmental policy for EPA to propose that "banking," a practice that it doubts will protect the environment, be used to address the serious problem of phosphorous pollution from CAFOs. Instead, EPA must follow the law and require CAFOs to limit their phosphorous application rates to agronomic rates.

7. November 12 regulations propose less frequent manure sampling.

EPA's November 12 regulations propose to allow less frequent manure sampling. Recent research has confirmed that there is great variability in the components of lagoon wastes, depending on when and how the samples are taken. The EPA must require improved and increased frequency of waste sampling prior to land application, not diminish it.

8. November 12 regulations allow inappropriate exception for a "chronic storm event."

EPA's January 12 version proposed to eliminate the exception for permitted operations in the event of a "chronic or catastrophic" rain event. EPA's November 12 regulations indicate that it is reconsidering eliminating this language based

on CAFO operations' inability to meet it. For example, EPA seeks information on the storage capacity of existing lagoons. EPA is attempting to address the problem backwards. Rather than looking at the environmental problem and coming up with the solution, EPA is looking at existing operations and asking what regulation the industry can afford. This is an illegal analysis. EPA also fails to consider obvious solutions to lagoons that are being over-filled over, such as requiring reduction of herd sizes during the rainy months. EPA's approach ensures the continuation of systems that are destroying the environment by polluting when it rains.

EPA's suggestion that it eliminate the performance standard is particularly ironic because the CAFO industry constantly insists that it operates "zero discharge" systems. We urge EPA to require that CAFOs operate without discharging and that EPA eliminate the "chronic and catastrophic" exception, as it had previously proposed. Again, the best available technology standard required under the law requires the EPA to impose technologically available solutions to these pollution sources, regardless of decreased profits that the CAFO industry might experience.

9. November 12 regulations allow non-compliance to be a boon to violators.

EPA notes that numerous commenters acknowledge that "many CAFOs do not have the necessary waste management components in place to comply with the existing CAFO regulations promulgated in the early 1970s." EPA goes on to say that these commenters argue that EPA has wrongly underestimated the cost of financial impacts of the proposed regulations because it has failed to acknowledge this widespread noncompliance. In other words, the industry is arguing that many CAFOs are violating existing laws, and they should benefit from it. It essentially argues that violators should be rewarded for failing to comply with the law. Such an argument deserves no response. EPA must reject this backward logic and base its regulations on the law and sound environmental policy rather than trying to figure out ways to perpetuate the status quo. We urge EPA to calculate costs as it had in the January regulations.

10. November 12 regulations would allow the inappropriate substitution of Environmental Management Systems (EMS) for compliance with Clean Water Act and CAFO regulations.

EPA asks for input on the use of Environmental Management Systems (EMS). As examples, EPA states that EMS may deal with odor, noise, or energy conservation. These are matters that a responsible business should address to be a good corporate citizen, for its own protection against nuisance suits, and to save money. These matters have no connection to whether the CAFO is complying with a permit or whether it meets the definition of a CAFO. While we do not object to EMS, we strongly object to the suggestion that an EMS can serve as a substitute for an NPDES permit or show compliance with any environmental regulations.

As specific examples of EMS, the NODA points to the ISO 14001, including that obtained by Smithfield Foods' operations in North Carolina. Smithfield Foods' North Carolina operations are a perfect example of why the EMS is virtually meaningless for environmental protection. Even a cursory review of state records reveals that Smithfield's North Carolina operations continue to violate hundreds of environmental regulations and standards. Neighbors see no tangible improvement in the operations, in spite of the ISO designations. EMS fail to provide necessary environmental protections. Therefore, EPA should reject the idea that it use EMS instead of permits or that it use EMS in its determination of which operations meet the definition of CAFO.

11. November 12 regulations contain a faulty definition of "Proper Agricultural Practice."

EPA proposes to define "proper agricultural practice" as follows:

> One of any number of conservation practices, production measures, or management techniques that the CAFO operator or manure recipient can use to improve the efficiency, economy, ***or*** environmental condition of the site and surrounding land areas and waterbodies. (emphasis added)

This definition is inappropriate because it would classify anything that made the operation cheaper or more efficient a proper agricultural practice, even if it had no legitimate agricultural purpose and even if it damaged the environment. For example, applying more manure to land so that crops were killed from over application and groundwater and surface water

were threatened might meet this definition.

If EPA wishes to define the term "proper agricultural practice," a reasonable definition must contain some reference to a benefit to the agriculture practiced at the site. Merely lowering the cost of one's production cannot be the standard. Otherwise, virtually any conduct would fall within the definition, including blatantly illegal and environmentally destructive practices.

12. November 12 regulations propose an inappropriate substitution of co-permitting by Environmental Management Systems (EMS).

EPA proposes that the permit authority could "waive the requirement for co-permitting entities that exercise substantial operational control over a CAFO if the entity adopts and implements an EMS for its contract producers." This makes no sense. As set forth in our July 30 comments, it is the processor that controls the environmental systems of contract operations. That is precisely the logic for the co-permitting – the contract grower has no real control over the terms of the contract and is forced to accept the terms of the contract as dictated by the processor. Because the processor controls the terms of the contract, it determines both the nature and the quantity of the waste. It is also the processor that has the resources that make it best able to be responsible for the disposal of the waste but who is least likely to make responsible decisions because profits drive their decisions, not sound environmental science and policy. Therefore, using the processor's level of control over the operation as a reason not to waive co-permitting is counter-productive.

13. November 12 regulations attempt to circumvent the plain language or intent of the Clean Water Act.

Finally, several of EPA's suggested new approaches, such as the consideration of "state flexibility," NPDES "equivalents," and EMS are offered in the November 12 regulations to make it easier for CAFOs to comply with the new regulations. However, EPA does not have the discretion to implement regulations that are counter to the language of the Clean Water Act. As the NODA acknowledges, EPA has historically failed to require states to follow the law. It is now moving to weaken even more the regulations it has proposed, a move which perpetuates EPA's acceptance of this industry's non-compliance with the CWA – the very statute it is mandated to enforce.

The Clean Water Act's mandate is to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." 33 U.S.C. §1251. Not even EPA has the authority to ignore this mandate nor to fail to implement the provisions of the Act. EPA's January 12 version of the CAFO regulations was clearly intended to get more operations, not fewer, to be covered by NPDES permits. However, the November 12 regulations reverse this direction. Many of the EPA's new proposals are designed to reduce the number of Animal Feeding Operations that would need to apply for an NPDES permit, or to allow things that are less than an NPDES permit to serve as a substitute. This is contrary to the Clean Water Act. EPA must operate within its statutory mandate to implement the purposes and the provisions of this Act in the formulation of these regulations.

Conclusion

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Over the past thirty years we have seen some of the post popular and effective environmental laws ever enacted in our country's history. The creation of the Environmental Protection Agency and the Clean Water, Clean Air, and Resource Conservation and Recovery Acts improved our rivers, streams, and groundwater as well as the air we breathe. These laws and regulations, while not yet fully implemented, have helped protect our forests, parks and wildlife. As a direct result, the quality of life in America has substantially improved. Clearly, this period has been one of the most progressive and prosperous in our nation's history.

There have been periods of darkness as well. A serious threat to our environment and its dependant economy were under heavy assault during the 104th Congress. Fortunately, under the strong leadership of President Clinton and his administration, America weathered that storm.

Now our environment and economy are once again being placed in serious jeopardy. The environmental laws and

regulations that promoted the strong economy of the 1990s are being attacked once again, this time not by a wayward Congress but by a President out of touch with the importance of a healthy environment—a President and an administration blinded by corporate interests.

President Bush's disregard of the nexus between good environmental policies and a healthy economy is not surprising. His record in Texas predicted it (see APPENDIX D). While anti-environmental statements did not flow from his lips during the presidential campaign, actions immediately following his oath of office gave clear warning of what was in store.

Through his Chief-of-Staff, President Bush issued a directive that prevents a series of Clinton environmental actions from taking place. The directive imposed a moratorium that effectively prevented any new rules from being printed in the Federal Register until they were specifically approved by the administration. That blocked most of Clinton's executive orders. These directives specifically targeted environmental restrictions on runoff from animal feeding operations. President Bush also proclaimed that many older regulations would be actively reviewed and possibly rescinded.

While America's attention has been focused on the war against terrorism, President Bush has been quietly unraveling federal rules established to implement the environmental laws of our country and to safeguard our natural resources. We once again risk corporations who profit from pollution gaining the upper hand. The progress we made and from which we economically benefited over the past thirty years is fading fast.

Specifically, after the terrorist attacks on September 11th, the Bush administration began to intensify its effort to turn back the environmental clock by gutting old and new environmental rules and regulations. With the nation focused on the war, the Bush administration weakened Clean Air and Water initiatives and enforcement, weakened wetland protections, gave a green light to pollution based mining activities, blocked rules that would minimize raw sewage discharges into waterways and gave new power to the Office of Management and Budget (OMB) to weaken and tie up existing environmental rules.

The citizens of this country need and deserve protection from the environmental and health dangers posed by CAFOs and the industry giants who control them. EPA must focus on the protection of the environment, not protection of the livestock industry.

Although they failed to do everything necessary to solve the environmental and health problems from CAFOs, EPA's January 12 regulations were a step in the right direction. Unfortunately, EPA's November 12 CAFO regulations propose to diminish even these improvements.

The EPA must refocus its efforts on promulgating CAFO regulations that will fully protect the environment. It is the house in which we live. The Congress should see to it that the President lives up to his responsibilities to protect our environment, which in turn protects our national heritage and national security.

Respectfully submitted,

Rick Dove

APPENDIX A

Richard (Rick) J. Dove

Present Position

Southeastern Representative for the Waterkeeper Alliance, 427 Boros Road, New Bern, North Carolina 28560.

Telephone 252 447-8999; Fax 252 447-6464; Mobile 252 636-9238; E-mail: RiverLaw@ec.rr.com

Education

Graduate and undergraduate studies at University of Baltimore
LL.B, (JD) University of Baltimore School of Law, 1962
Graduate, National War College, 1980

Professional Experience

1963-1987 Served as a member of the United States Marine Corps. Primary duties in the Corps were as Judge Advocate, Staff Judge Advocate and Military Courts-Martial Judge. Also served in Congressional Liaison while stationed in at Headquarters Marine Corps, Washington, D.C. and as Assistant Provost-Marshal and Provost-Marshal at Marine Barracks, Yokosuka, Japan. Served two tours in Vietnam. Retired in officer grade 0-6 (Colonel).

1987-1991 Commercially fished the Neuse River. Owned and operated a retail/wholesale seafood store in Havelock, North Carolina.

1991-1993 Practiced civilian law (R.J. Dove and Associates) with law offices in Havelock and Jacksonville, North Carolina.

1993-2000 Served as the Neuse Riverkeeper

July 5, 2000
Present Southeastern representative for Waterkeeper Alliance

Special Appointments

Governor's appointee to Neuse River Basin Advisory Council (1996 to 1998)

Member, Sedimentation Control Commission Advisory Committee (Commission appointment, 1997)

Member, Marine Fisheries Commission, Water Quality Advisory Committee (Commission appointment, 1995-1996)

Testified before the US Congress, Committee on Resources, Fisheries Conservation, Wildlife and Oceans Subcommittee, October 9,1997 on the subject of Pfiesteria Piscicida including its effect on the Neuse River, its wildlife and people.

Professional Memberships

Maryland State Bar Association
Waterkeeper Alliance

National/International Television, Newspaper Magazine and Book Features

As spokesperson for the Neuse River between 1993 and 2000, Rick participated in more than 4,000 news stories. Media coverage included CNN, NBC, CBS, ABC, CBN, NPR, BBC, and many local TV and Radio stations in North Carolina, Virginia, Iowa, Kentucky, Florida, Georgia, Maryland and others. Some of the national publications include: The New York Times, Newsweek, Sports Illustrated, Health (Magazine), Natural History, George Magazine and the Washington Post. One chapter of the book, *And the Waters Turned to Blood*, Simon and Schuster, published 1997 details Rick's work on the Neuse River related to the microorganism, *pfiesteria.*

Awards

Daughters of the American Revolution, National Conservation Medal for Preservation of Natural Resources 1996.

Named one of Time Magazine/Time for Kids AHeroes of the Planet@ October 1998

Honorary induction as member of Epsilon Nu Eta, National Environmental Health Society for Health Professionals 1998

1998 Citizens Award presented by Independent Weekly Newspaper, Raleigh, North Carolina

Honored by Charlotte Observer as Guardian of the Environment, November 30, 1996

Named by Raleigh News and Observer as 1of 100 people who have shaped North Carolina in the past Century (N&O August 22, 1999)

Received North Carolina Leadership Award from North Carolina Watershed Coalition, Inc for Year 2000

Received Alliance for a Responsible Swine Industry Appreciation Award June 25, 2000

Receive the EPA Region IV Merit Award on October 19, 2000.

Received 2001 Nancy Susan Reynolds Award for Advocacy (November 17,2001). The award is accompanied by a $25,000.00 prize.

Rick has been married to the former Joanne Tezak of Baltimore, Maryland since October 10, 1964. They have one daughter, Holly Marie Trombley who lives in New Bern. Their
son, Todd, is deceased.

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NEUSE RIVERKEEPERSâ

The Neuse RIVERKEEPER® Program was established on April 1, 1993. Riverkeepers patrol the Neuse River, tributaries and shorelines by boat, aircraft, and truck in order to locate and eliminate pollution sources. In September 2001, NRF added a second keeper to the watershed; **Dean Naujoks** became the Upper Neuse Riverkeeper, based in Raleigh, NC. In New Bern, NC, **John Riley** became the Lower Neuse Riverkeeper in November 2001.

riverkeeper@neuseriver.org.
Visit the RIVERKEEPER® website for more information.

What the RIVERKEEPERS® do…
The duties and responsibilities of the Neuse Riverkeepers are to:

Patrol the Neuse River by boat, plane and vehicle
Coordinate the Neuse River Protection plan
Locate, investigate, publicize and eliminate sources of pollution
Work with government agencies in monitoring water quality, fish kills, and pollution sources
Work with members of the scientific community on water quality research
Maintain an active education plan for children and adults
Disseminate information
When necessary actively litigate to eliminate sources of pollution

Creek Keepers Help the Riverkeepers

The RIVERKEEPERS® are assisted by a volunteer force of Creek Keepers. Serving under the direction of the RIVERKEEPERS®, Creek Keepers patrol tributaries of the Neuse in privately owned boats and vehicles. It is the responsibility of these Creek Keepers to be the voice, eyes, ears, and noses for their assigned areas. An appointed Creek Master and eleven Chief Creek Keepers also aid the RIVERKEEPERS® in daily monitoring duties.

The RIVERKEEPERS'® Eyes in the Sky

The RIVERKEEPERS® are also assisted by The Neuse River Air Force, a group of pilots and observers who fly the skies in search of pollution, wildlife problems, and damage assessment. These volunteers often coordinate their efforts with the Creek Keepers through air-to-ground radio communication.

Additional information about the Neuse River Protection Program can be obtained by contacting:

Neuse River Foundation, P.O. Box 15451, New Bern, NC 28561 (252) 637-7972

APPENDIX B (From Waterkeeper website www.waterkeeper.org)

The Waterkeeper Alliance is the umbrella organization for the more than 80 Waterkeeper programs located throughout North and Central America. The Waterkeeper movement is among the fastest growing grass-roots environmental movements and quickly is becoming a unique force for environmental change. It is an environmental "neighborhood watch" program, a citizen's patrol to protect communities and the waters they depend on. The Keeper philosophy is based on the notion that the protection and enjoyment of a community's natural resources requires the daily vigilance of its citizens.

THE WATERKEEPER CONCEPT

The Waterkeeper concept started on New York's Hudson River where a coalition of commercial and recreational fishermen mobilized in 1966 to reclaim the Hudson from its polluters. They constructed a boat to patrol the River, hired the first full-time Riverkeeper in 1983 and began filing lawsuits against municipal and industrial polluters. They modeled the program after the riverkeepers of the British Isles who looked after private trout and salmon streams, usually for estates and manors and private fishing clubs. By 1998, they had filed over 150 successful legal actions against Hudson River polluters. Largely as a result of their work, the river that was once dead for large stretches in 1966 is now one of the richest water bodies in the North Atlantic. The Hudson’s miraculous recovery has helped make the Waterkeeper program an international model for ecosystem protection.

THE WATERKEEPERS

A Waterkeeper is a full-time, privately funded, non-governmental ombudsperson whose special responsibility is to be the public advocate for a water body. A Waterkeeper's clients are all the users of the represented watershed. Waterkeeper programs employ a variety of strategies to enforce environmental laws including conducting water quality monitoring, participating in coastal planning, attending board meetings, educating the public and devising solutions to water quality problems, and if necessary pursuing litigation as a final step to enforcement.

WHAT WE DO

At minimum, it is the Waterkeeper's job to advocate compliance with environmental laws, respond to citizen complaints, identify problems which affect his or her body of water and devise appropriate remedies, serve as a living witness to the condition of the ecosystem, and be an advocate for the public's right to protect and defend the environment. Waterkeepers are part investigator, scientist, lawyer, lobbyist and PR agent. The objective is to have a diverse bag of tools that allows the Waterkeeper to get the job done.

HOW WE DO IT

All Waterkeepers have some kind of boat ranging in size from canoes to research vessels. But sometimes a pair of hip boots is more important than a boat - sometime a legal brief is more important than either. Again, the rule of thumb is that each water body has its own unique set of challenges requiring is own unique strategy.

HOW WE HAVE DONE IT

Since 1983, the Waterkeeper movement has spread quickly. With the assistance of the Alliance and other Waterkeepers, new programs were started on water bodies across North and Central America modeled after the Hudson's program. In 1992, the existing Waterkeepers founded the National Alliance of River, Sound and Bay Keepers which was renamed the Waterkeeper Alliance in 1999. The Alliance oversees the formation of new Waterkeeper programs, licenses the use of the Waterkeeper names, works on national issues that individual Waterkeeper programs hold in common and serves as a meeting place for all the Waterkeepers to exchange information, strategy and know-how. The Alliance and its member Waterkeepers meet several times a year, alternating between the home waters of individual members. In addition to working with existing Waterkeepers, the Alliance is also currently working with local advocates to establish Waterkeeper programs in Belize, the Czech Republic, Italy, Mexico, Poland, and the Philippines.

CONTACT US

Waterkeeper Alliance 78 North Broadway E Building, White Plains, NY 10603, Tel. 914-422-4410

APPENDIX C

The Verdict is in: Smithfield's Use of Intimidation, Violence and False Arrests Violates Federal Civil Rights Laws

PR Newswire - USA; Mar 5, 2002

Federal District Court Case is Second Time Smithfield Found in Violation Of Federal Laws Protecting Human Rights

RALEIGH, N.C., March 5 /PRNewswire/ -- The following is being issued by the United Food and Commercial Workers Union:

In a throw back to an era of hooded night-riders, brutal beatings and false arrests, a jury in federal district court in Raleigh, North Carolina last Friday found Smithfield Packing in violation of the federal civil rights law originally known as the Ku Klux Klan Act of 1871. The jury verdict directed Smithfield and the company's former security chief, Danny Priest, to pay $755,000 in compensation and punitive damages as the result of the beating and arrests of two union supporters at the company's Tar Heel, North Carolina facility in 1997.

The two union supporters, Rayshawn Ward and John Rene Rodriguez, were beaten, arrested and jailed by the company's security force during the 1997 workers' campaign to organize for a voice on the job with the United Food and Commercial Workers Union (UFCW). Smithfield had waged a vicious anti-worker campaign and created an atmosphere of racial hostility that included racial epithets being sprayed painted on the union's Tar Heel office.

Under federal law, workers have an absolute right to support and vote for a union in a secret ballot election without fear, intimidation or coercion. At the Smithfield plant, shotgun-wielding deputy sheriffs were ever present during the two days of balloting in a union representation election. Following the vote count on the final day of balloting, company personnel stormed the counting area and, in the resulting confrontation, the two union supporters were subject to physical violence and arrest at the direction of Danny Priest, who was acting on behalf of the company.

At the trial, jurors heard testimony on the company's actions and the role of Danny Priest. Many were stunned to learn that in today's world, workers could be subject to such abuse and violence. The jury ordered Smithfield and Danny Priest, the Chief of Security to pay a total of $755,000 in damages to the two UFCW activists -- $75,000 to Ward and $25,000 to Rodriguez in compensatory damages for the injuries both suffered at the hands of the company security force. Both received punitive damages as well. Smithfield must pay Ward, who was knocked unconscious during his assault and arrest, $500,000 and Priest must pay Ward $25,000. The jury ordered Smithfield to pay Rodriguez $125,000 and Priest to pay $5,000. U.S. District Court Judge Earl Britt rejected the company's request to set aside the verdict and validated the jury by entering the judgment into the public record.

During the campaign, Danny Priest used the company's security force to instill fear in the 4,500 Smithfield employees.

Deputies -- in riot gear and heavily armed -- stationed themselves at the entrance to the plant on days that civil rights leader Reverend Jesse Jackson and other religious leaders handed out literature with workers.
On August 21, 1997, the final day of the election, the company used the power delegated to it by the Bladen County Sheriff's Department to handcuff, mace, and jail Mr. Ward, a Smithfield meatpacking worker whose only crime was that he supported the union. Mr. Rodriguez, a union organizer, tried to help Mr. Ward as the Company's Chief of Security was assaulting him. For that, he found himself in handcuffs, jailed and facing criminal charges. Their arrests occurred in the context of a Company-initiated "riot" following the vote count.
During the union drive, the company held forced meetings to intimidate and threaten workers for supporting the union. Smithfield held separate meetings for black and Latino workers to pit worker against worker based on race. On the day of the election, deputy sheriffs, dressed in battle gear, lined the long driveway leading to the Bladen County plant. The sheriff's menacing presence created a violent mood for the workers who were merely trying to exercise their right to vote for a voice on the job. As workers passed the lines of police in riot gear, they saw company management standing with the head of the Bladen County Sheriff's department near the entrance to the plant.
The company's message was clear to workers: if you vote for a union, the law and law enforcement will not be on your side.
This is the second independent verdict against Smithfield's actions during the union campaign at the Tar Heel plant. In December, 2000, an Administrative Law Judge of the National Labor Relations Board issued a monumental 400-plus page ruling against Smithfield for massive violations of federal law. The NLRB judge found that Smithfield conspired with law enforcement to instigate the violence at the vote count.
The NLRB Judge's decision contains some of the strongest language in recent labor history against a company's flagrant disregard for the law. The Judge found that Smithfield attorneys suborned perjury during the NLRB trial. The Judge also ruled that company witnesses "lied under oath" throughout the decision and that Smithfield managers conspired with the local Sheriff Department to physically intimidate and assault union supporters.
In the recent civil rights lawsuit, U.S. District Court Judge Britt did not allow testimony from any part of the NLRB trial. Independent of one another, Smithfield has been ruled against in two legal cases for its shameful and illegal assault on its workers in Tar Heel.
John Rene Rodriguez, a victim of Smithfield's violence against its workers, died unexpectedly in December, 2001. His father, Johnny Rodriguez, testified on behalf of his son's estate. The UFCW is profoundly saddened that John Rene did not live to see justice delivered against the giant packing company.
Smithfield Foods is the world's largest pork processor and hog producer with expected 1999 production of more than 5.3 billion pounds. Its Bladen County plant is the largest hog processing plant in the world.
The UFCW is the largest organization of meat packing workers in North America, with 1.4 million members. UFCW represents a sizeable number of Smithfield Packing employees, including workers at its subsidiaries John Morrell, Patrick Cudahy, Smithfield Packing-Landover, Lykes Meat Group and Northside Foods. Workers at other meat packing companies like IBP, Excel, Swift, Monfort, and Hormel are members of the UFCW.
United Food and Commercial Workers Union (UFCW): A Voice for Working America -- http://www.ufcw.org/

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Court Fines Smithfield $12.6 Million; Va. Firm Is Assessed Largest Such Pollution Penalty in U.S. History

The Washington Post
August 09, 1997, Saturday, Final Edition
SECTION: A SECTION; Pg. A01
BYLINE: Ellen Nakashima, Washington Post Staff Writer
DATELINE: RICHMOND, Aug. 8

A federal judge in Norfolk today fined Smithfield Foods Inc. $ 12.6 million for dumping excessive levels of hog waste into a Chesapeake Bay tributary in violation of the Clean Water Act -- the largest such penalty ever

assessed in the United States.

The decision by U.S. District Judge Rebecca Beach Smith was a victory for federal officials and environmental activists who have complained that Virginia long has been lax in its oversight of Smithfield, the East Coast's largest meatpacker. Smithfield attorneys said they will appeal.

The ruling followed a week-long trial in Norfolk that put a spotlight on the environmental policies of Republican Gov. George Allen's administration, which the U.S. Environmental Protection Agency has accused of coddling corporate polluters such as Smithfield.

Federal regulators rarely step into such state cases so aggressively, but in December they sued Smithfield for $ 20 million, alleging nearly 7,000 violations of the Clean Water Act since 1991. The U.S. government accused the company of dumping illegal levels of waste into the Pagan River and falsifying and destroying records to hide it.

"This decision sends a strong message that there can be no profit in pollution," said W. Michael McCabe, the EPA's regional administrator.

Roy Hoagland, staff attorney for the Chesapeake Bay Foundation, said of the penalty: "It's great for the bay. I'm pleased to know the federal government held Smithfield accountable."

Throughout their dispute with the EPA, Smithfield officials have maintained that a dumping agreement they signed with Gov. L. Douglas Wilder's administration in 1991 allowed the company to discharge pollutants at levels above the legal limits as long as it hooked up its slaughterhouses to a public wastewater system extension as soon as possible.

Today, they said the fine was outlandish because the company was merely abiding by the agreement.

"Twelve point six million for doing what we were told to do?" Smithfield attorney Anthony F. Troy said. "Thank God we weren't doing things that we weren't supposed to do."

Smithfield's attorneys said the ruling sends a chilling message to companies that pollution agreements negotiated with the state are worthless. "Smithfield Foods . . . earnestly hopes that the many other Virginia industries . . . which now operate under [agreements with the state] . . . will not have to suffer through the same ordeal that the company has experienced."

Environmentalists and Democratic critics said the fine is significant not only in itself but also because it underscores what they call Allen's laissez-faire approach to environmental regulation that places business interests above all others. They note that Smithfield's chairman, Joseph W. Luter III, gave $ 125,000 to Allen's political action committee while the firm was negotiating a pollution settlement with the state.

The EPA has threatened to take over the state's water pollution program,

saying it has failed to enforce anti-pollution rules. A federal review of the state's program is underway.

Allen spokesman Julie Overy defended the administration's actions regarding Smithfield, noting that the company was discharging pollutants under the agreement worked out during Wilder's Democratic administration.

"The responsibility of this administration has been to make sure that [Smithfield's promise to hook up to a Hampton Roads treatment plant] comes to fruition," Overy said. "It happened this week."

She also dismissed criticism that the administration has been soft on polluters. Virginia, she said, will "vigorously pursue" its own lawsuit against Smithfield in which it accuses the meatpacker of breaking pollution laws.

Before today, the largest court-imposed fine for violating water pollution laws was $ 4 million, imposed this year against a Pennsylvania dairy firm. The largest settlement in such a case was for $ 6 million, which an Ohio steel company agreed to pay in 1991.

Federal officials have seen Smithfield, a $ 4 billion conglomerate that sells products under the Smithfield, Gwaltney and Cudahay labels, as a particularly flagrant violator of pollution laws. The company discharged waste -- especially phosphorus, which causes algae blooms that rob fish and aquatic plants of oxygen -- for decades into the Pagan River. The 1991 discharge agreement did not include limits on phosphorus.

But the agreement was made with the understanding that Smithfield would comply with phosphorus limits by January 1993, said Elizabeth Haskell, Virginia's natural resources secretary under Wilder.

"I assumed that they were going to do that," Haskell said. "Evidently, after we left office, those consent agreements were extended and continued. [Smithfield has] just been given too many extensions. It was cheaper for them to dump the pollution . . . than to do the [treatment plant] connections."

Smithfield officials said that hooking up their plants to a public wastewater system took longer than expected because a pipeline to Smithfield was delayed.

In any case, Judge Smith ruled in May that the federal government was not bound by the 1991 agreement. She added that the agreement was so lax that it was virtually "toothless."

The agreement's lack of limits on phosphorus highlighted just how weak Virginia's enforcement program has been, the Chesapeake Bay Foundation's Hoagland said.

"There's no question that enforcement is a program that had problems before Governor Allen took office," he said. "But it's a program that got dramatically worse when Governor Allen arrived. There's no question,

enforcement in Virginia under this administration has gone from bad to worse."

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The Washington Post
August 13, 1997, Wednesday, Final Edition

SECTION: EDITORIAL; Pg. A20

NEARLY LOST in the politics surrounding the $ 12.6 million water-pollution fine just levied against Smithfield Foods is the enormity of the deeds for which the Virginia meatpacker is being punished. Fecal and other bodily waste from slaughtered hogs, left untreated in millions of gallons of wastewater, has been dumped since the 1970s directly into the Pagan River, a tributary of the James. Phosphorous in the waste produces an overload of nutrients that depletes oxygen and causes uncontrolled growth of incompatible plant life, creating "dead zones" that threaten Chesapeake Bay aquatic life and local drinking water. That's what's behind the bulk of the 7,000 violations of the federal Clean Water Act cited by the Environmental Protection Agency as it intervened in Virginia's ideologically tainted environmental debates.

The Norfolk-based Smithfield, the East Coast's largest pork processor, is planning an appeal. But this fine -- the largest of its kind in U.S. history -- is a suitable climax to a sorry tale. This major employer in a state ranked last in its region in fining polluters spent years delaying mandatory reporting of violations. It watched as a manager of one of its wastewater treatment plants pleaded guilty and began a 30-month prison term for pollution that he says Smithfield officials told him to disguise. Only last week did the firm deliver on a six-year-old promise to link its Pagan River wastewater into a sewage treatment line.

And then there was Gov. George Allen, to whose election campaign Smithfield gave generously, who portrayed the prosecution as an intrusive federal "environmental scare" and a jobs-killer when his Department of Environmental Quality -- recently rocked by a staff shake-up -- was moving much more slowly against Smithfield.

Because water and air pollution respect no state boundaries, and because pollution-prone businesses may shop for locations with the weakest environmental protections, the Smithfield case is a good example of the need for more uniform federal enforcement. It's no surprise that the case immediately became an issue in the Virginia governor's race between Democratic Lt. Gov. Don Beyer, who's been blasting George Allen's environmental record, and Republican Jim Gilmore, the former attorney general who was involved in the state's own continuing suit against Smithfield. What is reassuring is that this debate is centering not on Gov. Allen's concern for the supposed harassment of employers but on who will do the most to protect Virginia's environment.

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Feedstuffs Magazine
February 11, 2002 | Issue 6 | Volume 74
Hog Industry Insider
BY STEVE MARBERY
Feedstuffs Correspondent

A special master has reported sealed findings to a judge in Carroll County, Iowa, where arguments were made last month in a hog marketing case pitting Iowa Attorney General Tom Miller against Smithfield Foods Inc. of Virginia. The case was heard by Judge Ronald Schectman in Carroll County. Filed Jan. 24, 2000, in Dakota City (Humboldt County), Iowa, the case was prompted by Smithfield's acquisition of Murphy Family Farms Inc. of Rose Hill, N.C., more than two years ago.

The nation's largest pork packer and producer, Smithfield owns the John Morrell Inc. slaughtering plant in Sioux City, Iowa, and the former Farmland Industries Inc. plant in Dubuque, Iowa, which was converted to processing-only. Business entities stemming from Smithfield's Murphy acquisition did not comply with Iowa's corporate farming law, Miller alleged. Attorney Eric Lam of Cedar Rapids, Iowa, was appointed special master to investigate financial and business dealings between Murphy Farms, Stoecker Farms and Smithfield.

Stoecker Farms of Algona, Iowa, was incorporated in Iowa Jan. 20, 2000. Randall Stoecker, a Murphy Farms executive of Ames, Iowa, was the primary officer. On May 17, 2001, Stoecker Farms changed its name to Prestage-Stoecker Farms Inc. Prestage Farms of Iowa was incorporated Dec. 5, 2001, according to public documents. One of the nation's largest hog companies, Prestage is based in North Carolina.

The attorney general's complaint alleged Smithfield's acquisition was "a sham" designed to bypass the state's packer ownership ban. Stoecker Farms bought Murphy's Iowa assets with a $79 million loan from Murphy "without financial input of its own," Miller alleged. Remaining non-Iowa assets were transferred to Smithfield, "putting the packer in total control of Stoecker's finances without further infusions of capital or other collateral" and transactions were pursued "for the sole purpose of creating an appearance of compliance," Miller alleged.

Several years ago, Smithfield acquired Pork Plus, a northern Iowa hog operation developed by Carrolls' Foods, but the attorney general did not challenge the transaction. Smithfield sold the hog farm's inventory to a separate corporation. Based in Warsaw, N.C., Carrolls' was acquired by Smithfield more than two years ago.

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Smithfield ranked one of the Top Ten Worst Corporations of 2000
Multinational Monitor
December 28, 2000
by Robert Weissman and Russell Mokhiber

TEN WORST CORPORATIONS OF 2000
NAMED BY MULTINATIONAL MONITOR

Ford/Firestone, Glaxo Wellcome, Lockheed Martin and Smithfield Foods were among the most irresponsible corporations of 2000, according to the Ten Worst Corporations of the Year list released annually by Multinational Monitor magazine.

Other companies on the list are: Aventis, BAT, BP/Amoco, Phillips Petroleum and Titan International.

"The nation is beset by an epidemic of corporate crime and misconduct," says Russell Mokhiber, editor of the Corporate Crime Reporter and a co-author of Multinational Monitor's "Ten Worst Corporations of the Year."

*** Smithfield Foods: Consolidating the meat packing business to the detriment of family farms, and spreading factory farms that are polluting rural America**

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At a Slaughterhouse, Some Things Never Die;
Who Kills, Who Cuts, Who Bosses Can Depend on Race

SERIES: HOW RACE IS LIVED IN AMERICA -- Sixth article of a series.

BYLINE: By CHARLIE LeDUFF

DATELINE: TAR HEEL, N.C.

BODY:

It must have been 1 o'clock. That's when the white man usually comes out of his glass office and stands on the scaffolding above the factory floor. He stood with his palms on the rails, his elbows out. He looked like a tower guard up there or a border patrol agent. He stood with his head cocked.

One o'clock means it is getting near the end of the workday. Quota has to be met and the workload doubles. The conveyor belt always overflows with meat around 1 o'clock. So the workers double their pace, hacking pork from shoulder bones with a driven single-mindedness. They stare blankly, like mules in wooden blinders, as the butchered slabs pass by.

It is called the picnic line: 18 workers lined up on both sides of a belt, carving meat from bone. Up to 16 million shoulders a year come down that line here at the Smithfield Packing Co., the largest pork production plant in the world. That works out to about 32,000 a shift, 63 a minute, one every 17 seconds for each worker for eight and a half

hours a day. The first time you stare down at that belt you know your body is going to give in way before the machine ever will.

On this day the boss saw something he didn't like. He climbed down and approached the picnic line from behind. He leaned into the ear of a broad-shouldered black man. He had been riding him all day, and the day before. The boss bawled him out good this time, but no one heard what was said. The roar of the machinery was too ferocious for that. Still, everyone knew what was expected. They worked harder.

The white man stood and watched for the next two hours as the blacks worked in their groups and the Mexicans in theirs. He stood there with his head cocked.

At shift change the black man walked away, hosed himself down and turned in his knives. Then he let go. He threatened to murder the boss. He promised to quit. He said he was losing his mind, which made for good comedy since he was standing near a conveyor chain of severed hogs' heads, their mouths yoked open.

"Who that cracker think he is?" the black man wanted to know. There were enough hogs, he said, "not to worry about no fleck of meat being left on the bone. Keep treating me like a Mexican and I'll beat him."

The boss walked by just then and the black man lowered his head.

Who Gets the Dirty Jobs
The first thing you learn in the hog plant is the value of a sharp knife. The second thing you learn is that you don't want to work with a knife. Finally you learn that not everyone has to work with a knife. Whites, blacks, American Indians and Mexicans, they all have their separate stations.

The few whites on the payroll tend to be mechanics or supervisors. As for the Indians, a handful are supervisors; others tend to get clean menial jobs like warehouse work. With few exceptions, that leaves the blacks and Mexicans with the dirty jobs at the factory, one of the only places within a 50-mile radius in this muddy corner of North Carolina where a person might make more than $8 an hour.

While Smithfield's profits nearly doubled in the past year, wages have remained flat. So a lot of Americans here have quit and a lot of Mexicans have been hired to take their places. But more than management, the workers see one another as the problem, and they see the competition in skin tones.

The locker rooms are self-segregated and so is the cafeteria. The enmity spills out into the towns. The races generally keep to themselves. Along Interstate 95 there are four tumbledown bars, one for each color: white, black, red and brown.

Language is also a divider. There are English and Spanish lines at the Social Security office and in the waiting rooms of the county health

clinics. This means different groups don't really understand one another and tend to be suspicious of what they do know.

You begin to understand these things the minute you apply for the job.

Blood and Burnout
"Treat the meat like you going to eat it yourself," the hiring manager told the 30 applicants, most of them down on their luck and hungry for work. The Smithfield plant will take just about any man or woman with a pulse and a sparkling urine sample, with few questions asked. This reporter was hired using his own name and acknowledged that he was currently employed, but was not asked where and did not say.

Slaughtering swine is repetitive, brutish work, so grueling that three weeks on the factory floor leave no doubt in your mind about why the turnover is 100 percent. Five thousand quit and five thousand are hired every year. You hear people say, They don't kill pigs in the plant, they kill people. So desperate is the company for workers, its recruiters comb the streets of New York's immigrant communities, personnel staff members say, and word of mouth has reached Mexico and beyond.

The company even procures criminals. Several at the morning orientation were inmates on work release in green uniforms, bused in from the county prison.

The new workers were given a safety speech and tax papers, shown a promotional video and informed that there was enough methane, ammonia and chlorine at the plant to kill every living thing here in Bladen County. Of the 30 new employees, the black women were assigned to the chitterlings room, where they would scrape feces and worms from intestines. The black men were sent to the butchering floor. Two free white men and the Indian were given jobs making boxes. This reporter declined a box job and ended up with most of the Mexicans, doing knife work, cutting sides of pork into smaller and smaller products.

Standing in the hiring hall that morning, two women chatted in Spanish about their pregnancies. A young black man had heard enough. His small town the next county over was crowded with Mexicans. They just started showing up three years ago -- drawn to rural Robeson County by the plant -- and never left. They stood in groups on the street corners, and the young black man never knew what they were saying. They took the jobs and did them for less. Some had houses in Mexico, while he lived in a trailer with his mother.

Now here he was, trying for the only job around, and he had to listen to Spanish, had to compete with peasants. The world was going to hell.

"This is America and I want to start hearing some English, now!" he screamed.

One of the women told him where to stick his head and listen for the

echo. "Then you'll hear some English," she said.

An old white man with a face as pinched and lined as a pot roast complained, "The tacos are worse than the niggers," and the Indian leaned against the wall and laughed. In the doorway, the prisoners shifted from foot to foot, watching the spectacle unfold from behind a cloud of cigarette smoke.

The hiring manager came out of his office and broke it up just before things degenerated into a brawl. Then he handed out the employment stubs. "I don't want no problems," he warned. He told them to report to the plant on Monday morning to collect their carving knives.

$7.70 an Hour, Pain All Day
Monday. The mist rose from the swamps and by 4:45 a.m. thousands of headlamps snaked along the old country roads. Cars carried people from the backwoods, from the single and doublewide trailers, from the cinder-block houses and wooden shacks: whites from Lumberton and Elizabethtown; blacks from Fairmont and Fayetteville; Indians from Pembroke; the Mexicans from Red Springs and St. Pauls.

They converge at the Smithfield plant, a 973,000-square-foot leviathan of pipe and steel near the Cape Fear River. The factory towers over the tobacco and cotton fields, surrounded by pine trees and a few of the old whitewashed plantation houses. Built seven years ago, it is by far the biggest employer in this region, 75 miles west of the Atlantic and 90 miles south of the booming Research Triangle around Chapel Hill.

The workers filed in, their faces stiffened by sleep and the cold, like saucers of milk gone hard. They punched the clock at 5 a.m., waiting for the knives to be handed out, the chlorine freshly applied by the cleaning crew burning their eyes and throats. Nobody spoke.

The hallway was a river of brown-skinned Mexicans. The six prisoners who were starting that day looked confused.

"What the hell's going on?" the only white inmate, Billy Harwood, asked an older black worker named Wade Baker.

"Oh," Mr. Baker said, seeing that the prisoner was talking about the Mexicans. "I see you been away for a while."

Billy Harwood had been away -- nearly seven years, for writing phony payroll checks from the family pizza business to buy crack. He was Rip Van Winkle standing there. Everywhere he looked there were Mexicans. What he didn't know was that one out of three newborns at the nearby Robeson County health clinic was a Latino; that the county's Roman Catholic church had a special Sunday Mass for Mexicans said by a Honduran priest; that the schools needed Spanish speakers to teach English.

With less than a month to go on his sentence, Mr. Harwood took the

pork job to save a few dollars. The word in jail was that the job was a cakewalk for a white man.

But this wasn't looking like any cakewalk. He wasn't going to get a boxing job like a lot of other whites. Apparently inmates were on the bottom rung, just like Mexicans.

Billy Harwood and the other prisoners were put on the picnic line. Knife work pays $7.70 an hour to start. It is money unimaginable in Mexico, where the average wage is $4 a day. But the American money comes at a price. The work burns your muscles and dulls your mind. Staring down into the meat for hours strains your neck. After thousands of cuts a day your fingers no longer open freely. Standing in the damp 42-degree air causes your knees to lock, your nose to run, your teeth to throb.

The whistle blows at 3, you get home by 4, pour peroxide on your nicks by 5. You take pills for your pains and stand in a hot shower trying to wash it all away. You hurt. And by 8 o'clock you're in bed, exhausted, thinking of work.

The convict said he felt cheated. He wasn't supposed to be doing Mexican work. After his second day he was already talking of quitting. "Man, this can't be for real," he said, rubbing his wrists as if they'd been in handcuffs. "This job's for an ass. They treat you like an animal."

He just might have quit after the third day had it not been for Mercedes Fernandez, a Mexican. He took a place next to her by the conveyor belt. She smiled at him, showed him how to make incisions. That was the extent of his on-the-job training. He was peep-eyed, missing a tooth and squat from the starchy prison food, but he acted as if this tiny woman had taken a fancy to him. In truth, she was more fascinated than infatuated, she later confided. In her year at the plant, he was the first white person she had ever worked with.

The other workers noticed her helping the white man, so unusual was it for a Mexican and a white to work shoulder to shoulder, to try to talk or even to make eye contact.

As for blacks, she avoided them. She was scared of them. "Blacks don't want to work," Mrs. Fernandez said when the new batch of prisoners came to work on the line. "They're lazy."

Everything about the factory cuts people off from one another. If it's not the language barrier, it's the noise -- the hammering of compressors, the screeching of pulleys, the grinding of the lines. You can hardly make your voice heard. To get another's attention on the cut line, you bang the butt of your knife on the steel railings, or you lob a chunk of meat. Mrs. Fernandez would sometimes throw a piece of shoulder at a friend across the conveyor and wave good morning.

The Kill Floor
The kill floor sets the pace of the work, and for those jobs they

pick strong men and pay a top wage, as high as $12 an hour. If the men fail to make quota, plenty of others are willing to try. It is mostly the blacks who work the kill floor, the stone-hearted jobs that pay more and appear out of bounds for all but a few Mexicans. Plant workers gave various reasons for this: The Mexicans are too small; they don't like blood; they don't like heavy lifting; or just plain "We built this country and we ain't going to hand them everything," as one black man put it.

Kill-floor work is hot, quick and bloody. The hog is herded in from the stockyard, then stunned with an electric gun. It is lifted onto a conveyor belt, dazed but not dead, and passed to a waiting group of men wearing bloodstained smocks and blank faces. They slit the neck, shackle the hind legs and watch a machine lift the carcass into the air, letting its life flow out in a purple gush, into a steaming collection trough.

The carcass is run through a scalding bath, trolleyed over the factory floor and then dumped onto a table with all the force of a quarter-ton water balloon. In the misty-red room, men slit along its hind tendons and skewer the beast with hooks. It is again lifted and shot across the room on a pulley and bar, where it hangs with hundreds of others as if in some kind of horrific dry-cleaning shop. It is then pulled through a wall of flames and met on the other side by more black men who, stripped to the waist beneath their smocks, scrape away any straggling bristles.

The place reeks of sweat and scared animal, steam and blood. Nothing is wasted from these beasts, not the plasma, not the glands, not the bones. Everything is used, and the kill men, repeating slaughterhouse lore, say that even the squeal is sold.

The carcasses sit in the freezer overnight and are then rolled out to the cut floor. The cut floor is opposite to the kill floor in nearly every way. The workers are mostly brown -- Mexicans -- not black; the lighting yellow, not red. The vapor comes from cold breath, not hot water. It is here that the hog is quartered. The pieces are parceled out and sent along the disassembly lines to be cut into ribs, hams, bellies, loins and chops.

People on the cut lines work with a mindless fury. There is tremendous pressure to keep the conveyor belts moving, to pack orders, to put bacon and ham and sausage on the public's breakfast table. There is no clock, no window, no fragment of the world outside. Everything is pork. If the line fails to keep pace, the kill men must slow down, backing up the slaughter. The boxing line will have little to do, costing the company payroll hours. The blacks who kill will become angry with the Mexicans who cut, who in turn will become angry with the white superintendents who push them.

10,000 Unwelcome Mexicans
The Mexicans never push back. They cannot. Some have legitimate work papers, but more, like Mercedes Fernandez, do not.

Even worse, Mrs. Fernandez was several thousand dollars in debt to the smugglers who had sneaked her and her family into the United States and owed a thousand more for the authentic-looking birth certificate and Social Security card that are needed to get hired. She and her husband, Armando, expected to be in debt for years. They had mouths to feed back home.

The Mexicans are so frightened about being singled out that they do not even tell one another their real names. They have their given names, their work-paper names and "Hey you," as their American supervisors call them. In the telling of their stories, Mercedes and Armando Fernandez insisted that their real names be used, to protect their identities. It was their work names they did not want used, names bought in a back alley in Barstow, Tex.

Rarely are the newcomers welcomed with open arms. Long before the Mexicans arrived, Robeson County, one of the poorest in North Carolina, was an uneasy racial mix. In the 1990 census, of the 100,000 people living in Robeson, nearly 40 percent were Lumbee Indian, 35 percent white and 25 percent black. Until a dozen years ago the county schools were de facto segregated, and no person of color held any meaningful county job from sheriff to court clerk to judge.

At one point in 1988, two armed Indian men occupied the local newspaper office, taking hostages and demanding that the sheriff's department be investigated for corruption and its treatment of minorities. A prominent Indian lawyer, Julian Pierce, was killed that same year, and the suspect turned up dead in a broom closet before he could be charged. The hierarchy of power was summed up on a plaque that hangs in the courthouse commemorating the dead of World War I. It lists the veterans by color: "white" on top, "Indian" in the middle and "colored" on the bottom.

That hierarchy mirrors the pecking order at the hog plant. The Lumbees -- who have fought their way up in the county apparatus and have built their own construction businesses -- are fond of saying they are too smart to work in the factory. And the few who do work there seem to end up with the cleaner jobs.

But as reds and blacks began to make progress in the 1990's -- for the first time an Indian sheriff was elected, and a black man is now the public defender -- the Latinos began arriving. The United States Census Bureau estimated that 1,000 Latinos were living in Robeson County last year. People only laugh at that number.

"A thousand? Hell, there's more than that in the Wal-Mart on a Saturday afternoon," said Bill Smith, director of county health services. He and other officials guess that there are at least 10,000 Latinos in Robeson, most having arrived in the past three years.

"When they built that factory in Bladen, they promised a trickledown effect," Mr. Smith said. "But the money ain't trickling down this way. Bladen got the money and Robeson got the social problems."

In Robeson there is the strain on public resources. There is the substandard housing. There is the violence. Last year 27 killings were committed in Robeson, mostly in the countryside, giving it a higher murder rate than Detroit or Newark. Three Mexicans were robbed and killed last fall. Latinos have also been the victims of highway stickups.

In the yellow-walled break room at the plant, Mexicans talked among themselves about their three slain men, about the midnight visitors with obscured faces and guns, men who knew that the illegal workers used mattresses rather than banks. Mercedes Fernandez, like many Mexicans, would not venture out at night. "Blacks have a problem," she said. "They live in the past. They are angry about slavery, so instead of working, they steal from us."

She and her husband never lingered in the parking lot at shift change. That is when the anger of a long day comes seeping out. Cars get kicked and faces slapped over parking spots or fender benders. The traffic is a serpent. Cars jockey for a spot in line to make the quarter-mile crawl along the plant's one-lane exit road to the highway. Usually no one will let you in. A lot of the scuffling is between black and Mexican.

Black and Bleak

The meat was backing up on the conveyor and spilling onto the floor. The supervisor climbed down off the scaffolding and chewed out a group of black women. Something about skin being left on the meat. There was a new skinner on the job, and the cutting line was expected to take up his slack. The whole line groaned. First looks flew, then people began hurling slurs at one another in Spanish and English, words they could hardly hear over the factory's roar. The black women started waving their knives at the Mexicans. The Mexicans waved theirs back. The blades got close. One Mexican spit at the blacks and was fired.

After watching the knife scene, Wade Baker went home and sagged in his recliner. CNN played. Good news on Wall Street, the television said. Wages remained stable. "Since when is the fact that a man doesn't get paid good news?" he asked the TV. The TV told him that money was everywhere -- everywhere but here.

Still lean at 51, Mr. Baker has seen life improve since his youth in the Jim Crow South. You can say things. You can ride in a car with a white woman. You can stay in the motels, eat in the restaurants. The black man got off the white man's field.

"Socially, things are much better," Mr. Baker said wearily over the droning television. "But we're going backwards as black people economically. For every one of us doing better, there's two of us doing worse."

His town, Chad Bourne, is a dreary strip of peeling paint and warped porches and houses as run-down as rotting teeth. Young men drift from

the cinder-block pool hall to the empty streets and back. In the center of town is a bank, a gas station, a chicken shack and a motel. As you drive out, the lights get dimmer and the homes older until eventually you're in a flat void of tobacco fields.

Mr. Baker was standing on the main street with his grandson Monte watching the Christmas parade march by when a scruffy man approached. It was Mr. Baker's cousin, and he smelled of kerosene and had dust in his hair as if he lived in a vacant building and warmed himself with a portable heater. He asked for $2.

"It's ironic isn't it?" Mr. Baker said as his cousin walked away only eight bits richer. "He was asking me the same thing 10 years ago."

A group of Mexicans stood across the street hanging around the gas station watching them.

"People around here always want to blame the system," he said. "And it is true that the system is antiblack and antipoor. It's true that things are run by the whites. But being angry only means you failed in life. Instead of complaining, you got to work twice as hard and make do."

He stood quietly with his hands in his pockets watching the parade go by. He watched the Mexicans across the street, laughing in their new clothes. Then he said, almost as an afterthought, "There's a day coming soon where the Mexicans are going to catch hell from the blacks, the way the blacks caught it from the whites."

Wade Baker used to work in the post office, until he lost his job over drugs. When he came out of his haze a few years ago, there wasn't much else for him but the plant. He took the job, he said, "because I don't have a 401K." He took it because he had learned from his mother that you don't stand around with your head down and your hand out waiting for another man to drop you a dime.

Evelyn Baker, bent and gray now, grew up a sharecropper, the granddaughter of slaves. She was raised up in a tar-paper shack, picked cotton and hoed tobacco for a white family. She supported her three boys alone by cleaning white people's homes.

In the late 60's something good started happening. There was a labor shortage, just as there is now. The managers at the textile plants started giving machine jobs to black people.

Mrs. Baker was 40 then. "I started at a dollar and 60 cents an hour, and honey, that was a lot of money then," she said.

The work was plentiful through the 70's and 80's, and she was able to save money and add on to her home. By the early 90's the textile factories started moving away, to Mexico. Robeson County has lost about a quarter of its jobs since that time.

Unemployment in Robeson hovers around 8 percent, twice the national average. In neighboring Columbus County it is 10.8 percent. In Bladen County it is 5 percent, and Bladen has the pork factory.

Still, Mr. Baker believes that people who want to work can find work. As far as he's concerned, there are too many shiftless young men who ought to be working, even if it's in the pork plant. His son-in-law once worked there, quit and now hangs around the gas station where other young men sell dope.

The son-in-law came over one day last fall and threatened to cause trouble if the Bakers didn't let him borrow the car. This could have turned messy; the 71-year-old Mrs. Baker keeps a .38 tucked in her bosom.

When Wade Baker got home from the plant and heard from his mother what had happened, he took up his pistol and went down to the corner, looking for his son-in-law. He chased a couple of the young men around the dark dusty lot, waving the gun. "Hold still so I can shoot one of you!" he recalled having bellowed. "That would make the world a better place!"

He scattered the men without firing. Later, sitting in his car with his pistol on the seat and his hands between his knees, he said, staring into the night: "There's got to be more than this. White people drive by and look at this and laugh."

Living It, Hating It

Billy Harwood had been working at the plant 10 days when he was released from the Robeson County Correctional Facility. He stood at the prison gates in his work clothes with his belongings in a plastic bag, waiting. A friend dropped him at the Salvation Army shelter, but he decided it was too much like prison. Full of black people. No leaving after 10 p.m. No smoking indoors. "What you doing here, white boy?" they asked him.

He fumbled with a cigarette outside the shelter. He wanted to quit the plant. The work stinks, he said, "but at least I ain't a nigger. I'll find other work soon. I'm a white man." He had hopes of landing a roofing job through a friend. The way he saw it, white society looks out for itself.

On the cut line he worked slowly and allowed Mercedes Fernandez and the others to pick up his slack. He would cut only the left shoulders; it was easier on his hands. Sometimes it would be three minutes before a left shoulder came down the line. When he did cut, he didn't clean the bone; he left chunks of meat on it.

Mrs. Fernandez was disappointed by her first experience with a white person. After a week she tried to avoid standing by Billy Harwood. She decided it wasn't just the blacks who were lazy, she said.

Even so, the supervisor came by one morning, took a look at one of

Mr. Harwood's badly cut shoulders and threw it at Mrs. Fernandez, blaming her. He said obscene things about her family. She didn't understand exactly what he said, but it scared her. She couldn't wipe the tears from her eyes because her gloves were covered with greasy shreds of swine. The other cutters kept their heads down, embarrassed.

Her life was falling apart. She and her husband both worked the cut floor. They never saw their daughter. They were 26 but rarely made love anymore. All they wanted was to save enough money to put plumbing in their house in Mexico and start a business there. They come from the town of Tehuacan, in a rural area about 150 miles southeast of Mexico City. His mother owns a bar there and a home but gives nothing to them. Mother must look out for her old age.

"We came here to work so we have a chance to grow old in Mexico," Mrs. Fernandez said one evening while cooking pork and potatoes. Now they were into a smuggler for thousands. Her hands swelled into claws in the evenings and stung while she worked. She felt trapped. But she kept at it for the money, for the $9.60 an hour. The smuggler still had to be paid.

They explained their story this way: The coyote drove her and her family from Barstow a year ago and left them in Robeson. They knew no one. They did not even know they were in the state of North Carolina. They found shelter in a trailer park that had once been exclusively black but was rapidly filling with Mexicans. There was a lot of drug dealing there and a lot of tension. One evening, Mr. Fernandez said, he asked a black neighbor to move his business inside and the man pulled a pistol on him.

"I hate the blacks," Mr. Fernandez said in Spanish, sitting in the break room not 10 feet from Mr. Baker and his black friends. Mr. Harwood was sitting two tables away with the whites and Indians.

After the gun incident, Mr. Fernandez packed up his family and moved out into the country, to a prefabricated number sitting on a brick foundation off in the woods alone. Their only contact with people is through the satellite dish. Except for the coyote. The coyote knows where they live and comes for his money every other month.

Their 5-year-old daughter has no playmates in the back country and few at school. That is the way her parents want it. "We don't want her to be American," her mother said.

'We Need a Union'

The steel bars holding a row of hogs gave way as a woman stood below them. Hog after hog fell around her with a sickening thud, knocking her senseless, the connecting bars barely missing her face. As co-workers rushed to help the woman, the supervisor spun his hands in the air, a signal to keep working. Wade Baker saw this and shook his head in disgust. Nothing stops the disassembly lines.

"We need a union," he said later in the break room. It was payday and

he stared at his check: $288. He spoke softly to the black workers sitting near him. Everyone is convinced that talk of a union will get you fired. After two years at the factory, Mr. Baker makes slightly more than $9 an hour toting meat away from the cut line, slightly less than $20,000 a year, 45 cents an hour less than Mrs. Fernandez.

"I don't want to get racial about the Mexicans," he whispered to the black workers. "But they're dragging down the pay. It's pure economics. They say Americans don't want to do the job. That ain't exactly true. We don't want to do it for $8. Pay $15 and we'll do it."

These men knew that in the late 70's, when the meatpacking industry was centered in northern cities like Chicago and Omaha, people had a union getting them $18 an hour. But by the mid-80's, to cut costs, many of the packing houses had moved to small towns where they could pay a lower, nonunion wage.

The black men sitting around the table also felt sure that the Mexicans pay almost nothing in income tax, claiming 8, 9, even 10 exemptions. The men believed that the illegal workers should be rooted out of the factory. "It's all about money," Mr. Baker said.

His co-workers shook their heads. "A plantation with a roof on it," one said.

For their part, many of the Mexicans in Tar Heel fear that a union would place their illegal status under scrutiny and force them out. The United Food and Commercial Workers Union last tried organizing the plant in 1997, but the idea was voted down nearly two to one.

One reason Americans refused to vote for the union was because it refuses to take a stand on illegal laborers. Another reason was the intimidation. When workers arrived at the plant the morning of the vote, they were met by Bladen County deputy sheriffs in riot gear. "Nigger Lover" had been scrawled on the union trailer.

Five years ago the work force at the plant was 50 percent black, 20 percent white and Indian, and 30 percent Latino, according to union statistics. Company officials say those numbers are about the same today. But from inside the plant, the breakdown appears to be more like 60 percent Latino, 30 percent black, 10 percent white and red.

Sherri Buffkin, a white woman and the former director of purchasing who testified before the National Labor Relations Board in an unfair-labor-practice suit brought by the union in 1998, said in an interview that the company assigns workers by race. She also said that management had kept lists of union sympathizers during the '97 election, firing blacks and replacing them with Latinos. "I know because I fired at least 15 of them myself," she said.

The company denies those accusations. Michael H. Cole, a lawyer for Smithfield who would respond to questions about the company's labor practices only in writing, said that jobs at the Tar Heel plant were

awarded through a bidding process and not assigned by race. The company also denies ever having kept lists of union sympathizers or singled out blacks to be fired.

The hog business is important to North Carolina. It is a multibillion-dollar-a-year industry in the state, with nearly two pigs for every one of its 7.5 million people. And Smithfield Foods, a publicly traded company based in Smithfield, Va., has become the No. 1 producer and processor of pork in the world. It slaughters more than 20 percent of the nation's swine, more than 19 million animals a year.

The company, which has acquired a network of factory farms and slaughterhouses, worries federal agriculture officials and legislators, who see it siphoning business from smaller farmers. And environmentalists contend that Smithfield's operations contaminate local water supplies. (The Environmental Protection Agency fined the company $12.6 million in 1996 after its processing plants in Virginia discharged pollutants into the Pagan River.) The chairman and chief executive, Joseph W. Luter III, declined to be interviewed.

Smithfield's employment practices have not been so closely scrutinized. And so every year, more Mexicans get hired. "An illegal alien isn't going to complain all that much," said Ed Tomlinson, acting supervisor of the Immigration and Naturalization Service bureau in Charlotte.

But the company says it does not knowingly hire illegal aliens. Smithfield's lawyer, Mr. Cole, said all new employees must present papers showing that they can legally work in the United States. "If any employee's documentation appears to be genuine and to belong to the person presenting it," he said in his written response, "Smithfield is required by law to take it at face value."

The naturalization service -- which has only 18 agents in North Carolina -- has not investigated Smithfield because no one has filed a complaint, Mr. Tomlinson said. "There are more jobs than people," he said, "and a lot of Americans will do the dirty work for a while and then return to their couches and eat bonbons and watch Oprah."

Not Fit for a Convict
When Billy Harwood was in solitary confinement, he liked a book to get him through. A guard would come around with a cartful. But when the prisoner asked for a new book, the guard, before handing it to him, liked to tear out the last 50 pages. The guard was a real funny guy.

"I got good at making up my own endings," Billy Harwood said during a break. "And my book don't end standing here. I ought to be on that roof any day now."

But a few days later, he found out that the white contractor he was counting on already had a full roofing crew. They were Mexicans who were working for less than he was making at the plant.

During his third week cutting hogs, he got a new supervisor -- a black woman. Right away she didn't like his work ethic. He went too slow. He cut out to the bathroom too much.

"Got a bladder infection?" she asked, standing in his spot when he returned. She forbade him to use the toilet.

He boiled. Mercedes Fernandez kept her head down. She was certain of it, she said: he was the laziest man she had ever met. She stood next to a black man now, a prisoner from the north. They called him K. T. and he was nice to her. He tried Spanish, and he worked hard.

When the paychecks were brought around at lunch time on Friday, Billy Harwood got paid for five hours less than everyone else, even though everyone punched out on the same clock. The supervisor had docked him.

The prisoners mocked him. "You might be white," K. T. said, "but you came in wearing prison greens and that makes you good as a nigger."

The ending wasn't turning out the way Billy Harwood had written it: no place to live and a job not fit for a donkey. He quit and took the Greyhound back to his parents' trailer in the hills.

When Mrs. Fernandez came to work the next day, a Mexican guy going by the name of Alfredo was standing in Billy Harwood's spot.

About the Series
Two generations after the end of legal discrimination, race still ignites political debates. But the wider public discussion of race relations seems muted. Race relations are being defined less by political action than by daily experience, in schools, in sports arenas, in pop culture and at worship, and especially in the workplace. These encounters -- race relations in the most literal, everyday sense -- make up this series of reports, the outcome of a yearlong examination by Times reporters.

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Pork producer could help land the Hornets

(Norfolk-AP) -- Smithfield Foods, the nation's largest pork producer, is close to a deal to purchase the naming rights for a proposed downtown Norfolk arena.
Norfolk mayor Paul Fraim on Friday confirmed that Smithfield is seriously considering a $40 - $60 million deal and could sign on as early as Monday.
City officials believe a "yes" from Smithfield Foods could be a key step toward rescuing Norfolk's effort to land the Charlotte Hornets.
Up to this point, a naming-rights deal was a key missing element in Norfolk's efforts to lure the Hornets.
Smithfield vice president Richard Poulson says the proposed $228 million, 18-thousand-seat arena would be called the Smithfield Foods Center.
However, New Orleans still appears to be the Hornets' top choice. The city already has an arena so the team could play immediately.
The NBA franchise plans to make an application to move the team by the end of the month.

APPENDIX D

Waterkeeper Alliance
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July 30, 2001

Concentrated Animal Feeding Operations Rule
United States Environmental Protection Agency
Waterside Mall, West Tower
Room 611
401 M Street, S.W.
Washington, D.C. 20460

Re: Proposed Revisions to Environmental Protection Agency Regulations for Concentrated Animal Feeding Operations

To the United States Environmental Protection Agency:

I write you on behalf of Waterkeeper Alliance and the Animal Welfare Institute to comment on the Environmental Protection Agency's (EPA's) proposed Concentrated Animal Feeding Operation (CAFO) regulations. While the revisions generally improve EPA's CAFO regulations, they fail to address the most pressing environmental and health hazards by failing to require the elimination of animal waste lagoons.

Introduction

Waterkeeper Alliance is made up of 70 organizations around the country who advocate for the protection of their local water resources. Waterkeepers work to educate the public about the importance of healthy waterways and watersheds, emphasizing the enforcement of environmental laws to protect and maintain those waters. When government fails to act, Waterkeepers bring legal actions to force compliance of environmental laws.

In December 2000, Waterkeeper Alliance led a coalition of groups in launching a major national campaign to reform the polluting practices of industrial livestock operations, an enormous and growing menace to the health of America's waterways and public health. Initially, the campaign is focusing on industrial hog operations. In the course of this campaign, we have heard from thousands of farmers, fishermen, environmentalists, animal welfare advocates, and rural residents concerned about problems caused by highly concentrated livestock operations. Without exception, these people have told us that government has failed to adequately address the problems caused by concentrated livestock operations. Many of these people view CAFOs as destroying rural America.

For these reasons, Waterkeeper Alliance has a strong interest in the development and enforcement of effective CAFO regulations and submits the following comments. The Animal Welfare Institute, which belongs to the coalition of groups working to reform the hog industry and has worked on issues related to farm animal health and welfare for many years, joins Waterkeeper Alliance in these comments.

EPA's CAFO Regulations Should Ban Animal Waste Lagoons.

A. Most CAFOs liquefy and store massive quantities of animal manure.

Traditional American farms raised animals outdoors on pasture or indoors on straw. Farmers used the animal manure to

fertilize their crops of corn, soy, and alfalfa, which they fed to their animals. Animal bedding was a by-product of many small grain crops.[10] On traditional farms, manure management was not merely waste disposal but was an integral aspect of the nutrient cycle and contributed to the overall economy of the farming operation.[11] The inputs and outputs of the system were roughly in balance and risks to the environment and human health were minimal and manageable.

However, approximately two decades ago, a handful of corporations began to invest heavily in a method intended to produce pork more cheaply. Under this system, large numbers of animals are continually confined in buildings with metal or concrete floors over which a liquid mixture of urine, manure and water is periodically flushed. The liquid flushes the manure to huge impoundments beneath the floors. This liquefaction of manure enables CAFO operators to employ fewer people than a traditional farm because less labor is required to remove the manure from the animal stalls and pens.[12] CAFO hogs are continually confined in crates and pens and spend their entire lives over these liquid waste impoundments. The liquefied manure from the impoundments is then pumped to massive open-air storage pits, which CAFO owners euphemistically call "lagoons." The waste is periodically dumped onto adjacent fields by pumping and spraying equipment. Today, the majority of swine CAFOs use the liquid manure and lagoon system.[13] In certain areas of the United States, the countryside is littered with these huge manure pits, which can be several stories deep and acres wide.

North Carolina, with an estimated 4,800 hog waste lagoons,[14] may have more than any other state. Flying over Jones or Duplin County, in Eastern North Carolina, one can easily count 100 giant manure pits in a single bird's-eye-view.[15] Periodically, the lagoons breach or are flooded over, causing catastrophic consequences. In June 1995, 25 million gallons of liquid hog manure spilled into North Carolina's New River, killing a billion fish.[16] This was preceded by a liquid hog manure spill of one million gallons into waterways in Sampson County, North Carolina.[17] In July 1996, a hog CAFO spilled 1.8 million gallons into tributaries of the Neuse River in Craven County.[18] In September 1998, when hurricane Floyd hit, Neuse Riverkeeper Rick Dove personally observed 25 flooded hog waste lagoons. Newspapers reported that 50 lagoons in Eastern North Carolina were flooded.[19] These lagoons probably each contained several million gallons of liquid animal manure.

More insidious but even more dangerous than the hog waste spills are the continual discharges of pollutants to the environment from lagoons and sprayfields. As will be set forth below, research demonstrates that wherever they exist, hog and other animal waste lagoons and sprayfields cause constant contamination of the air, land, and water through volatilization, run off, and leaking. Exacerbating the problem, CAFO operators regularly over-apply and misapply waste to their fields, such as applying liquid waste when the ground is wet or frozen.[20] These practices result in pollution of groundwater and nearby streams and rivers.

B. Liquefied manure lagoons are inherently dangerous to human health and the environment.

1. CAFOs are Over-Applying Phosphorous.

Soil in many areas of the country with high concentrations of CAFOs are vastly oversaturated with phosphorous. Several recent studies have established that where animal waste is the primary source of fertilizer, phosphorous is being overapplied.[21] A September 2000 study found that phosphorous was being vastly overapplied by hog operations in the Midwest.[22] The University of Northern Iowa study by biology professor Dr. Laura Jackson looked at ten operations, and concluded that the operations studied would need an additional 24,000 acres, or six times the available land, to avoid overapplying the phosphorous from the waste they were producing.[23]

The lagoon and sprayfield waste handling system of North Carolina's hog operations has caused excessive phosphorous to accumulate in their soils.[24] Excess phosphorous enters groundwater or surface water rather than binding to soil.[25]

This is especially likely in areas with well-drained, sandy soils such as those found in Eastern North Carolina and other hog producing regions.[26] Recent research establishes that soils overloaded with phosphorous generate significant amounts of soluble phosphorous that can be readily transported by surface water runoff even with minimal soil erosion.[27] Phosphorous overloading exacerbates eutrification in surface water.[28]

2. Contamination of groundwater and surface waters by nitrates and pathogens endangers human health and the environment.

Liquefied manure systems endanger surface waters. Studies of the streams of Eastern North Carolina have demonstrated that even normal rainfall events carry nutrients from hog facility sprayfields across the field or through shallow groundwater into nearby receiving streams, leading to nutrient concentrations around these operations high enough to cause damage to aquatic ecosystems.[29]

The lagoon and sprayfield system of handling hog waste threatens public health because it puts all nearby groundwater at risk of contamination. Hog facilities contaminate groundwater with leaking lagoons and with leaching of waste applied to sprayfields.[30] Polluted groundwater is dangerous to human health and the environment because it may enter streams and other surface waters where people come in contact with it as well as poisoning wells used for human and animal consumption.[31]

Groundwater serves as the source of drinking water for nearly half the population of the United States.[32] Some areas that have many hog CAFOs, such as Eastern North Carolina, are especially vulnerable to groundwater pollution because they have sandy soils and a shallow water table.[33] Sand allows nitrates and bacteria to pass quickly to water supplies below.[34] Hog waste lagoons are a major source of groundwater contamination.[35] Most hog waste lagoons leak and studies show that even lagoons described as having "little seepage" still produced groundwater nitrate levels up to three times the allowable limit.[36]

In July 2001, the Minnesota Pollution Control Agency released a report on the dangers of animal manure lagoons that was based on several studies by its own staff and industry consultants.[37] The researchers had studied 37 manure lagoons and found that for every one of the lagoons older than five years underground pollution plumes could be detected.[38] The pollution plumes contained high concentrations of ammonia, organic nitrogen, phosphorous, organic carbon, potassium and chloride.[39]

Sprayed liquid hog waste similarly pollutes groundwater. North Carolina State University research of fields where hog waste was being sprayed as fertilizer reported that, "evidence of contamination was found almost everywhere" in the sandy soil beneath the spray fields.[40] Contaminants seeping from hog lagoons and spray fields include nutrients, numerous strains of harmful bacteria, and chemicals.[41]

The overnutrification of surface water bodies also endangers human health and the environment. North Carolina has officially designated several of its major rivers, including the Neuse River, as "nutrient sensitive waters." A major source of nutrient pollution to North Carolina's waters is runoff from croplands and intensive livestock operations.[42] Polluted groundwater contributes to overnutrification of surface waters. For example, an analysis by the United States Geological Survey of the impact of nutrients on the Chesapeake Bay found that nutrients leaking into groundwater were a major source of nutrient contamination of the Bay.

> Nutrients that seep into groundwater from the land surface also make their way into the rivers and streams that flow into the Bay, or directly into the Bay itself. Groundwater is an important source of surface water and nutrients. The USGS has determined that about 50 percent of the water in streams comes from groundwater, but

> the amount can be as low as 27 percent or as high as 85 percent. The amount of groundwater varies according to the type of rock and sediment beneath the land surface. Up to one half of the nitrogen entering the Bay travels through groundwater. It is possible that about 10 to 20 percent of the phosphorous entering the Chesapeake Bay also travels through groundwater.[43]

The lagoon and sprayfield disposal of animal waste endangers public health and the environment by causing elevated levels of nitrates in groundwater.[44] Waste contains nitrogen-laden compounds that are converted to nitrates in the soil.[45] Nitrates are extremely soluble in water and can move easily through soil into the drinking water supply.[46] Because nitrates move with the flow of groundwater, the contamination can move great distances from its source.[47] As set forth above, research has established that hog lagoons and sprayfields are causing widespread contamination of groundwater. Although the U.S. Environmental Protection Agency has established a drinking-water standard for well water of 10 mg/L of nitrate or less, a 1995 study of North Carolina wells near swine waste lagoons found ammonia-N concentrations of up to 300 mg/L and nitrate-N concentrations of up to 40 mg/L.[48] A recent study of groundwater near intensive livestock operations in Southern Ontario found excessive nitrate concentrations at 14% of wells, many having concentrations more than four times safe levels.[49]

The operational practices of many hog CAFOs contribute to elevated nitrates in nearby groundwater. The North Carolina Division of Water Quality and local health department tested over 1600 well water samples from people living adjacent to intensive livestock operations and found that more than 10 percent of these samples contain nitrate levels above the EPA's recommended limit of 10 ppm.[50]

Drinking water with elevated nitrates is dangerous to humans and animals. The greatest danger to public health from nitrate-tainted drinking water is methemoglobinemia. The condition occurs when hemoglobin, the oxygen carrying component of blood, is converted by nitrite to methemoglobin, which fails to carry oxygen efficiently through the body, causing vital tissues, including the brain, to receive less oxygen than they need.[51] Severe methemoglobinemia can result in brain damage and even death.[52] Young infants, especially those under six years, are highly vulnerable and some adults are susceptible to methemoglobinemia.[53] Ingestion of drinking water with very high levels of nitrate (greater than 1000 mg/l) can lead to acute nitrate poisoning.[54] Nitrate ingestion is also believed to contribute to the development of some cancers and cause adverse reproductive outcomes.[55] A University of Iowa study published in the May 2001 issue of the journal Epidemiology that looked at cancer incidents of nearly 22,000 women demonstrates that nitrates in drinking water, even far below the U.S.E.P.A. drinking water standard of 10 mg per liter, may increase the risk of bladder cancer by as much as three times.[56] Where animal waste has caused elevated nitrate levels, bacteria, viruses, and protozoa may also be present.[57]

Animal manure contains pathogens. Animals raised under the stress of intensive confinement actually excrete more pathogens than animals in less intensive environments.[58] Pathogens are disease-causing organisms including bacteria, viruses, protozoa, fungi, and algae. The 1998 National Water Quality Inventory indicates that pathogens (specifically bacteria) are the leading stressor in impaired estuaries and the second most prevalent stressor in impaired rivers and streams. Over 150 pathogens found in animal manure are associated with risks to humans.[59] Hog excrement from pork factories contains more than one-hundred known human viral, bacterial, and parasitic pathogens such as influenza viruses, polio virus, *Hepatitis* A, B, and E viruses, *Salmonella* species, *Escherichia coli, Yersinia, Leptospora*, *Cryptosporidium*, and *Giardia*.[60] These pathogens, some of which can be fatal, also create illnesses in humans ranging from ear aches, respiratory disease, gastrointestinal illness to chronic diseases such as polio.

The risks are more than theoretical; many people have died in North America over the past decade due to viral and bacteriological contamination of public water supplies associated with waste discharges from industrial livestock

operations. [61]

Pathogens migrate from manure pits by groundwater and surface water and by spraying of hog waste which increases the likelihood that diseases will spread via air, soils, and water. Birds and the huge populations of disease-carrying flies which thrive at hog factories can carry *Salmonella* species and other microbial pathogens such as new influenza virus strains.

Many other human health impacts from lagoons and sprayfields have been documented in the past two decades. People working in and living near hog facilities suffer from respiratory ailments, chronic diarrhea, and depression.[62]

3. Nutrient contamination contributes to outbreaks of the toxic dinoflagellate *Pfiesteria piscicida.*

Manure washing off hog sprayfields and leaking to groundwater also contributes to outbreaks of toxic *Pfiesteria piscicida*.[63] Toxic *Pfiesteria* zoospores consume urea found in animal waste as a source of organic nitrogen in their nutrition.[64] Nutrient loadings to surface waters also contribute to outbreaks of *Pfiesteria* by stimulating the growth of algae that *Pfiesteria* feeds on when in its non-toxic forms.[65]

Among the chief sources of nutrient pollution in coastal areas are polluted runoff from agricultural operations, and air pollutants that settle on land and water.[66] The *Pfiesteria piscicida* dinoflagellate is highly toxic to fish and dangerous to humans. A 1998 peer-reviewed article published in Lancet reported the following:

> People with environmental exposure to waterways in which *Pfiesteria* toxins are present are at risk of developing a reversible clinical syndrome characterized by difficulties with learning and higher cognitive functions. Risk of illness is directly related to degree of exposure, with the most prominent symptoms and signs occurring among people with chronic daily exposure to affected waterways.[67]

A 1995 peer-reviewed article published in the Journal of Toxicology and Environmental Health documented numerous adverse effects on human health effects from *Pfiesteria* toxins absorbed from water or fine aerosols.[68]

4. Ammonia from liquid hog waste endangers human health and the environment.

Liquid hog waste also endangers public health and the environment because it causes elevated ammonium levels when it enters the air and reaches groundwater and surface waters.[69] Whereas dry manure systems lose 15% to 40%[70] of their nitrogen to the atmosphere as ammonia, studies now show that 70 - 80% of the nitrogen in hog lagoons enters the environment as airborne ammonia gas.[71]An EPA study in Missouri reported that the facility under study emitted an estimated 1,200 pounds of ammonia per day from the barns alone.[72] In North Carolina, state wide, swine operations account for about 20% of nitrogen air emissions, in the form of NH_3 ammonia.[73] Huge quantities of ammonia escape hog CAFOs in liquid and gaseous forms. In Eastern North Carolina, where most hog facilities in North Carolina are located, hog facilities account for an astonishing 53% of the total atmospheric nitrogen compounds.[74] These compounds react with other constituents in the air and are deposited on land, vegetation, and water bodies.[75] In December 2000, the U.S. Geological Survey announced research that up to 35% of the nitrogen in coastal streams that flow into U.S. estuaries comes from nitrogen in rain and airborne particles.[76]

At sufficiently high levels, ammonium causes injury or death to fish and other aquatic life.[77] The open and exposed manner that hog waste is captured, stored and sprayed at the lagoon and sprayfield facilities allows the release of ammonium to groundwater and causes the substantial release of ammonia gas to the air. Every hog facility with a lagoon that is large enough to be defined as a CAFO produces tons of ammonia gas every year.[78] The ammonia then falls to

earth as rain that triggers algal blooms.[79] Hog operations in North Carolina have caused significant levels of ammonia in the ambient air.[80] Ammonia and other gases, such as sulfur dioxide, are emitted and lead to the formation of fine particulate matter, which can endanger to human health.[81]

5. Lagoons and sprayfields cause air pollution that damages human health and ecosystems.

Hog CAFOs with lagoons harm air quality by emitting ammonia and other dangerous air pollutants, including hydrogen sulfide. Hog CAFOs with liquid waste management systems emit to the air multiple regulated air pollutants, including particulate matter, precursors to fine particulate matter, hydrogen sulfide, ammonia, methane, phenol, p-cresol, mercaptans, and chlorine. Hog facilities typically make no official records nor make any efforts to monitor, control, minimize, or prevent the emissions of these air pollutants from their impoundments, lagoons, manure pits, structures, and spray fields.

There is an ever-growing body of scientific data that demonstrates these harmful air emissions from CAFOs. Because hydrogen sulfide emissions are regulated by the state in Minnesota a wealth of data on CAFO hydrogen sulfide emissions has been compiled in the state in recent years. One study in Minnesota found that hydrogen sulfide concentrations exceeded the state standard for as far as 4.9 miles away.[82] Another study in Minnesota demonstrates that storing liquefied manure in earthen lagoons causes higher rates of hydrogen sulfide emissions than other systems.[83]

Hog waste impoundments and lagoons cause human health ailments in workers and neighbors. A 1999 health survey of over 150 people taken in North Carolina found that people living near large hog facilities with lagoons suffer significantly higher levels of upper respiratory and gastrointestinal ailments than people living in non-livestock areas.[84] People near hog facilities reported higher levels of headaches, runny nose, sore throat, excessive coughing, diarrhea, and burning eyes.[85]

Hog waste also places public health and the environment at risk because it contains antibiotics, hormone disrupter compounds, heavy metals, disinfectants, and other toxic substances and contaminants that are harmful to the environment.[86]

And the stench of liquefied manure is unimaginable. Waterkeeper Alliance has received many accounts from neighboring property owners who are life long farmers but say that the stench from these operation are unlike any odor they have known. Some farmers that have been in contact with Waterkeeper Alliance have recounted that on many days they are unable to work their own fields due to the stenches from neighboring hog lagoons. One farmer stated recently, “We are used to farm odors. These are not farm odors.”

6. Lagoons and sprayfields contribute to the spread of dangerous infectious diseases.

Liquefied manure systems tend to preserve pathogens more than other systems. In straw-bedded systems and other systems where the manure is composted, natural heating takes place that kills pathogens whereas liquid manure stored in waste pits never reaches the temperatures necessary to kill pathogens and parasites.[87] A recent report prepared for the Minnesota Planning Agency Environmental Quality Board explains why liquid manure poses a greater risk for preserving pathogens:

> How manure is handled has consequences for human and animal health and the environment. During storage, slurry undergoes anaerobic decomposition. The cold process of anaerobic decomposition does not kill fecal pathogens, although they may die out as nutrients in the feces are exhausted. However, manure from the enterprise is continuously added to the storage structures, with the results that in liquid manure storage there is always a new supply of nutrients for pathogenic organisms to feast on as new pathogenic organisms are added continuously with the fresh waste as well. Consequently, in liquid storage, pathogens, parasites, and antibiotic

residues are preserved until they are released to the environment.[88]

As early as 1988, scientists, including an expert panel convened by the World Health Organization identified liquid manure spreading as a critical pathway by which salmonellae and other pathogens are spread to the natural environment.[89]

According to Dr. Dennis McBride, North Carolina's immediate-past Director of Public Health, the lagoon and sprayfield hog waste handling also endangers public health because hog excrement contains pathogens dangerous to humans and wildlife including a number of known human viral, bacterial, and parasitic pathogens, such as influenza, *Salmonella, E.coli, Yersinia*, leptospora, *Cryptosporidia, Giardia*, and probably several yet to be discovered.[90] The lagoon and sprayfield waste management system acts as a vector for communicable disease transmission and increases the risk of human exposure to these pathogens.[91] Diseases are transmitted when pathogens in hog waste contaminate human drinking water sources and recreational waters.[92]

Hog waste also transmits diseases when sprayed near homes. Spraying liquid animal waste creates opportunities for the aerosolized spread of the pathogens.[93] These pathogens are particularly hazardous because systematic overuse of antibiotics in animal agriculture has fostered the emergence of antibiotic resistant organisms in swine populations.[94] Some organisms in hog excrement are extremely hazardous to immune-compromised people, infants, and the elderly.[95] In 1998, North Carolina's highest ranking public health official characterized pathogens in hog waste as posing "a very serious health concern."[96]

Hog manure pits threaten public health by increasing the potential for the emergence of new influenza strains.[97] They create opportunities for people and birds to come in contact with hog waste.[98] The prospect of these potent new illnesses is more than speculative. In May 2000, a study appeared in Science magazine identifying a new viral species called the Nipah virus.[99] The virus, which is carried by pigs and other animals, killed 106 people in Asia in 1998 and 1999.[100] It causes severe encephalitis and is lethal to about 40 percent of people infected.[101] Contact with the urine and mucus of infected animals spreads the virus to humans.[102] The National Academy of Sciences reported in 1998 that potentially life-threatening microbes, including salmonella and E.coli are passed from animals to humans in food products and through contact with animals or their manure.[103] North Carolina's top health official states that the introduction of new illnesses like these in North Carolina's hog populations "could have serious, if not devastating, consequences."[104]

The threat to public health from microbes in hog waste that reaches surface waters can last for many weeks.[105] Scientists have found sediments contaminated by a hog waste spill with very high fecal coliform counts 61 days after the spill.[106] When disturbed, these sediments threaten human health even when the water appears safe.[107]

7. Liquefied manure systems contribute to "the ticking time bomb," the rise of antibiotic resistant pathogens.

The world's most significant public health organizations have declared the overuse of antibiotics in livestock to be a serious and growing threat to human health. The Union of Concerned Scientist released a major report on the issue in January 2001, entitled *Hogging It*, in which it called the overuse of antibiotics in livestock "the ticking time bomb."[108] The scientist warned that, if the current overuse of antibiotics in livestock continues, "we may soon reenter the era of untreatable infectious diseases."[109] The report estimated that of the 50 million pounds of antibiotics produced annually in this country, a flabbergasting 25 million pounds are used for non-therapeutic uses in the cattle, swine and poultry

industry.[110] This figure becomes all the more remarkable when compared to the total amount used to treat human diseases, 3 million pounds.[111] *Thus, the antibiotics used non-therapeutically in animals is more than eight times the amount used to treat human illness!*

Microbes become resistant when low doses of antibiotics wipe out the weaker microbes and allow the hardiest strains to survive and eventually predominate in the population. Then the antibiotics are no longer effective against them.[112] The World Health Organization, the United States Centers for Disease Control and Prevention, and the National Institutes of Health have all recognized that antibiotic usage in animals raised for food should be restricted.[113]

Antibiotics given to animals for non-therapeutic purposes are mixed in the animals feed or water.[114] It is estimated that over 95% of hog finishing operations are routinely administering antibiotics to their animals through in their feed or drinking water.[115] Antibiotics are used by livestock operations for two major purposes other than treating sick animals: to prevent diseases and to promote unnaturally fast growth.[116] Animals in intensive livestock operations are more susceptible to infectious diseases because they are crowded together, share feeders, and are under greater stress than animal raised in traditional farms.[117] Eleven of the antibiotics used for in livestock operations for non-therapeutic purposes are identical to antibiotics used to fight disease in sick humans.[118]

Humans may come in contact with bacteria from livestock through the food supply, through direct contact with the animals, or through drinking or surface water.[119] Research by the U.S. Geological Survey and others suggests that antibiotic resistant bacteria are increasingly a threat to the safety of the nation's drinking water.[120]

8. Liquefied manure creates vectors for disease transmission.

Hog waste lagoons and sprayfields may also increase the opportunity for the spread of disease by supporting hugely increased populations of disease carrying vectors, especially several species of flies.[121] In sufficient numbers, these disease carriers pose an imminent threat to public health.[122] In reference to industrial hog operations, North Carolina's highest public health official has stated that, "[t]he potential for the transmission by flies or other mechanical vectors of disease greatly increases the risk to human health."[123]

9. Liquefied manure systems unreasonably deplete groundwater supplies.

Liquefied manure systems consume massive amounts of groundwater. Groundwater seems to be consumed so cavalierly because it is free. A typical hog operation consumes 20 million liters of groundwater every year, using two-thirds of the water to liquefy the manure.[124] In Oklahoma, between 1990 and 1998, the number of pigs jumped from 230,000 to 1.98 million, and intensive hog operations caused a 66% increase in livestock water use from a single aquifer from 1990 to 1995.[125] At this rate, this aquifer is expected to be entirely depleted within 50 years.[126] In some cases, such excessive groundwater pumping may even destroy the remaining water by pollution by saltwater intrusion.[127]

Liquefaction of manure is dangerous for animal health and welfare.

For many of the same reasons they are dangerous to humans, liquefied manure systems are dangerous to animals' welfare and health. In most such systems, the pigs continually stand over the miasmic vapors of their liquefied manure for their entire lives. There are many documented cases of animals dying from the fumes where ventilation systems have failed even for short periods of time.[128] As described in above, low-levels of antibiotics are routinely administered to maintain the growth and productivity of swine kept in close confinement, particularly in the face of diseases caused by the

continuous release of toxic gases when hog manure is liquefied. Therefore, the conditions in which the animals are kept has a direct connection to the human health and environmental impacts of these facilities.

With Lagoons Come Abandoned Lagoons.

All of the dangers connected with animal waste lagoons exist for abandoned lagoons. In addition, abandoned lagoons pose an even greater risk to human health and the environment because they generally receive even less maintenance, attention and government scrutiny than functioning ones. In North Carolina alone, there an estimated 800 abandoned animal waste lagoons.[129] Although North Carolina's political leaders have stated that inactive lagoons must be urgently addressed,[130] little progress toward clean-up has been made. Cleaning up the lagoons has proven to be expensive.[131] The economic viability of the lagoon and sprayfield system seems to depend in part on this failure to clean up the lagoons once the facility ceases to function.

D. EPA's Regulations for CAFOs Should Not Allow Lagoons and Sprayfields.

For the past two decades, North Carolina had been a giant laboratory for the lagoon and sprayfield system. During that time, North Carolina's hog population has skyrocketed from below 2 million to 10 million today, and the state has gone from having a widely dispersed hog farming system where more than 25,000 family farmers were raising pigs without lagoons, to a highly concentrated system where with fewer than 5,000 hog operations today, the majority of which have lagoons. The state's experience has proven the system to be a failure.

The problems caused by hog waste lagoons have become so well known in North Carolina that virtually all of the state's major political figures have promised to eliminate them. During his term as Governor of North Carolina, Jim Hunt proposed eliminating lagoons with a ten-year phase out.[132] Gubernatorial candidates vying to succeed Governor Hunt were promising to eliminate hog waste lagoons in the most recent election.[133] While serving as Attorney General, current Governor Mike Easley signed an agreement with North Carolina's largest pork producer Smithfield Foods to put $65 million toward the study of alternative waste management systems. The agreement purports to phase out the company's hog waste lagoons over a five-year period.[134] In 1998, Dewey Botts, then the Director of North Carolina's Division of Soil and Water Conservation, said that the hog industry should move away from the lagoon and sprayfield system and that North Carolina should develop criteria to evaluate and phase out every waste lagoon in the state.[135]

In the past several years, North Carolina's papers have been replete with letters to the editor and editorials saying that the lagoon and sprayfield system has proven itself a failure. The following editorial from the Winston-Salem Journal is typical:

> For more than a decade, while North Carolina's swine population passed nine million, state leaders knew they were gambling with environmental disaster. As the waters from Floyd recede, it is now clear that North Carolina just lost that bet. When legislators return to Raleigh next May, they should set a short-term deadline for the closing of all hog lagoons. This technology is not safe…[136]

In spite of this recognition, North Carolina has taken no concrete steps to eliminate the vast majority of its thousands of waste lagoons.[137]

The problems set forth above are just some of the many dangers inherent in the lagoon and sprayfield system. Waterkeeper Alliance strongly supports EPA's proposal to require explicitly in NPDES permits that CAFOs apply manure at agronomic rates. Yet, the preceding paragraphs demonstrate that a liquefied manure system is rife with hazards to the environment and public health *even if* it is applied to sprayfields in agronomic rates. Therefore, to adequately protect human health and the environment, EPA must ban the liquefied manure waste disposal system.

A recent analysis of the lagoon and sprayfield system, *Cesspools of Shame*, by the Natural Resources Defense Council and

the Clean Water Network, recommends that EPA ban the construction of new lagoons and require that old lagoons be phased-out.[138] Under the Clean Water Act, EPA must require that CAFOs use the best technology economically achievable.[139] Additionally, EPA is required by a consent decree to evaluate a range of non-lagoon waste disposal systems for the storage and land application of animal manure.[140]

EPA CAFO Regulations Should Explicitly Require All CAFOs to Obtain an NPDES Permit.

The Clean Water Act explicitly includes CAFOs as point sources. Therefore, for some three decades, federal law has required CAFO operators to apply for and obtain pollution permits. By EPA's figures, depending on the definitions used, there may be up to 26,000 livestock operations that qualify as Concentrated Animal Feeding Operations. Of those, only 2,530 are believed to have applied for NPDES permits at this time. In North Carolina, the nation's second largest hog producing state, with approximately 2,500 lagoon-sprayfield hog operations, only two had applied for an NPDES permit at the beginning of 2001.[141] This situation simply makes no sense. The reason for it is, in part, the producers' ability under current regulations to argue that they are not required to apply for the NPDES permit. To rectify this disparity, EPA should clarify that these facilities need an NPDES permit.

III. EPA Regulations Should Require the Corporation That Owns the Pigs be Co-Permitted.

Over the past year, Waterkeeper Alliance has spoken with hundreds of farmers about their experiences in the hog industry. From these conversations, it has become clear that many hog farmers submitted to contracts with major pork producing corporations because they had difficulty getting their hogs slaughtered if they were not under contract arrangements. Because these farmers have extremely disproportionate bargaining power, they often end up with unfavorable contracts. The Oklahoma Attorney General's office has even opined earlier this year that a typical hog contract is an adhesion contract. Therefore, hog operators who contract with any of the major hog corporations have little to no say in the manner in which they raise their pigs. Typically, the pigs do not even belong to the farmer, he is merely the steward of the animals. The manner in which they are housed, fed, watered, and treated is entirely dictated by the corporation that owns the pigs.

Smithfield Foods, the nation's largest pork producer, is typical. Smithfield's very manner of operating profitably is to completely dominate pork production at all stages, from baby pigs to pork chops. This market control strategy known as "vertical integration," is repeatedly touted by the Smithfield Annual Report for the year 2000.[142] Smithfield purports to exert tight control over all aspects of the manner that pigs in all of its facilities are raised. From publicly available information it is apparent that neither the Smithfield contract operators nor its subsidiaries have meaningful independent decision making ability with respect to anything that relates to the manner in which their pigs are raised. Most significantly, Smithfield completely dominates all substantive decisions that affect the waste stream produced at any of its operations.

For example, a much-touted agreement relating to hog manure pits was signed between Smithfield and North Carolina's Attorney General on July 25, 2000. Although it relates *only* to the hog-raising facilities owned by Smithfield, not its slaughter houses or processing plants, the agreement lists "Smithfield Foods, Inc." as the first party after the Attorney General in both its opening paragraph and in the list of signatories. The "Smithfield Agreement," as it is commonly-called in North Carolina, also specifically states that, "Smithfield owns *all* of the outstanding stock of the Subsidiaries.".[143] This agreement is evidence that in an open and public manner, Smithfield is negotiating and signing contracts on behalf of its subsidiaries. Smithfield also regularly produces and disseminates public statements, such as press releases, on behalf of its subsidiaries and contract operations. For example, all press releases relating to the "Smithfield Agreement" as well as those relating to litigation in which Smithfield is currently involved were sent from Smithfield's headquarters in Virginia and quoted Smithfield officials, rather than those of the subsidiary or contract operators.

Publicly available information also strongly indicates that Smithfield imposes a strictly uniform policy of operations upon its subsidiaries and contract facilities. According to its publications and public statements, Smithfield's philosophy is that

strict control over the manner in which its pigs are raised will lead to a consistent product with a consistent flavor and quality. This drive toward uniformity in all of its pig factories is a constant drum-beat both in its publications and in the speeches of Smithfield's Chief Executive Officer, Joseph Luter, III. In fact, Smithfield's Annual Report touts the consistency of its pork product from all of its wholly-owned operations, such as in the following statement, typical of the content of the report: "By controlling half our hog supply, our processing operations are ensured of a consistent, high-quality source of raw materials for many of the Company's fresh and processed meat products."[144] This uniformity is achieved by a strict policy that requires all of its facilities to use the same pre-mixed feed and requiring all facilities to follow the same procedures of animal feeding and medication.[145]

To ensure product uniformity, Smithfield also requires its operations to follow a strict policy of genetic control over all the pigs at all of its facilities. This genetic program, controlled by an entity called Smithfield Foods' National Pig Development, produces the animals used in Smithfield Lean Generation Pork.[146] Smithfield also states that it controls the physical environment of its pigs, such as the temperature, ventilation and humidity of the individual pig-buildings.[147] Smithfield makes the decisions for individual facilities and subsidiaries on purchases of feed, fuel, and other materials.[148]

Smithfield also touts its unique ability to deal with the "environmental, regulatory, and political climate surrounding hog farming today," strongly indicating that Smithfield is involved in environmental, regulatory, and political matters for each of its hog-raising and facilities.[149]

The pre-mixed food that all Smithfield pigs must consume, along with Smithfield-proscribed medications, determine the make-up of the waste at all Smithfield owned and contract operations. It is the waste-stream that is at the heart of almost all enviromental concerns with CAFOs. And EPA's CAFO regulations relate to pollution caused by the fecal matter and urine of the of the animals. In addition, uniform Smithfield practices and pricing structure, imposed by Smithfield upon all of its subsidiaries and contract operations determine the number of pigs that must be maintained at a facility in order for the facility to be acceptably profitable. Therefore, both the *quality* and the *quantity* of hog waste produced at Smithfield owned and contract operations are completely determined by Smithfield itself, not the subsidiaries or the individual operators.

Finally, Smithfield's very operating requirements affect individual CAFOs ability to comply with federal environmental laws and regulations. All of these facts support the case that Smithfield and the other corporations that contract for hog-raising should be held responsible on the environmental permits themselves.

IV. EPA Should Explicitly Regulate Phosphorous.

EPA's CAFO regulations should explicitly address phosphorous. The Clean Water Act prohibits any discharge of a pollutant from a point source without a permit. The Act also explicitly defines CAFOs as a point source. The intent of the Act to prohibit discharges of pollutants from CAFOs absent a permit is clear. As set forth above, at the same time, scientific evidence is mounting that demonstrates that CAFO sprayfields are phosphorous saturated and that phosphorous moves more freely to surface and groundwater than previously believed. The application of phosphorous rich waste is causing and will continue to cause environmental problems. It is time to end the fiction that this phosphorous waste is "fertilizing" those crops and soils. To prevent further nutrient damage to surface and groundwater EPA must place phosphorous limits on CAFOs.

V. EPA should Explicitly Regulate Antibiotics

EPA's CAFO regulations should regulate the amount of antibiotics that can be present in animal waste. As set forth previously, the pervasive use of antibiotics by CAFOs is a significant and growing menace to human health. Research indicates that 80% of the antibiotics used in pigs pass through the pig unchanged, and enter the wastestreams. EPA's CAFO regulations should specifically address the role that CAFOs play in this emerging health crisis.

VI. EPA Regulations Should Require that Animal Waste only be Applied at Agronomic Rates.

Although hog waste lagoons pose many hazards that will not be eliminated by adherence to agronomic waste application rates, it is clear that overapplication of waste is exacerbating them. EPA's CAFO regulations should explicitly require that waste be applied at agronomic rates and that it not be applied when the ground is wet or frozen. Furthermore, recent research indicates extreme variability in nutrient levels of hog lagoon effluent. A recent Canadian study that evaluated 13 hog lagoon operations found that ammonia varied two to three fold over a single pump out and phosphorous varied 20 fold.[150] The study confirms that a single or outdated measure of lagoon constituents will not adequately protect the environment. Therefore, EPA should require appropriate testing of the effluent immediately prior to land application.

VII. EPA Must Develop Regulations for CAFO Air Pollution.

As set forth previously, animal waste lagoons and sprayfield significantly diminish air quality whereas other methods of raising pigs have significantly less impact on air quality. The air pollution caused by hog CAFOs are at the heart of many the detrimental impacts they have on the environment, quality of life and health. EPA's CAFO regulations should explicitly address and attempt to minimize CAFO air pollution.

VIII. CAFO Definition Needs to be Clear.

In defining a CAFO, Waterkeeper Alliance believes that size should be a factor, but is not the only important issue. EPA is seeking comment on whether to use a "three-tiered" or "two-tiered" approach in defining a CAFO. Under the proposed "two-tiered" system, operations with 500 Animal Units, (1,250 mature swine weighing 55 pounds or more or 5,000 immature swine weighing 55 pounds or less), are defined as CAFOs. This would lower the threshold from the existing threshold of 1,000 animal units. The "three-tiered" system retains the structure of the existing regulations, all operations with 1,000 Animal Units or more are defined as CAFOs and those with 300 to 1,000 animal units are defined as CAFOs if they meet certain conditions or if designated by a permitting authority. 1,000 Animal Units are equivalent to 2,500 swine weighing 55 or more pounds or 10,000 swine weighing 55 pounds or less. 300 Animal Units are 750 swine weighing 55 pounds or more, or 3,000 swine weighing 55 pounds or less.

It is clear that large livestock operations pose greater risks to the health and the environment. However, the size of the operation is not the sole determinant of these risks. Rather, probably more important than the size is the manner in which the waste is handled, (i.e. whether the waste is liquefied), the number of animals in proportion to the size of the land being used for manure application, the total size of the facility to the density in which the animals are housed, and the amount of human attention given to each animal and to its waste. Therefore, we make no recommendation on the numerical threshold be retained but urge that much stricter criteria for the management of the animal waste be put into place.

The 25-year, 24-hour Storm Provision of the CAFO Definition Should be Eliminated.

EPA should eliminate all reference to the "25-year, 24-hour storm" in the CAFO definition section. The current regulations exempt from the CAFO definition a facility that discharges, "only in the event of a 25-hour, 24-year storm." The proposed regulations would eliminate this portion of the CAFO definition.

Waterkeeper Alliance agrees with the elimination of this because, as suggested in EPA's introductory language, this provision has been used inappropriately by CAFO operators to attempt to avoid the NPDES permit requirement. The provision places obstacles to citizens attempting to enforce the Clean Water Act. For example, in two federal Clean Water Act suits in North Carolina against Smithfield Foods, Inc., the CAFO operators are attempting to deny that they are CAFOs . There is no dispute that the facilities have the requisite numbers of animals to meet the definition of CAFO, and both CAFOs have had more than one discharge to surface waters documented by the state. Arguing that they are exempted from the CAFO definition by the "25-year, 24-hour" language is a tactical maneuver by defendants as it forces citizens who are attempting to enforce environmental laws to waste precious resources establishing that the defendants meet the CAFO definition when it is patently clear that they do. Some CAFO operators are misusing this provision to try to escape being regulated. For this reason, EPA should take the reference to the "25-year, 24-hour" storm out of the

CAFO definitions section.

Conclusion

EPA's proposed regulations represent a step in the right direction. However, EPA must go beyond the proposed revisions to adequately protect human health and the environment from the myriad dangers caused by CAFOs. At a minimum, EPA should take immediate steps toward requiring the closure of all liquid waste lagoons. The people of this country deserve no less from their Environmental Protection Agency.

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January 15, 2002

Concentrated Animal Feeding Operation Proposed Rule
United States Environmental Protection Agency
Waterside Mall, West Tower
Room 611
401 M Street, S.W.
Washington, D.C. 20460

Re: Proposed Revisions to Environmental Protection Agency Regulations for Concentrated Animal Feeding Operations

To the United States Environmental Protection Agency:

We write you on behalf of Waterkeeper Alliance, a national environmental organization, and the Animal Welfare Institute, a national animal welfare organization, to comment on the Environmental Protection Agency's Notice of Data Availability; National Pollutant Discharge Elimination System Permit Regulations and Effluent Limitations Guidelines and Standards for Concentrated Animal Feeding Operations, published in the Federal Register on November 12, 2001 (referred to herein as "the November 12 regulations"or "the NODA"). These comments supplement comments submitted by Waterkeeper Alliance and Animal Welfare Institute on July 30, 2001.

Introduction

The November 12 regulations are an alarming retreat by the federal Environmental Protection Agency (EPA) from the January 12, 2001 version of the regulations. It is troubling that at the very moment in history that the public outcry over concentrated animal feeding operation (CAFO) pollution is the loudest, EPA signals its withdrawal from its earlier commitment to address it. The January 12 version, the result of years of EPA, citizen, and industry review and dialogue, was crafted to make necessary improvements in the regulation of CAFOs.

Although the Clean Water Act, adopted thirty years ago, explicitly recognized CAFOs as a major threat to water quality by enumerating them as a regulated point source, neither the federal EPA nor the state agencies have fully implemented a Clean Water Act permitting program for CAFOs. In fact, some states, such as North Carolina and Michigan, vehemently denied for years that they were required to establish a Clean Water Act CAFO program.

The failure of the states and the federal government to implement the Clean Water Act and enforce existing regulations with respect to CAFOs has resulted in the widespread violation of the statute and its regulations by the livestock and poultry industry. This widespread violation of the Clean Water Act is acknowledged by EPA and the livestock industry (See NODA, p. 58571), which is now ironically using its failure to conform to the original regulations as an excuse for its inability to bear the cost of the proposed regulations. This universal failure to implement the nation's most important water protection legislation is a national scandal. The November 12 regulations make the situation worse.

The January 12 CAFO regulations moved EPA in the direction of solving some of the ills caused by CAFOs, but the November 12 regulations substantially scale back these efforts and demonstrate a deterioration of the federal government's only serious attempt to address the crescendo of citizen and scientific voices in this country calling for major CAFO reform.

Waterkeeper Alliance and Animal Welfare Institute belong to a coalition of groups working to reform the concentrated livestock and poultry industries. Both organizations, along with many national environmental organizations, have made addressing pollution from CAFOs a top priority because it poses grave risks to the environment and human health that government has abysmally failed to address.

I. EPA's CAFO Regulations Must Prioritize Protection of the Environment, Not Protection of the Livestock Industry.

Reading through the November 12 regulations, one might have guessed that "EPA" stands for "*Economic* Protection Agency." The NODA seeks input on approximately eighty-eight different issues, the majority of which request comments related to cost and economic or financial impact. Virtually every revision proposes a weaker regulation than the earlier version. In fact, in no case does the November 12 version propose a stricter environmental standard.

In those requests for comment that relate to the economic impact, EPA states that the January 12 regulations generated a significant number of comments from industry representatives or land grant university professors who argued that EPA had failed to adequately calculate the costs and / or economic impact. Section V, pages 58566-58591, is devoted entirely to financial and economic analysis.

While it is necessary for EPA to undertake economic analysis of its proposed regulations, it should go without saying that EPA's primary purpose is and should remain protection of the environment. It is imperative that the drafters of the regulations always maintain their focus on their purpose – protection of the environment -- not protection of the livestock industry. Every law and every regulation no matter what it mandates will have some demonstrated financial impact on some individuals. It never has been nor should it now become the focus of policy makers to use this economic impact as the driving force behind the shape of public policy. Rather, the greater public good that the law seeks to achieve is at the forefront. Then, as options are considered economic impact is taken into account to a reasonable degree. EPA seems to be going about these regulations in reverse order – looking first to cost and economic impact, then to the environmental benefits.

EPA's focus on economic analysis misses the point that its regulations should never be *designed* to allow the perpetuation of the status quo. They should be designed to protect the environment. This is especially true where, as here, the industry, by its own admission, is wildly out of compliance with the existing laws. A focus on avoiding too much economic impact would allow and even support perpetuating bad systems that would fail in a free market and fail to conform with the law.

Furthermore, there no discussion in the NODA of the economic analysis of CAFO pollution. Where is the dollar value assigned to loss of fisheries, loss of swimable waters and drinkable groundwaters, injury to human health, and loss of

quality of life? And how is this taken into EPA's economic equations? It appears that it is not.

At the same time, however, EPA's economic analysis should take greater account of the impact its actions will have on family-owned farms. There are sound environmental policy reasons for this. Farmers reside on their farms, live in the communities, drink from the groundwater under their farms, breathe the air from their operations, worship and shop with the people near their farms, and fish and swim in the surface waters affected by their farms. Simply put, family farmers are the best stewards of the land. Yet, EPA's analysis fails to consider whether the operation is a family farm in its economic analysis.

II. State Flexibility is Unwarranted Given States' Appalling Failure to Implement Existing Regulations.

Several sections of the NODA are dedicated to the question of state flexibility. Numerous states apparently have submitted comments arguing that the CAFO regulations will strip them of their ability to implement creative solutions and that they need flexibility to address these issues. Given this flexibility, the states argue, they will adequately solve the problems, while a federally mandated program will prevent them from implementing these solutions. This is laughable. As acknowledged in the NODA, although the states have had thirty years to put the Clean Water Act requirements into action, the CAFO industry is vastly out of compliance with existing Clean Water Act regulations.

Waterkeeper Alliance has had meetings with high level officials of several farm states to discuss CAFO pollution. Without exception, the state officials have acknowledged that they have issued few or no CAFO NPDES permits. In most cases, they have attributed this at least partially to a lack of funding. They say that the state environmental agencies barely have funding for their existing programs. The same explanation is given for their failure to prosecute the thousands of known violations by CAFOs of environmental regulations and standards.

Given a proven lack of will, and the lack or resources at the state level, granting states continued "flexibility" would ensure that CAFO pollution will go unaddressed.

III. EPA Must Have More, Not Fewer, CAFOs Obtain the NPDES Permit.

The NODA suggests several ways that the number of operations that are required to obtain an NPDES permit could be reduced and seeks comments on these methods. However, the underlying premise here is that it is desirable to reduce the number of operations that have to get the NPDES permit, which is false. To the contrary, the NPDES permit provides a proven, effective means for regulatory agencies, the public, and the industry to create and maintain a record of the operation. Agencies and members of the public know how to use them to monitor an operation, and industry has a substantial level of protection from environmental complaints by following the terms of its permit. In short, NPDES permits are a valuable and proven means of implementing the Clean Water Act. There is no logical reason to struggle to find an alternative to a good and viable program. Nowhere does EPA present a persuasive rationale for pursuing an alternative to NPDES permits other than pointing to the industry's resistance to them.

Further, the Clean Water Act contains the requirement that point source dischargers get NPDES permits, 33 U.S.C. §1311, and defines CAFOs as point source dischargers, 33 U.S.C. §1362 (14). Thus the Clean Water Act mandates that CAFOs get NPDES permits. EPA is attempting to circumvent this requirement by seeking "equivalents" of the NPDES permit. This is counter to the plain wording and the intent of the Clean Water Act.

Finally, EPA creates a whole set of new problems for itself in reviewing these many purportedly equivalent programs. EPA has limited resources and should not create burdens for itself that it will likely be unable to fulfill. This will further delay solving the pollution problems for which these regulations are designed.

IV. EPA Must Implement Strict Groundwater Controls on CAFOs.

In our earlier comments, we submitted information indicating that CAFOs are major contributors to groundwater contamination (pp. 4-7, 14). Thus, it is important that EPA's CAFO regulations require that risks to groundwater be minimized and that CAFOs monitor groundwater quality.

In the November 12 regulations, EPA says that it is considering "adopting a performance standard based on …[the] permeability [of synthetic / clay double liners]" rather than a zero discharge that would be verified by groundwater monitoring, which was proposed in the January 12 version. This is another example of EPA looking first at the economic issues rather than the environmental or public health issues and failing to consider the cost of degraded natural resources. It boggles the mind how EPA could recognize that a waste storage technology is poisoning groundwater and conclude from that that it must change its performance standard rather than change the required technology. This is not the formation of good environmental policy.

We urge EPA to retain the groundwater controls and the zero discharge performance standard it had earlier proposed, which are necessary and important to protect the nation's groundwater supplies.

V. EPA Should Not Allow Phosphorous "Banking."

EPA's November 12 regulations pose the question whether it should allow the "banking" of phosphorous. The question is bizarre since the NODA itself states that "EPA is concerned some levels of phosphorous banking would no more prevent discharges to the waters than would unrestricted application rates or application of manure on a nitrogen basis." As noted in our earlier comments and in EPA's NODA, many CAFO land application areas are vastly over-saturated with phosphorous. It is poor environmental policy for EPA to propose that "banking," a practice that it doubts will protect the environment, be used to address the serious problem of phosphorous pollution from CAFOs. Instead, EPA should require CAFOs to limit their phosphorous application rates to agronomic rates.

VI. Manure Should be Sampled With Greater Precision and Frequency.

EPA's November 12 regulations ask for comments on allowing less frequent manure sampling. Our earlier comments (p. 20) pointed out that recent research has confirmed that there is great variability in the components of lagoon wastes, depending on when and how the samples are taken. There is a need to improve and increase the frequency of waste sampling prior to land application, not to diminish it.

VII. The Chronic Storm Event Language Should be Removed.

EPA's January 12 version proposed to eliminate the exception for permitted operations in the event of a "chronic or catastrophic" rain event. EPA's November 12 regulations indicate that it is reconsidering eliminating this language based on operations inability to meet it. For example, EPA seeks information on the storage capacity of existing lagoons. Here, EPA is going at the problem exactly backwards. Rather than looking at the environmental problem and coming up with the solution, EPA is looking at existing operations and asking what regulations they can tolerate. EPA also fails to consider obvious solutions to lagoons that are being over-filled over, such as requiring reduction of herd sizes during the rainy months. Rather, EPA's approach ensures the continuation of systems that are destroying the environment by polluting when it rains.

EPA's suggestion that it eliminate the performance standard is particularly ironic because the CAFO industry constantly insists that it operates "zero discharge" systems. We urge EPA to require that CAFOs operate without discharging and that EPA eliminate the "chronic and catastrophic" exception, as it had previously proposed.

VIII. EPA Should Not Allow Non-Compliance to be a Boon to Violators.

EPA notes that numerous commenters acknowledge that "many CAFOs do not have the necessary waste management components in place to comply with the existing CAFO regulations promulgated in the early 1970s." EPA goes on to say that these commenters argue that EPA has wrongly underestimated the cost of financial impacts of the proposed regulations because it has failed to acknowledge this widespread noncompliance. In other words, the industry is arguing that many CAFOs are violating existing laws, and they should get a benefit from it. This is patently absurd. It argues that violators should be rewarded for failing to comply with the law. EPA should reject this backward logic and should base its regulations on sound environmental policy rather than on trying to figure out ways to perpetuate the status quo. We urge

EPA to calculate costs as it had originally.

IX. Environmental Management Systems (EMS's) Cannot Substitute for Compliance with Clean Water Act and CAFO Regulations.

EPA asks for input on the use of Environmental Management Systems (EMS's). As examples, EPA states that EMS's may deal with odor, noise, or energy conservation. These are matters that a responsible business should address to be a good corporate citizen, for its own protection against nuisance suits, and to save money. These matters have no connection to whether the CAFO is complying with a permit nor whether or not it meets the definition of a CAFO. While we do not object to EMS's, we strongly object to the suggestion that an EMS can serve as a substitute for an NPDES permit or show compliance with any environmental regulations.

As specific examples of EMS's, the NODA points to the ISO 14001, including that obtained by Smithfield Foods' operations in North Carolina. Smithfield Foods' North Carolina operations are a perfect example of why the EMS is virtually meaningless for environmental protection. Even a cursory review of state records reveals that Smithfield's North Carolina operations continue to violate hundreds of regulations and standards. Neighbors see no tangible improvement in the operations, in spite of the ISO designations. EMS's fail to provide necessary environmental protections. Therefore, EPA should reject the idea that it use EMS's instead of permits or use EMS's in its determination of which operations meet the definition of CAFO.

X. EPA's Definition of "Proper Agricultural Practice" is Faulty.

EPA proposes to define "proper agricultural practice" as follows:

> One of any number of conservation practices, production measures, or management techniques that the CAFO operator or manure recipient can use to improve the efficiency, economy, ***or*** environmental condition of the site and surrounding land areas and waterbodies. (emphasis added)

This definition is totally inappropriate because it would classify anything that made the operation cheaper or more efficient a proper agricultural practice, even if it had no legitimate agricultural purpose and even if it damaged the environment. For example, applying more manure to land so that crops were killed from overapplication and groundwater and surface water were threatened might meet this definition.

If EPA wishes to define the term "proper agricultural practice," a reasonable definition must contain some reference to a benefit to the agriculture practiced at the site. Merely lowering the cost of one's production cannot be the only criterion. Otherwise, virtually any conduct would fall within the definition, including blatantly illegal and environmentally destructive practices.

XI. Co-Permitting Cannot be Replaced by Environmental Management Systems (EMSs).

EPA proposes that the permit authority could "waive the requirement for co-permitting entities that exercise substantial operational control over a CAFO if the entity adopts and implements an EMS for its contract producers." This makes no sense. As set forth in our July 30 comments, it is the processor that controls the environmental systems of contract operations. That is precisely the logic for the co-permitting – the contract grower has no real control over the terms of the contract and is forced to accept the terms of the contract as dictated by the processor. Because the processor controls the terms of the contract, it determines both the nature and the quantity of the waste. It is also the processor that has the resources that make it best able to be responsible for the disposal of the waste. Therefore, using the processor's level of control over the operation as a reason not to waive co-permitting is counter-productive.

XII. EPA Regulations Cannot Circumvent the Plain Language or Intent of the Clean Water Act.

Finally, several of EPA's suggested new approaches, such as the consideration of "state flexibility," NPDES "equivalents," and EMS's are offered in the November 12 regulations to make it easier for CAFOs to comply with the new regulations.

However, EPA does not have the discretion to implement regulations that are counter to the language or the intent of the Clean Water Act. As the NODA acknowledges, EPA has historically failed to require states to follow the law. It is now moving to weaken even the regulations it has proposed.

The Clean Water Act's mandate is to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." 33 U.S.C. §1251. Not even EPA has the authority to ignore this mandate nor to fail to implement the provisions of the Act. EPA's January 12 version of the CAFO regulations was clearly intended to get more operations, not fewer, to be covered by NPDES permits. However, the November 12 regulations reverse this direction. Many of the EPA's new proposals are designed to reduce the number of AFOs that would need to apply for an NPDES permit, or to allow things that are less than an NPDES permit to serve as a substitute. This is contrary to the Clean Water Act. EPA must operate within its mandate to implement the purposes and the provisions of this Act in the formulation of these regulations.

Conclusion

The citizens of this country need and deserve protection from the environmental and health dangers posed by CAFOs. EPA must focus on the protection of the environment, not protection of the livestock industry.

Although they failed to do everything necessary to solve the environmental and health problems from CAFOs, EPA's January 12 regulations were a step in the right direction. Unfortunately, however, EPA's November 12 CAFO regulations propose to diminish even these improvements.

We respectfully urge EPA to refocus its efforts to producing CAFO regulations that will fully protect the environment.

Respectfully Submitted,

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Diane Halverson
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February 4, 2002

VIA OVERNIGHT MAIL

Concentrated Animal Feeding Operation Proposed Rule
United States Environmental Protection Agency
Waterside Mall, West Tower
Room 611
401 M Street, S.W.
Washington, D.C. 20460

Re: Proposed Revisions to Environmental Protection Agency Regulations for Concentrated Animal Feeding Operations

To the United States Environmental Protection Agency:

Waterkeeper Alliance, together with Sierra Club, Natural Resources Defense Council, Southern Environmental Law Center, Environmental Defense, GRACE Factory Farm Project, the Animal Welfare Institute and Sustainable Agriculture Coalition submit these comments in response to the Environmental Protection

Agency's Notice of Data Availability; National Pollutant Discharge Elimination System Permit Regulations and Effluent Limitations Guidelines and Standards for Concentrated Animal Feeding Operations (CAFOs), published in the Federal Register on November 12, 2001 (the NODA). These comments supplement comments previously submitted by the respective organizations.

The comments EPA are now seeking concern proposed changes to the original version of concentrated animal feeding operation regulations, published on January 12, 2001 (CAFO regulations). EPA states in the NODA that it received considerable comments and information from the regulated industry, which precipitated its reconsideration of the CAFO regulations. The changes proposed by EPA in the NODA represent an unlawful weakening of the CAFO regulations' environmental protections. We urge you to follow our recommendations submitted on the CAFO regulations and to require an absolute zero discharge standard for CAFO facilities.

I. INTRODUCTION

The Clean Water Act prohibits the reduced standards that the NODA contemplates for several reasons. First, the report underlying the NODA is unverifiable industry data representing gross inflations of possible economic impacts on the CAFO industry. Thus, EPA's very issuance of the NODA is inappropriate because that type of economic analysis submitted by the CAFO industry is irrelevant to EPA's statutory obligation to establish effluent limitation guidelines (ELG's) under the mandatory Best Available Technology (BAT) standards. Second, even if EPA considers the industry's economic data, the BAT standard mandated for the CAFO regulations dictates that such economic factors be given, at most, minimal consideration in setting effluent limitation guidelines. Third, even if EPA concludes that the CAFO industry's data should be considered in establishing the ELGs, the data must be considered in light of the cost borne by the environment and society in the absence of stringent CAFO ELGs. Fourth, EPA is impermissibly proposing to allow states to substitute "functionally equivalent" program for Clean Water Act permits. Finally, EPA is impermissibly proposing Environmental Management Systems to lessen the permitting requirement for livestock facilities and corporations.

II. BACKGROUND

A. The NODA Data

EPA issued the NODA based on the submission of new data by the Food and Agricultural Policy Research Institute (FAPRI). The premise of the FAPRI report is that EPA's reliance in the CAFO regulations on data from an earlier USDA report had underestimated compliance costs of the regulations to the CAFO industry. However, EPA cannot rely on the FAPRI data to weaken the ELGs of CAFO regulations designed to protect the health, safety and welfare of the environment and the American people.

The FAPRI study is nothing more than an industry-generated report – a set of self-serving comments on the CAFO regulations issued by an economically interested party. In essence, the FAPRI report is a set of industry cost estimates for the technologies EPA proposes in the CAFO regulations. The report does not assert that the BAT standards proposed are not achievable; rather, it argues that the available technology is too expensive.[151] However, the BAT standards prohibit EPA from easing ELGs because available technology will be costly to industry. Accordingly, the FAPRI report, and its cost compliance estimate, are irrelevant to a proper assessment of the BAT standard.

B. Statutory and Regulatory Framework

1. Overview

Congress enacted the Clean Water Act 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 reduces 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 ELGs, supplemented by water-quality related effluent limitations, which protect specific bodies of water.[152] 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 ELG 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 104, 123 (D.C. Cir. 1987) (emphasis added).

As explained above, Congress' plan to eliminate surface water pollution requires that pollution permits be made more stringent over time. Thus, it devised a three-phase implementation plan:

- For permits issued before EPA had completed the limitation guidelines, EPA was to use its "best professional judgement" (BPJ).[153]
- By 1976, industries had to use the "best practicable technology" (BPT).[154] Later, amendments to the Act extended the deadline for use of BPT to 1979.
- By 1981, if total elimination of pollutant discharges was impossible, industries have to use the "best available technology" (BAT), a much more stringent standard.[155]

For new sources, the strictest standard, "best available demonstrated control technology" (BACT) is required.[156] 33 U.S.C. § 1316. Finally, all pollutant discharges to surface waters were to be eliminated by 1985. 33 U.S.C. § 1251(a)(1).

The 1987 CWA Amendments modified the mandate of BAT for all pollutants to require the "best conventional control technology" (BCT) for conventional pollutants and BAT for toxic and non-conventional pollutants.[157] The waste generated at CAFOs includes insecticides, rodenticides, mercaptans, and other toxic and non-conventional pollutants, which fall within the BAT standard.

On October 30, 1989, Natural Resources Defense Council, Inc., and Public Citizen, Inc., filed an action against EPA, alleging that EPA had failed to comply with CWA § 304(m). *NRDC v. Reilly*, Civ. No. 89-2980 (RCL) (D.D.C.). Plaintiffs and EPA entered into a consent decree on January 31, 1992. The consent decree established a schedule by which EPA was to propose and take final action for eleven identified point source categories and for eight other point source categories identified only as new or revised. After completing a preliminary study of the feedlots industry under the decree, EPA selected the swine and poultry portion of the CAFO industry as the subject for New or Revised Rule #8, and the beef and dairy portion of the industry as the subject for New or Revised Rule #9. Under the decree the Administrator was required to sign a proposed rule for both portions of the CAFO industry on or before December 15, 2000, and must take final action on that proposal no later than December 15, 2002.

Given the history of improper disposal of CAFO waste and Congress' identification of CAFOs as point sources, the EPA has proposed to require specific agricultural practices under its CWA authority both to define the scope of the agricultural storm water discharge exemption and to establish the best available technology for these specific industries. The application of BAT to the CAFO industry is, therefore, a settled issue.

2. The BPT standard allowed EPA to average best performing plants in the industry.

To determine BPT, the Clean Water Act allowed EPA to consider, among other factors, "the total cost of application technology in relation to the effluent reduction benefits to be achieved from such application." 33 U.S.C. § 1314(b)(1)B). Under the BPT standard, EPA considered cost as a function of effectiveness; when the cost to reduce additional effluent became disproportionate to the amount of reduction, the additional reduction was not required. *Reynolds Metals Co. v. EPA*, 760 F.2d 549, 554 (4th Cir.1985). BPT was determined by averaging the best performing plants of various sizes, ages, and processes, and applying that average as the BPT standard for each industry at that time. *Organic Chemicals and Plastics and Synthetic Fibers Category Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards,* 52 Fed. Reg. 42522 (III)(A)(1) (to be codified at 40 C.F.R. §§ 414, 416.) This was Congress' concession to industry to allow facilities to update and comply with approaching BAT requirements. Following the 1984 phase-out of BPT, cost could be considered only if the total elimination of discharge is impossible and, even then, only with regard to establishing the appropriate level of reduction for the best within the industry – the BAT standard. *Reynolds Metals Co. v. United States EPA*, 760 F.2d 549, 553 (4th Cir. 1985); *Texas Oil & Gas Ass'n v. EPA*, 161 F.3d 923, 928 (5th Cir. 1998), *quoting Chemical Mfrs. Ass'n v. EPA*, 870 F.2d 177, 226 (5th Cir. 1989).

However, even under BPT, the less stringent standard, an industrial polluter could not escape complying with the regulations based solely on inability to bear compliance costs:

> Because the 1977 limitations were intended to reduce the total pollution produced by an industry, requiring compliance with BPT standards necessarily imposed additional costs on the segment of the industry with the least effective technology. If the statutory goal is to be achieved, these costs must be borne or the point source eliminated.

EPA v. National Crushed Stone, 449 U.S. 64, 78 (1980).

3. Best Available Technology standards require EPA to mandate practices of the single best performing operation and require the discharger to invest maximum possible resources.

As explained above, the Clean Water Act requires BAT for CAFOs. "The 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).

Congress' goal to work toward increasingly stringent pollution elimination standards is manifested in the extent to which EPA may consider costs in establishing effluent guidelines under a BAT standard. EPA may consider, among other factors, "the cost of achieving such effluent reduction," 33 U.S.C § 1314(b)(2)(B), but it cannot perform a cost-benefit analysis: "[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).

> The EPA Administrator is bound by a test of reasonableness. Several of the major U.S. industries, including the steel, chemical and mining industries, have filed lawsuits against the EPA's promulgation of ELGs, claiming that the agency had been unreasonable by failing to consider environmental compliance costs either in establishing technology guidelines or refusing to issue variances to such standards. In each instance, the EPA's steadfast refusal to give undue consideration to pollution control compliance costs was upheld by the courts.

For example, even under the less stringent BPT standard, courts have upheld EPA's disregard of the type of data contained in the FAPRI. In *Chemical Mfrs. Ass'n v. EPA*, 870 F.2d 177 (5th Cir. 1989), chemical manufacturers maintained that the cost-effectiveness of Best Practicable Technology rulemaking should be measured by a "knee-of-the-curve" test to determine the point at which costs rise steeply per pound of pollutant removed. Under such a test, they argued, the BPT rules were not cost-effective. In supporting EPA's interpretation of cost-benefit analysis and rejecting the chemical manufacturers' argument, the Court stated,

> Congress intended Section 304(b) to give the EPA broad discretion in considering the cost of pollution abatement in relation to its benefits and *to preclude the EPA from giving the cost of compliance primary importance.* (Emphasis added.)

Chemical Mfrs. Ass'n v. EPA, 870 F.2d 177, 204 (5th Cir. 1989) (emphasis added).

Senator Muskie, the principal Senate sponsor of the Clean Water Act, described the "limited cost-benefit analysis" employed in setting BPT standards as being intended to "limit the application of technology only where the additional degree of effluent reduction is wholly out of proportion to the costs of achieving such marginal level of reduction . . . ." *Remarks of Senator Muskie reprinted in* Legislative History of the Water Pollution Control Act Amendments of 1972 *(Committee Print compiled for the Senate Committee on Public Works by the Library of Congress) Ser. No. 93-1, p. 170 (1973)*.

Because the standard applicable here is the higher BAT standard, compliance cost is given even less weight. In *American Iron & Steel Institute v. EPA*, 526 F.2d 1027 (3rd Cir. 1975), members of the steel industry sought variances from BAT standards set by the EPA, claiming the cost of compliance was prohibitive. The Court, again relying on congressional intent, explained the standard for compliance cost analysis under BAT as follows:

> In making the determination of 'best available' for a category or class, the Administrator is intended to apply the same principles involved in making the determination of 'best practicable' (outlined above), except as to cost-benefit analysis .

> . . While cost should be a factor in the Administrator's judgment, no balancing test will be required. The Administrator will be bound by a test of reasonableness. . . the reasonableness of what is 'economically achievable' should reflect an evaluation of what needs to be done to move toward the elimination of the discharge of pollutants and *what is achievable through the application of available technology - without regard to cost.*

Remarks of Senator Muskie reprinted in Legislative History of the Water Pollution Control Act Amendments of 1972 *(Committee Print compiled for the Senate Committee on Public Works by the Library of Congress) Ser. No. 93-1, p. 170 (1973)* (emphasis added).

This "reasonableness" standard for BAT cost assessment has been upheld in case after case. *See, e.g., EPA v. National Crushed Stone Assoc.*, 449 U.S. 64 (1980) (In mining industry challenge to the EPA's refusal to give due consideration to compliance costs, court held that compliance cost considerations for BAT were minimal, and less than that for BPT); *Rybachek v. United States EPA*, 904 F.2d 1276 (9th Cir. 1990) (In another mining industry challenge to EPA's cost analysis, court held that, under BAT's reasonableness standard, EPA has considerable discretion in minimizing technology costs, which are less-important factors than in setting BPT limitations).

Technology is economically achievable if affordable by an industrial category as a whole. *See Du Pont v. Train*, 430 U.S. 112, 126-30 (1977). "In promulgating nationwide pollutant effluent limitations the EPA need not consider the hardship faced by a particular plant." *Chemical Mfrs. Ass'n v. EPA*, 870 F.2d at 236. Nor should it. *See Du Pont,* 430 U.S. at 128-30; *American Iron & Steel Inst. v. EPA,* 526 F.2d 1027, 1051 (3d Cir. 1975).

The BAT standard should represent "a commitment [by an industrial category] of the maximum resources economically possible to the ultimate goal of eliminating all polluting discharges." *See EPA v. Nat'l Crushed Stone Ass'n,* 449 U.S. 64, 74 (1980). EPA has considerable discretion in determining what is economically possible. *See Natural Resources Defense Council*, 863 F.2d at 1426. EPA even has the discretion to weigh factors such as cost on a case-by-case basis, so long as its choice of the BAT is not manifestly contrary to the Act. *See BP Exploration & Oil, Inc. v. EPA,* 66 F.3d 784, 796 (6th Cir. 1995), *reh'g en banc denied*, 26 Envtl. L. Rep. 20,037 (6th Cir. 1996); *see also Rybacheck v. EPA,* 904 F.2d 1276 (9th Cir. 1990); *Weyerhauser,* 590 F.2d at 1049-53. EPA must fully explain its cost analysis. *See Kennecott,* 780 F.2d at 456.

Courts have upheld the BAT selected by EPA for a variety of industrial categories, even though EPA predicted that the BAT would cause economic displacement, including plant closures, associated job losses and other significant impacts. For instance, the Third Circuit upheld performance standards for existing sources, which are set in accordance with the procedures for BAT standards, even though "EPA estimated that compliance with the [standards] would force 14% of all indirect discharging plants to close and cause a 1.2% reduction in total industry employment." *Chemical Mfrs. Ass'n,* 870 F.2d at 250. As the court explained, "Congress clearly understood that achieving the CWA's goal of eliminating all discharges would cause 'some disruption in our economy,' including plant closures and job lossses." *Id.* at 252. The Ninth Circuit has also upheld BAT that was projected to cause plant closures, observing, "Congress contemplated the closure of some marginal plants." *See Association of Pacific Fisheries v. EPA,* 615 F.2d 794, 818 (9th Cir. 1980); *Rybacheck,* 904 F.2d at 1291.

III. ARGUMENT

A. The FAPRI report data is nothing more than self-serving industry comments on the EPA regulations and irrelevant to a Best Available Technology assessment.

As explained in Part IIA above, the NODA is based upon data contained in the FAPRI report. There is nothing objective about this "new" set of data, and the EPA should give no weight to its cost estimates. Indeed, the EPA should consider the FAPRI report for what it is – the self-interested,

unverifiable estimates of regulatory cost compliance submitted by an economically interested industry that seeks to benefit from continued non-regulation.[158] Thus, EPA should not have issued the NODA because its underlying data is irrelevant to EPA's statutory mandate to set ELGs using BAT.

B. The FAPRI report's economic data are not controlling to the BAT standard.

1. The "reasonable" standard for BAT mandates that EPA give minimal consideration to the FAPRI report data.

The FAPRI report states that the "bottom line of any new regulation is the cost to the sector it attempts to regulate." That, however, is not the legal standard for BAT under the Clean Water Act. While § 304(b) of the Clean Water Act, 33 U.S.C. § 1314(b), states that "the cost of achieving . . . effluent reduction," is a factor that may be taken into account when assessing BAT, federal courts have unanimously held that the cost factor to the polluting industry is of minimal importance when creating industry technology standards. Consideration of any of the factors must always be judged in light of the underlying goal of the Clean Water Act to preserve the nation's waters by eliminating discharges altogether.

As explained in Part II.B.3 above, EPA has been equally vigilant in refusing to allow compliance cost concerns to enter into BAT assessment. EPA's consistent practice in establishing BAT standards and the courts' affirmation of these standards point clearly to a single conclusion -- cost of industry compliance with standards promulgated to protect the nation's health and welfare should not dictate or influence EPA's BAT standards. Such undue consideration, as requested by the CAFO industry here, would defeat the very purpose of the Clean Water Act and allow the CAFO industry in this country to continue its unrestrained pollution of our waterways.

2. That existing pollution control technology for CAFOs will reduce CAFOs' profit margin is irrelevant.

As detailed below and in our July 2001 comments on the proposed CAFO regulations, there are several available technologies that would significantly reduce or eradicate the enormous environmental and economic degradation caused by the CAFO industry. Yet the CAFO industry now wants EPA to ignore these technologies and sanction the adverse impacts caused by industry by relaxing the very regulations that are necessary to protect public welfare.[159] The steel industry made an identical argument in *American Iron & Steel Institute v. EPA*, in which the EPA estimated that the total annual costs for both air and water pollution controls compliance by the steel industry after 1983 would be $1.24 billion, or 5.54% of the industry's gross revenue in 1972. The court upheld EPA's conclusion that such a percentage was a reasonable reduction in profit for the industry when furthering the goals of the Clean Water Act.

The fact that the CAFO industry will suffer a slight reduction in its enormous profits from Clean Water Act compliance is irrelevant. A reduction in corporate profits cannot be a basis for setting BAT standards and sacrificing the economic and environmental health of this nation. BAT for the CAFO industry needs to be implemented to "move toward the elimination of the discharge of pollutants….without regard to cost." It would be unlawful and unreasonable for the EPA to find otherwise.

3. EPA should consider other farming methods in determining BAT for CAFOs.

EPA's CAFO regulations and the NODA are based on the assumption that EPA need only consider CAFOs to determine BAT. EPA's approach runs counter to the purpose underlying the Clean Water Act to eliminate surface water pollution and contravenes Congress' implementation scheme of driving production toward more environmentally sound practices. As set forth above, Congress and the courts have repeatedly stated that production methods must move towards more stringent environmental safeguards until the zero discharge goal is attained. Thus, to determine BAT for operations that are producing livestock, EPA must look at all operations that are producing livestock to determine what production methods are the most protective of the environment, including traditional and other farming methods.[160]

EPA's economic analysis should not be limited to the compliance costs to the CAFO industry associated with adequate pollution control of animal waste and other pollutants. Rather, EPA's BAT analysis should, at a minimum, include non-confinement livestock and poultry production systems.

Non-confinement systems pose fewer pollution and public health hazards than CAFOs and are economically viable. Many farmers and ranchers raise livestock in non-confined systems that are integrated with production of crops and forages. Manure and other wastes, such as used bedding, are cycled within the system and represent system inputs, not wastes that must be removed from the system at considerable costs. Studies demonstrate that the economic costs and revenues *per animal* in non-confinement systems are superior to confinement production.

a. Traditional farming, while not Best Available Technology, is a less polluting means to produce food animals than CAFOs.

At the time the Clean Water Act was adopted in 1972, America's family farms were producing millions of animals for American consumers. According to data from the USDA, American farmers were producing adequate number of hogs, turkeys, chickens and beef cattle. This is particularly well illustrated by the pork sector. Using traditional farming to produce pork, farmers were able to produce adequate pork for America's domestic and export markets for hundreds of years. Using this method, American pork farmers produced the same number of pigs in inventory in 1915 as are in inventory in America today. Farmers typically owned and lived on the land they farmed, drank from the ground water beneath their farms, fished at nearby streams, passed on their land to their children and interacted with their neighbors. For these reasons, family farmers have strong incentives to carefully protect groundwater, surface water, and air near their livestock operations.

Traditional hog farming is a closed loop cycle. The traditional farmer spreads manure on fields as fertilizer to grow food crops for his herd. The farmer has incentive to keep the herd a manageable size so that manure production remains at agronomic rates. For the farmer, if manure production becomes greater than what crops can absorb, high nitrogen levels may burn out his fields or contaminate his groundwater. Congress recognized the importance of this critical environmental balance when it created the agricultural exemption in RCRA. 40 C.F.R. § 257.1(c)(1); 40 C.F.R. § 261.4(b)(2)(ii). However, CAFOs are not entitled to the agricultural exemption unless they demonstrate that they are spreading manure at or below agronomic rates. *See Waterkeeper Alliance v. Smithfield Foods,* No. 4:01-CV-27-H(3) (E.D.N.C. Sept. 20, 2001)

However, it is possible to raise animals in confinement and still spread manure at agronomic rates to grow food crops where field size is adequate and soil chemistry and permeability is appropriate. This is a better, available technology than the present lagoon/sprayfield practice in the CAFO industry where fields are routinely over-saturated with nitrogen and phosphorous so that food crops cannot be cultivated and surface and groundwater are contaminated.

b. Modern, sustainable farming methods are the best available technology for raising animals for food production.

(1) Modern rotational grazing (Dairies)

Studies show that non-confinement, sustainable dairy farming is environmentally and economically superior to conventional, or confinement, systems. For example, a 2001 University of Minnesota study of modern rotational grazing demonstrated that sustainable dairy farming methods met or exceeded the environmental and economic performance of conventional farming methods. Digiacomo, G. Iremonger, C., et al, *Sustainable Farming Systems: Demonstrating Environmental and Economic Performance* (June 2001). AUniversity of Wisconsin study found that compared to confinement systems, managed intensive grazing systems for dairy cows can turn work hours into higher profits per animal by reduction of machine, production, and feed costs. Frank, G., Klemme, R., et. al., *Economics of Alternative Dairy Grazing Scenarios*, Vol 28, No. 3 Managing Agricultural Resources (October 1995), posted on the web at www.aae.wisc.edu/www/pub/marnews), (discussion and summary of the study posted on the web at www.wisc.edu/cias /pubs/briefs/019.htm).

(2) Hoop structures (Hogs)

Similar research of hog production has found non-confinement systems to be a superior pork production method. A study sponsored by the Leopold Center for Sustainable Agriculture and the Iowa State University Extension System compared confinement hog systems with non-confinement systems in which pigs were provided hoop house shelters and farrowed and raised in pasture feeding systems. This method is not a return to antiquated hog production methods. Instead, it is a combination of appropriate technologies and management-intensive systems customized for a specific set of soil, plant, animal, and human resources, usually consisting of a farm and a farm family. The Leopold Center study compared the costs per animal of confinement systems with the costs of the non-confinement systems. One long-term survey of comparative costs, from 1989 to 1993, found that fixed costs were $3.33 cents *less* per pig weaned for outdoor herds than for confined herds. The total production cost to produce a market pig of 250 pounds was $4.88 cents *less* for outdoor, pastured herds than for confined pigs. Overall, fixed costs were 30 to 40 percent lower for pasture than for confinement systems and total costs were 5 to 10 percent lower for pasture. The number of total pigs weaned was lower on pasture, but sow mortality was also lower. Leopold Center for Sustainable Agriculture, *Swine System Options for Iowa*, (May 1996) (available on the web at http://www.leopold.iastate.edu/pubinfo/pubinfo.html).

(3) Deep bedded straw system farming (Hogs)

Several countries in Europe have developed advanced methods of farming that EPA must consider in determining BAT for CAFOs. Sweden, for example, has become the international model for pig farming. Sweden outlawed intensive (CAFO-like) hog production years ago as scientific evidence demonstrated that confinement systems were dangerous to the environment and human health. Sweden has outlawed the routine administration of antibiotics in hog farming and forbids most of the practices used by hog CAFOs, such as gestation crates and liquefied manure handling systems.

Swedish hog farmers have not simply reverted to traditional practices. Rather, the country's farmers and scientists have been at the leading edge of developing safe, environmentally protective and productive hog farming methods that are better for the environment and produce a better quality of meat. Today approximately 80 percent of Sweden's farmers with sows use a deep-straw bed pig farming system in which sows and their litters live in a deep bed of continually-added straw, in which the waste and straw are composting, thus killing the pathogens contained in pig waste. The system is virtually odor free, and it allows the farmers to avoid giving their animals antibiotics and putting pollutants like insecticides and rodenticides into their waste stream. This benign composted waste is periodically removed and land applied. For a detailed explanation of the Swedish system, *see* Halverson, M., *Swine System Options for Iowa*, Iowa State University Publication (May 1997), and Halverson, M., *U.S. Hog Farmers Explore Humane Swedish Techniques*, Animal Welfare Institute Quarterly (1994).

In sum, if EPA focuses its BAT analysis exclusively on large-scale confined systems, it would violate the BAT standard by failing to acknowledge the available, and economically and environmentally superior, technology of non-confinement hog production.

4. 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. Using an estimate of hog waste quantities, generated by Dr. Mark Sobsey of the University of North Carolina, the number of hogs in North Carolina alone generate more fecal matter than all of the people in the states of North Carolina, New York, California, Texas, New Hampshire, and North Dakota *combined*. Animal waste generated by CAFOs is considerably more hazardous than human waste.

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 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.

EPA's recognition in this consent decree that the type of treatment described above is necessary for CAFO wastes should cause EPA to consider this type of treatment as well in the CAFO regulations.

C. EPA's focus should be on the nation's cost from CAFO pollution, not cost to industry for Clean Water Act compliance.

As explained above, the law does not allow EPA to focus on the CAFO industry's cost of compliance with the proposed regulations. Under the BAT standard, EPA is required to show only that the proposed standard is "technologically and economically achievable." 33 U.S.C. § 1311(b)(2)(A). Such an outcome is consistent with Congress' intent to "push pollution control technology." *Association of Pac. Fisheries v. EPA*, 615 F.2d 794, 816 (9th Cir. 1980).

The costs that EPA should consider in promulgating the CAFO regulations are the severe environmental and economic impacts created by CAFO facilities, including the environmental impacts of the unfettered discharge of pollutants to the nation's waterways, the human health effects caused by the dispersion of untreated animal waste into all sectors of the environment and the devastation of the rural economy by the undermining of the family farm system.

The cost to our nation's natural resources.

As set forth in detail in our July 2001 comments on the CAFO regulations, CAFOs contaminate groundwater, surface water, and air with nutrients, pathogens, and other pollutants. For example, among the chief sources of nutrient pollution in North Carolina coastal areas is polluted runoff from agricultural operation, in addition to air pollutants from those operations that settle on land and water. CAFO pollutants leak from lagoons and other storage structures, leach and run off from sprayfields, 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 caused massive fish kills and the loss of other aquatic life. *See* July 2001 Comments.

The cost to human health, welfare and wildlife.

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, Yersinia, leptospora, Cryptosporidia, Giardia, and probably several yet to be discovered. 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. 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. *See* July 2001 comments.

CAFOs also endanger public health by contaminating groundwater with nitrates. Groundwater tainted with nitrates can cause methemoglobinemia, contribute to the development of some cancers and cause adverse reproductive outcomes. *See* July 2001 comments.

Research has documented that people living near large hog facilities suffer significantly higher levels of upper respiratory

and gastrointestinal ailments than people living in non-livestock areas. *See* July 2001 comments.

The cost to rural economy and society.

CAFOs have destroyed the rural economy in many ways. In 1915, there were just as many pigs on farms in America as there are today. 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. 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. Despite these real, and severe, economic impacts, the NODA indicates that EPA is considering narrowing its analysis of CAFO economics to the level of the animal production enterprise, divorced from other on-farm costs and benefits.

EPA 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. Many of the environmental and public health burdens of CAFO pollution are imposed on local communities. In addition to dealing with problems such as 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.

CAFOs damage the environment and human health in ways that traditional farms do not.

As set forth previously, CAFOs pose significant risks to groundwater, surface, and air. *See* July 200l comments. The larger and more concentrated the operations, the greater their danger to the environment.

This is particularly true for nutrient pollution. A 2000 study by researchers from the University of Northern Iowa and Iowa State University determined that, in the six square mile area of Hamilton County, Iowa, the land area required for agronomic application of the manure produced by CAFOs was 73% of available land and the land area required for an agronomic application of phosphorous was 9.4 times the amount of land that was being used, 6.2 times the available land. Jackson, L., and Gilbert, E., *Swine Manure Management Plans in North-Central Iowa: Nutrient Loading and Policy Implications*, Journal of Soil and Water Conservation, vol. 55, no. 2 (2000). As this study demonstrates, the CAFOs currently operating in this Iowa county are functioning in an environmentally unsustainable manner. The results of this study would be similar or worse at most CAFOs around the country.

The same conclusion was reached by researchers who examined the phosphorous balance for Minnesota's CAFO permitting process. After analyzing 3,607 feedlot permits they found that the larger the operations, the greater the excess phosphorous per acre. The researchers concluded that Minnesota feedlots are currently overapplying 1.4 million pounds of surplus phosphorous every year. Schimmel, J., Levins, R., and Keeney, D., *Phosphorous Balance in Minnesota Feedlot Permitting*, June 29, 2001. Generic Environmental Impact Statement on Animal Agriculture in Minnesota. Final Technical Working Paper on Economic Structures, Profitability and External Costs. State of Minnesota. St. Paul, MN: Environmental Quality Board.

a. CAFOs produce fewer jobs and jobs of lower quality than farms.

Because CAFOs provide virtually no husbandry to the animals and generally liquefy the animal waste, they provide fewer jobs and jobs of lower quality than farms. A 1998 study by Iowa State University agricultural economist Daniel Otto that compared smaller hog farms to larger hog operations found that smaller operations created 34% more jobs and 23% more employee income than larger operations. *Iowa State University Study Shows More Economic Benefit from Smaller Hog Farms*, Press Release, Center for Rural Affairs (January 15, 1998). AVirginia study favoring expansion of the hog industry that compared larger corporate hog operations with smaller, independent producers concluded that the independent producers provided 10% more permanent jobs and a 37% larger increase in local per capita income. Thornsbury, S., et. al, *Economic Impact of a Swine Complex in Southside Virginia*, Virginia Tech University Department of

Agriculture and Applied Economics (undated). The economic benefits to society from non-confinement, family farming are indisputable.

b. The overall economic health of communities with cafos is poorer than communities with farms.

CAFOs have a net negative effect on the health of rural communities' economies. As explained by noted agricultural economist, Dr. John Ikerd, at a March 2001 conference:

> The impact of agricultural industrialization on the social fabric of rural areas rose to the public consciousness as rural communities began to feel the brunt of the farm financial crisis of the 1980s. Once prosperous farming towns withered and decayed as large numbers of farm families were forced off the land. The land was still farmed, but there were fewer people to buy groceries, school clothes, hardware, and hair cuts in the local business community. In addition, the larger industrial farms often bypassed the rural community in order to save a few dollars on input costs or to get a few more dollars out of their products. Fewer farm families and farm-related jobs in rural communities meant fewer people to support schools, churches, and local civic activities. Ultimately, the corporate takeover of hog farming with their giant hog-factories raised the consciousness of the public in general to the destruction of the social fabric of rural America by the industrialization of agriculture.

Economics of Sustainable Farming, John Ikerd, Professor Emeritus of Agricultural Economics, University of Missouri, Presented at the HRM of TX Annual Conference 2001, Systems in Agriculture and Land Management, Fort Worth, TX, March 2-3, 2001.

Dr. Ikerd further explained that CAFOs are less sustainable than farms because they emphasize specialization and productivity over economic diversity. He stated,

> Increasing specialization has led to loss of biodiversity, and thus, to increasing vulnerability of livestock and crops to insects, parasites, diseases and other pests, and to adverse growing conditions requiring ever increasing reliance on costly off-farm inputs. Increasing specialization has led to loss of economic diversity, and thus, to increasing vulnerability to depressed market prices or rising input costs of the specific commodities being produced requiring ever increasing reliance on commercial risk management strategies or contract farming. Farmers almost invariably find they lack the expertise or market discipline needed to use commodity markets risk management tools. Farmers invariably find themselves at a competitive disadvantage to large corporate firms when negotiating comprehensive production contracts. Farmers simply have not been able to manage the risks of large-specialized farming operations effectively.

Id.

These adverse effects on local economies were documented and quantified in an April 2000 study by University of Illinois researchers. The study carefully examined the impact of the increasing concentration of Illinois' hog sector on rural communities and concluded that concentrated hog operations hinder community economic health:

> [S]tructural changes in agriculture and livestock production can have substantial impacts in rural areas. … The results [of this study] reject the hypothesis that large hog farming [sic] contribute to the vitality of local economies. On the contrary, the several models developed here consistently indicated that large hog farms tend to hinder economic growth in rural communities.

Gomez, M., & Zhang, L., *Impacts of Concentration in Hog Production on Economic Growth in Rural Illinois: An Econometric Analysis* (April 2000), presented to the American Agricultural Economic Association 2000 meeting and posted on the web at http://agecon.lib.umn.edu/aaea00/sp00go03.pdf)

c. CAFOs damage property values and tax bases.

CAFOs, because they liquefy and then collect, store and land apply huge quantities of raw animal feces and urine, generate odors that are described as unspeakable even by life-long farmers.[161] These devastating odors have wreaked social havoc on rural communities and have demonstrably diminished the property values near CAFOs. For example, a farm family in Manitoba argued to its tax board that the stench from a nearby hog operation had diminished his property by $500,000. Bell, I., *Hog Barns Slash Land Value: Family*, June 21, 2001, available at www.producer.com/articles/20010621/news/20010621news11.html.

A July 2001 study in the Appraisal Journal documented what every person living near a CAFO already knows, that "a property located near a concentrated animal feeding operation (CAFO) will be negatively impacted by this externality." Kilpatrick, J., *Concentrated Animal Feeding Operations and Proximate Property Values*, The Appraisal Journal, vol. LXIX, No. 3 (July 2001). The study concluded that "diminished marketability, loss of use and enjoyment, and loss of exclusivity can result in diminishment ranging from 50% to 90% of otherwise unimpaired value." *Id.*

A 1995 North Carolina study that looked at the impact of hog CAFOs on property values concluded that the "proximity of hog operations has a statistically significant and negative impact on property values." Palmquist, R., et. al., *Hog Operations, Environmental Effects, and Residential Property Values*, Land Economics, Vol. 73, No. 1 (Feb. 1997).

CAFOs have been shown to injure the tax base as well. A 1998 study by Iowa State University found that smaller hog operations create 23% more local tax revenue, produce 20% more net revenue for the state, and pay 7% more property taxes than do larger operations of equal output. *Iowa State University Study Shows More Economic Benefit from Smaller Hog Farms*, Press Release, Center for Rural Affairs (January 15, 1998).

Some areas with substantial numbers of CAFOs have determined that they are under-taxing the operations. Butler County, Iowa's County Auditor recently issued a statement that CAFO operations should be treated as corporations, rather than farms. The Auditor noted that the operations demand significantly more services than farms, such as damage to roads from heavy equipment and trucks transporting feed, hogs, and animal wastes. Butler County has found that it must apply for an additional 100 tons of rock per year to every mile of road near hog CAFO operations. "A conservative estimate of the additional expenses due to the damage caused by these operations is $110,000 per year," stated County Auditor Holly Fokkena. *Butler Official Wants Confinement Owners to Pay Up*, Waterloo / Cedar Falls Corner (January 9, 2002).

Incredibly, to exacerbate the economic impacts further, large, multi-national CAFO corporations seek tax abatements and other incentives for their operations that are not available to farms. For example, for a Manitoba slaughterhouse expansion, Smithfield Foods requested several public subsidies -- lower sewage and water rates, an expansion of hydro service, several hectacres of city land, infrastructure support and lower property and business taxes—that it claimed it needed to be competitive. Tjaden, T., "*Good Corporate Citizen or 'Hog-zilla?' Schneider's U.S. Parent Has a Spotty Track Record*," Winnipeg Free Press (December 19, 1999).

d. CAFOs waste precious natural resources including fossil fuels, groundwater, and inputs into worthless land cover like bermuda grass.

CAFOs use more natural resources, including fossil fuels, than farms. CAFOs generally segregate animal production into sectors. For example, hog CAFOs will segregate farrowing, weaning, growing, and finishing. Traditional and sustainable hog farms are farrow to finish, having all phases of the pig's life at the same farm. This means that CAFO

systems consume huge amounts of fossil fuels in transporting hogs long distances, such as from Canada to the Midwest, and from the Midwest to the Southern United States. Similarly, because CAFOs in many parts of the country get their feedstock from distant locations, substantial fossil fuels are consumed in transporting the grains from, for example, midwest states to North Carolina. Report Documents Changing Structure of Pig Industry, Says Economist, Agriculture Online (July 3, 2001), available at www.agriculture.com/default.sph/AgNews.class?FNC=sideBarMore.

Additionally, confinement systems, in contrast to pasture systems, continually confine animals in buildings that require heating, cooling, and constant ventilation, which consume significant amounts of fossil fuels. None of this is required by pasture systems.

CAFOs also use enormous amounts of groundwater, much more than a traditional farms. (*See* July 2001 comments).

Finally, traditional, sustainable farms use manure and farm equipment and labor more economically because they are not generating massive quantities of waste far in excess of the soils' and crops' absorption capacity. CAFOs routinely raise crops like Bermuda grass on their sprayfields in an attempt to absorb their excessive nutrients. This is a tremendous waste of the animal manure and the resources spent on the land application and harvesting of the grass because it is an unusable crop. Moreover, because it is nitrogen rich, it is often unusable and can routinely be seen rotting at the edges of CAFO sprayfields.

e. CAFOs have devastating impacts on other local industries including fishermen, marinas, veterinarians, feed suppliers, and farm equipment suppliers.

Because CAFOs typically buy in bulk and under the control of distant corporations that make national purchasing orders with national suppliers, they provide substantially less support to the local economy than farms. Researchers from the University of Minnesota Department of Agricultural and Applied Economics concluded that local farm expenditures made by livestock operations falls sharply as the size of the operation increases. The researchers explained,

> Specialty equipment also must often be accessed from distant merchants. In many cases, even the most basic input, feeder animals and breeding stock, cannot be supplied locally in the quantities and qualities required by large producers. In addition to these potential losses for local businesses, larger livestock operations often find it economical to process their own feed with on-farm equipment. This causes losses for local communities not only in the primary feed ingredients market, but also in antibiotics, protein sources, vitamins, and minerals, all of which lend them to discount purchases from distant dealers.

Chism, J., and Levins, R., *Farm Spending and Local Selling: How do They Match Up?*, Minnesota Agricultural Economist, 676, St. Paul: University of Minnesota Extension Service (Spring 1994). This effect was also documented by a Virginia study that found that smaller, independent hog producers have a 20% greater impact on local retail sales. Thornsbury, S., et. al, *Economic Impact of a Swine Complex in Southside Virginia*, Virginia Tech University Department of Agriculture and Applied Economics (undated).

CAFOs also require fewer services of locals, such as veterinarians than farms, driving independent farm animal veterinarians to virtual extinction. A February 2001 article in Successful Farming magazine quoted David Bristol, Dean of Academic Affairs at the College of Veterinarian Medicine at North Carolina State University, who said: "Animal agricultural consolidation has resulted in large corporate farms that employ a few veterinarians to oversee production of large numbers of animals at numerous farms. These farms do not support independent veterinarians." Freese, B., *Successful Farming*, 39 (February 2001).

Finally, because CAFOs damage surface waters and other natural resources, they have potential to injure water-related economies such as commercial and recreational fishing, bait shops, and marinas.

IV. FUNCTIONAL EQUIVALENCY

In part IV.C.1 of the NODA (p. 58597 of the Federal Register), EPA solicits comment on a proposal to exempt states from developing an NPDES permit program for CAFOs if they can demonstrate that their current permitting program is the "functional equivalent" of an NPDES program. We believe that EPA lacks the legal authority to approve non-NPDES permitting programs for CAFOs.

Several states have developed permitting programs for livestock operations that cover all facilities within the state, regardless of whether those facilities meet the technical definition of a CAFO pursuant to 40 CFR Part 122. Many of these permitting programs, such as those in North Carolina and South Carolina, are comprehensive in scope and cover most of the intensive hog production facilities within the states' borders. While these permitting programs meet many of the technical requirements proposed in EPA's draft regulations, they nevertheless omit several elements that are necessary to be certified as an NPDES permit.

EPA has listed the elements that all NPDES permits must contain and that any "functionally equivalent" program would also have to contain. The NODA states that all NPDES programs must contain five elements: 1) federal enforceability; 2) public participation; 3) citizen suits; 4) five-year permit terms, and 5) permit conditions and limitations designed to limit discharges. According to the NODA, in order for a state program to be functionally equivalent, it would have to issue permits that meet all of these elements. If a state has adopted a permit program that includes these elements, then it would simply require an administrative change to reclassify the permit as an NPDES permit, at minimal cost to the state. We can see no logical reason for allowing states to opt out of the NPDES program if its permit program does in fact contain all of these essential elements.

With the exception of citizen suits, all of these elements are listed in 40 CFR Part 123 as mandatory components of any delegated state permit program. Based on our experience in working with states and the regulated community to develop permitting programs for livestock operations that comply with the Clean Water Act, it is our assumption that states and the regulated community are interested in the concept of "functional equivalency" as a means by which to divest citizens of the opportunity to file independent enforcement actions for permit violations. We encourage EPA to clarify that although citizen suits need not be a specific part of an NPDES permit, citizen enforcement is nonetheless an essential element of a delegated state's regulatory program. Section 505 of the Clean Water Act states that in the absence of diligent enforcement by the government, citizens may seek to enforce any effluent limitation and any part of an NPDES permit. 33 U.S.C. § 1365(a), (f). This authority is independent of the NPDES permit requirements and cannot be nullified by a state's refusal to specifically include it in an NPDES permit. Without an explicit mandate that any "functionally equivalent" permit program specifically include citizen enforcement authority, this important and essential aspect of a valid NPDES permit would be lost and the will of Congress would be subverted. We encourage EPA to remain resolute in its assertion that all of these elements, including citizen enforcement authority, must be present.

V. ENVIRONMENTAL MANAGEMENT SYSTEMS

In Part IV, D. of the NODA, EPA solicits comment on four options for using Environmental Management Systems (EMSs) as a means by which to lessen the permitting requirements for livestock facilities and corporations. We object to these proposals in their entirety. While we recognize the potential benefits to the environment of implementing a process that identifies all sources of pollution – including those beyond the scope of the Clean Water Act – those benefits are inchoate. The realization of those benefits depends on many factors that not only are beyond the control of the regulatory authority, but also are impossible to identify in the certification process. In sum, while a properly developed and implemented EMS can be a useful tool for identifying pollution sources and means by which to both reduce pollution and save money in the process, it is no guarantee for performance or compliance and is an inadequate – and impermissible – substitute for regulations.

An EMS is a protocol for developing a process by which a company reviews its operations and collects data about its environmental impacts and performance from each phase of its operations. It is designed to be a voluntary program that, if properly followed and implemented, can (1) enhance compliance with environmental laws, (2) elevate environmental awareness among the company's employees and decision-makers, and (3) improve the company's public

relations and profile. As a voluntary program, the very intent of an EMS is at odds with the compulsory nature of a regulatory program. Moreover, the EMS audit is of a process, not a substantive result. It is not a certification that the company's environmental performance goals have been achieved, or that the company is in or will come into compliance with regulatory requirements.

Beyond the logical flaws of substituting an EMS for a *bona fide* regulatory program, there are practical limitation that argue against this concept. There also are legal limitations that prohibit EPA from pursing this course of action.

First, nothing in the Clean Water Act authorizes EPA to exempt regulated facilities from certain legal requirements in exchange for their adoption of voluntary measures and protocols. EPA's discretion, while considerable, is not unfettered. *NRDC v. EPA*, 863 F.2d 1420 (9th Cir. 1988). It would be an abuse of discretion to exempt point sources from complying with the terms of an NDPES permit and from associated regulatory oversight. This is especially true where the system EPA proposes for adoption is entirely private. This opt-out program would undermine the Act's public participation requirements and limit the public's ability to participate in all aspects of the permitting, inspection and enforcement program. This high level of participation is mandated by the Act and case law. See *Costle v. Pacific Legal Found.*, 445 U.S. 198, 215 (1980), *reh'g denied*, 446 U.S. 947 (1980); *NRDC v. EPA*, 859 F.2d 156, 175 (D.C. Cir. 1988) (quoting from Environmental Policy Division, Congressional Research Service, Library of Congress, A Legislative History of the Water Pollution Control Act Amendments of 1972, at 249 (Comm. Print 1973)); 33 U.S.C. § 1251(e).

Second, the quality and effectiveness of EMSs varies throughout an industry. There are several reasons for this deviation. Although there is a standard checklist to help guide a company through the development of its EMS, a company need not follow the guidance verbatim. "EMSs vary not only because they arise in different organizational settings but also because firms adhere to different external standards for EMSs – and in some cases, to no external standards at all because such standards are voluntary."[162] The standard that a company adopts will, in large part, determine the stringency and ambitiousness of its environmental goals, the type and extent of monitoring that it employs, the level of information provided to the public, its environmental performance, and the ultimate environmental benefit achieved.[163]

Significantly, even those companies within an industry sector that adopt the same EMS standards will have varied environmental performance because they likely will have different levels of commitment to meeting those standards and because the standards themselves are not specific. For example, an EMS standard typically requires a company to develop a list of targets and objectives. However, the standard does not specify the substantive nature of that target. Consequently, most companies limit their targets and objectives to compliance with the minimum requirements of the current law. This limited objective undermines EPA's premise that an EMS will effectively reduce environmental impacts, such as odor or air deposition, that are not explicitly regulated by law. It also raises the specter of reduced environmental performance, i.e., increased pollution, if the benefit of the EMS is an exemption from the regulatory process.

Another example is that the EMS standard will direct the company to review the environmental aspects and impacts of its operations and identify which are "significant." However, the standard offers no tool by which to evaluate or measure the significance of the impact. Consequently, this determination is entirely subjective and not necessarily related to the significance of the company's impact on the environment; i.e., a significant impact could be limited to a determination of cost to the company. A determination of "significance" is thus unique to each company and variable even within an industry sector. Other examples of this lack of specificity include the failure to specify whom should be trained in the EMS and what those individuals should be taught and the failure to specify who will be responsible for implementation of the EMS.[164]

Third, the degree to which the adoption of an EMS leads to an actual reduction of the company's environmental impacts depends on many factors, such as the corporate culture and attitude towards compliance, the ability of mid-level employees to challenge the way things are done within the company, the quality of the targets and objectives identified during the certification process, and the level of participation of individuals within the surrounding community (i.e., non-employees) in the development of the EMS.[165]

Of these factors, several researchers have identified the corporate culture as the single biggest obstacle to the potential of an EMS to effect positive change. As one researcher notes, "[g]enuine, lasting cultural change is difficult to bring about in any organization." Moreover, EMS standards, including ISO 14001, "do not require firms to make dramatic changes or to abandon old ways of thinking about environmental responsibility… Many firms may use EMSs to simply document current practices, not transform practices."[166] Moreover, research conducted on the National Database on Environmental Management Systems (NDEMS) reveals that the quality of the EMSs developed and adopted by companies is determined by the factors that motivate the company's adoption. The research indicates that very few companies are motivated by concerns about the environmental impacts of their operations; consequently relatively few companies have identified improvements in environmental quality as an objective for the development and implementation of the EMS. The lower the target, the weaker the benefits likely to be achieved by the adoption of the EMS.[167]

Fourth, the registrars, i.e., those who conduct the audit and certify the EMS, are also varied in their qualifications, abilities, and sensitivity to environmental concerns. There is no consistent training for the registrars and no ethical standard to which they must adhere. Because they often act as both auditor and consultant to the companies that employ their services, there is potential for conflict of interest. These conflicts of interest would be heightened if the stakes for certification were raised to offer a basis for exemption from government regulatory oversight.

Finally, we were unable to uncover any study that could document measurable improvements in either environmental performance or compliance with environmental laws by virtue of the adoption of an EMS. To the contrary, anecdotal evidence suggests that several companies that are EMS-certified have been cited for violations of environmental laws. One recent example is Murphy-Brown, LLC, a hog-producing subsidiary of Smithfield Foods, whose EMS process EPA commends in the NODA. Murphy-Brown held a press conference in the fall of 2001 advertising that it had developed an EMS that was ISO-14001 certified. Last week, a Murphy-Brown contract hog operation in North Carolina spilled several million gallons of manure and urine into Moores Creek. The lagoon, which the North Carolina Division of Water Quality had cited for freeboard violations in December, had been partially emptied by spraying its contents onto a field that lacked a crop to absorb it.

The studies that have been done conclude that it is difficult to measure the success of the EMS and to quantify the environmental and social benefits and outcomes.[168] Some researchers have cautioned that companies may use EMSs to avoid scrutiny under established regulatory programs.[169] An EMS is not a guarantee for improved performance or increased compliance, and "empirical research is needed to assess the … impact of EMSs" *before* taking a dramatic departure from the regulatory process.[170] In the absence of strict government oversight to ensure compliance with water quality standards and build confidence in the program, allowing companies to avoid compliance with regulatory programs could worsen overall environmental performance. We encourage EPA to wait until these studies are completed and demonstrate the potential for measurable improvements in environmental performance before using EMS as a means by which to offer the regulated community flexibility in the regulatory process.

IV. CONCLUSION

Imagine a garbage hauler, "Hauler X," who, in order to escape the costs of landfill tipping fees, begins dumping his garbage into local rivers and spreading it on fields. These disposal methods allow Hauler X and its imitators to lower costs and increase profit margins. Within a few years, Hauler X and a few others who adopt its methods have come to dominate the industry by exploiting their competitive advantage from illegal dumping.

Imagine that as Hauler X's business model proliferates, so do associated environmental problems.

- Half the population of a large Midwest City is sickened and many people die as the result of pollution from one of these operations.

- A billion fish die in a single fish kill in one southern river and 100,000,000 more die each year.
- Super bugs immune to antibiotics appear around the dumpsites.
- Aquifers are destroyed and poisoned.
- Rural residents are driven from their lands and rural economies collapse in regions where these haulers locate.
- Industry workers sicken and die from poor working conditions
- Air quality chokes neighbors and drops property values
- Thousands of family owned businesses go bankrupt, unable to compete with Hauler X's pollution based prosperity
- Tourist dollars dry up in coastal regional affected by pollution
- Ironically, hauling fees to the consumer go up as the industry consolidates under this new business model.

Imagine that in response to a growing public outcry against these facilities, federal EPA proposes regulations to control this dangerous industry. However, just prior to promulgating final regulations, EPA reviews an economic analysis by Hauler X showing that Hauler X and its colleagues would make fewer profits if they were forced to obey the law. In response to this "study," EPA issues a NODA changing its regulations to insulate Hauler X type operations from prosecution and to institutionalize their competitive advantage over traditional law abiding haulers.

It is challenging to distinguish between the hypothetical above and EPA's November 12th NODA on CAFOs. Indeed, the destructive impacts imposed by CAFOs include all the damages described above and many more.

The destruction by CAFOs is especially dramatic in the hog sector. Pork factory CAFOs emerged twenty years ago. Using the destructive lagoon/sprayfield system, they have since almost completely displaced traditional hog producers and put tens of thousands of family farmers out of pork production. For example, when the industry was invented, there were 27,500 independent hog producers in North Carolina. Today, they are all gone – replaced by 2,200 hog factories, 1,600 owned by a single company, Smithfield!

Instead of using the best available technologies for treating their waste (including established technologies such as spreading manure on crop fields at agronomic rates or secondary treatment which is the conventional treatment for fecal waste), pork CAFOS rely on the lagoon and sprayfield system, which invariable discharges lagoon waste into the environment.

CAFOs did not come to dominate the pork production market by producing pork more efficiently than traditional farms but by avoiding the costs of waste disposal. The lagoon and sprayfield system allows CAFO owners to "externalize" (force the public to pay) these costs by escaping the costs of waste disposal. CAFO owners have been able to quickly consolidate control over American pork production.

CAFOs do not provide a social benefit. The accompanying studies show that:

- Since CAFOs do not require animal husbandry, CAFOs result in net reductions in local jobs.
- CAFOs put family farms out of business and replace them with some of the lowest paying, most dangerous and most unpleasant jobs in America.
- CAFOs do not result in cheaper pork to the consumer. The grocery store price of bacon and pork chops has risen or remained static over the past decade.
- Traditional farmers have, for centuries, produced adequate pork for domestic and export markets without the industrial style pollution associated with CAFOs. In 1915, there were as many hogs on American farms as there are today.
- CAFOs result in severe phosphorus contamination that has caused eutrophication (oxygen death) of thousands of miles of American waterways.
- CAFOs destroy a region's tax base and lower property values.
- CAFO pollution has devastated recreational and commercial fishing on the Neuse and other rivers throughout the country where hog confinement facilities are heavily concentrated and these

activities exist. In North Carolina, the negative impact suffered by fishermen and the tourism industry have been equally devastating.

- CAFO pollution promoted the proliferation of dinoflagellates like *Pfisteria piscicida* in American waterways.
- In 1991, approximately one billion fish died in North Carolina's Neuse River in less than 6 weeks due, in large measure, to nutrient-pollution generated and discharged by hog factories. CAFO pollution continues to kill 100,000 fish in the Neuse each summer. A high percentage of menhaden, at times 100%, as well as many other fish, often sport lesions from *Pfisteria* and other microscopic predators associated with CAFO pollution.
- CAFO pollution is directly related to serious illness including open sores, respiratory injury and brain damage among fishermen and other water users.
- CAFOs shatter rural communities and their economics.
- The propagation of CAFOs has resulted in tens of thousands of human illness and deaths across North America because of contamination of water supplies. For example, in 2000 in Walkerton, Ontario, 7 people died and 2,300 sickened when E. coli and campylobacter poisoning from a CAFO entered the community's water supply. In 1993, cryptosporidium contamination from CAFOs sickened 400,000 people, half of Milwaukee's population, and killed 114.
- Rural residents report being driven from their land, not being able to hang laundry or sit on their porches or plough their fields because of stenches caused by this industry. Property owners have collected millions of dollars in tort suits in recent years because almost all of these facilities are public nuisances.
- CAFOs result in pollution of vast quantities of subsurface waters with deadly nitrogen.
- CAFOs rely more heavily on sub therapeutic antibiotics, which are excreted by their herds and the spread from lagoons and sprayfields onto the American landscapes and into public waterways promoting the probable development of "superbugs" immune to human antibiotics.
- CAFO factories use more growth hormones than traditional farm models and, therefore, discharge greater amounts of excreted hormones into the environment. These chemicals are sometimes potent endocrine disrupters with catastrophic impacts on human health and the environment.
- CAFOs use more disinfectants, biocides, rodenticides, mercaptans, metal feed additives and other toxics than traditional farm models and discharge these materials into the environment.

CAFOs impose other costs on society that defy quantification but should be considered by EPA in balancing other economic factors:

- CAFOs treat tens of millions of animals with unspeakable and unnecessary cruelty.
- These CAFO rules will result in monopoly domination of the American food supply by a few large corporate producers.
- These CAFO rules will encourage monopoly domination of the American landscape by a few large corporate producers to the detriment of American family farmer.
- Despite industry claims to the contrary, meat produced by CAFOs is bland and inferior tasting.
- Genetic engineering practiced by CAFOs robs farm animals of natural vitality and resistance.

Instead of acknowledging the catastrophic social costs of this business model, EPA cites an industry-generated calculation of compliance costs to justify a regulatory roll back and to abandon its regulatory responsibility. If cost of compliance were a reason to roll back or abandon environmental regulation, there is practically no environmental regulation that could withstand this test.

Instead of kowtowing to an industry made powerful by a destructive industrial model that threatens to destroy public assets and existing farming, fishing and tourist industries, EPA should prudently assess the full economic and social costs of this industry to the American people and force CAFOs to obey the same laws that apply to other Americans and industries.

Sincerely,

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APPENDIX E

ENVIRONMENT: BUSH'S POLICIES HAVE HURT THE ENVIRONMENT IN TEXAS:

Texas leads the country in a frightening array of toxin- and carcinogen-release statistics, and last year Houston passed Los Angeles for the dubious distinction of America's smoggiest city." [Time, 2/21/00]

LCV President Deb Callahan: "The saying that 'everything is bigger in Texas' unfortunately applies to the state's environmental problems under Governor Bush.... To boil it down, if Bush applied his 'Texas knows best' standard to the rest of the nation, 30 years of environmental progress could be jeopardized in only four years. We believe that Bush represents the biggest threat to the environment of any leading major party presidential candidate." [League of Conservation Voters President Deb Callahan statement, 1/13/00]

Todd Martin, director of the Texas Campaign for the Environment: "The worsening of air pollution is a result of the deliberate and intentional policies of Governor Bush." [Fort Worth Star-Telegram,10/20/99]

New York Times: "In any assessment of Mr. Bush's environmental record, the unmistakable subtext is the governor's relationship with business and industrial leaders. As an advocate of limited government, Mr. Bush believes that lawsuits

and regulations are not the best way to achieve clean air and water... With Mr. Bush leading the Republican presidential race, environmentalists are criticizing his closeness to the industries regulated by his administration in Texas. Campaign records indicate that the companies that helped draft the new pollution law have since donated nearly $1 million to Mr. Bush's presidential campaign. In addition, environmentalists say the law which allows companies to comply voluntarily with state state permit requirements, is weak and riddled with loopholes. They say other laws and policy changes during Mr. Bush's tenure have had the accumulated effect of weakening state oversight of industry." [New York Times, 11/9/99]

New York Times: "Unlike his father, former President George Bush, who declared himself 'the environmental president,' the younger Mr. Bush has not emphasized environmental issues since he became governor in 1995, despite the fact that Texas ranks as one of the most polluted states in the country." [New York Times, 11/9/99]

Ken Kramer, Director of the Lone Star chapter of the Sierra Club: "It's an environmental policy being run by business and industry and their friends in the regulatory agency. That means there will be very little scrutiny." [New York Times, 11/9/99]

New York Times: "In recent months, the severe ozone problems in Houston and Dallas-Fort Worth have led to increased criticism of Mr. Bush and his appointees by newspaper editorial writers as well as environmentalists. Without question, Texas has endured one of the worst ozone summers on record. So far this year, the state has registered the 24 worst smog readings in the country, including a reading in Houston on Oct. 1 that registered at twice the maximum level allowed by national health standards. [New York Times, 11/9/99]

Washington Post: "But there is statistical evidence that the air in Texas cities is as foul -- and perhaps more so -- than when Bush took power in 1995. The frequency of smog alerts in Houston, Dallas and Austin has risen steeply in the Bush years. Physicians say the smog can harm children, the elderly and asthmatics, and possibly cause long-term lung damage." [Washington Post, 10/15/99]

Washington Post: "Instead of demanding that industry clean up, environmental activists and federal regulators say, Bush's appointees have lightened the regulatory burden on Texas's dirtiest companies. The state environmental agency has all but ended surprise inspections of plants and made it harder for citizens to press complaints about polluters." [Washington Post, 10/15/99

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Environment News Service May 19, 2000

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WASHINGTON, DC, May 19, 2000 (ENS) - Texas produces more animal waste than any other state and is creating a public health and pollution hazard, concludes a new report released Thursday by the Sierra Club and Consumers Union Southwest Regional Office. Unlike many other livestock producing states, Texas provides little oversight or regulation of these facilities, the report finds.

"Animal Factories: Pollution and Health Threats to Rural Texas," shows that Texas produces about 220 billion pounds of animal wastes each year, and this number is rising. Current estimates show that Texas is producing 280 billion pounds or 40 pounds of manure per Texas resident per day. "We already knew that Texas leads the nation in toxic air pollution from manufacturing industries, and now we have the dubious honor of holding the number one spot in manure production," said Ken Kramer, director of the Lone Star Chapter of the Sierra Club in Texas.

California holds the number two spot in manure production, but produces only half of the amount - 110 billion pounds of waste - that Texas does.

The report describes how weak state environmental regulations and lax enforcement allow Texas' factory farms to pollute, often for years, before any enforcement action is taken.

The pollution is taking its toll on local waterways - impairing 388 miles of streams and more than 23,000 acres of lakes. Stretches of Wright Patman Lake, Black Bayou, and the Upper North Bosque River are so polluted from industrial livestock waste that they cannot support aquatic life.

Areas of the North Bosque River and Leon River are contaminated to the point that they can no longer support recreation.

Air pollution from factory farms is also taking its toll on human health. Air testing near cattle feedlots shows sporadic, high particulate levels above state and federal standards. Air testing downwind of hog, cattle and chicken farms indicate strong, offensive odors and ammonia levels in excess of the state's health based effects screening level.

The report cites one child living next to a cattle feedlot who had to be airlifted to a nearby hospital because of severe respiratory distress caused by the large amount of fecal dust emitted from the facility. This family and others have moved from their homes rather than live with the constant odor and dust.

"While Texas residents suffer from manure pollution, Governor **George W. Bush** and Texas agencies refuse to keep factory farm waste out of Texas' air and waterways," said Ed Hopkins, senior Washington representative of the Sierra Club. "Other states have addressed environmental concerns and implemented effective solutions. Texas should follow in their footsteps and protect our environment."

Once known primarily as a beef cattle state, Texas is now also home to thriving dairy, chicken, egg, and hog production facilities, ranking among the top 10 or 15 states for each category of production.

"Our public officials have been negligent in their duty to keep factory farm waste out of Texas' air and waterways," said Reggie James, director of the Southwest Regional Office of the Consumers Union which publishes the widely read magazine "Consumer Reports."

"While other states have addressed environmental concerns and implemented effective solutions, Texas has stood still and even regressed," James said.

"Weak existing state environmental regulations and lax enforcement allow Texas' factory farms to pollute, often for years, before any enforcement action is taken," the report states.

According to the state's own environmental agency, the Texas Natural Resources Conservation Commission (TNRCC), just enforcing existing laws would have reduced water pollution from illegally discharged manure by more than one million pounds in 1999.

The report lists several problem areas:

In 1995, Texas regulators streamlined the permit process for confined animal feeding operations (**CAFOs)**, limiting the ability of neighboring property owners to contest new permits or major expansions.

TNRCC does not consider the cumulative impact that a new **CAFO** will have when sited near many existing **CAFOs,** nor does it prohibit many of the practices that contribute to odor and water problems.

Lax enforcement of regulations allows **CAFOs** to pollute, sometimes for years, before action is taken.

Texas' recently amended "right to farm" law virtually eliminates the ability of neighbors to bring a nuisance action against

most **CAFOs** even to protect their rights to use and enjoy their own property.

"In Texas, we're doing exactly the opposite of what common sense dictates," James said. "For example, while several states have placed moratoria on new **CAFOs,** Texas continues to welcome more facilities - particularly hog producers - to the state."

Other states have begun to make corporate farms jointly liable for pollution at their contract grower sites, but Texas has not done so. Some states have begun addressing air quality issues by applying stricter ambient hydrogen sulfide emissions standards to **CAFOs,** or defining feedlot dust as an emission for purposes of the Federal Clean Air Act. Texas has not.

"Unfortunately, Governor **George W. Bush** and the Texas Natural Resources Conservation Commission have failed to protect Texas citizens from industrial livestock waste," Kramer continued. "While this animal waste pollutes our air and water, Governor Bush and the TNRCC are welcoming factory farms into the state and inviting them to pollute. They should be implementing tougher standards that would combat this pollution problem."

Many states are beginning to take necessary steps to protect the public from air and water pollution. Overwhelmed by the health and environmental threats posed by industrial livestock operations, officials in Mississippi, North Carolina and Oklahoma have placed moratoria on all new operations.

Kansas, Iowa and Georgia have all adopted new rules regarding waste application. Minnesota has applied air standards to safeguard neighbors from health threatening emissions.

Meanwhile, despite overwhelming evidence of the pollution problems Texas is merely studying the issue, allowing hog, chicken and cattle waste to continue polluting the state's air and water.

"It's time for Governor Bush and the TNRCC to take notice of the damage that has been caused by industrial livestock facilities in Texas," Hopkins said. "They should protect Texas' health and waterways and stop livestock factories."

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[1] North Carolina is America’s second largest hog producing state.

[2] The nation's largest 50 pork producers now control the vast majority of U.S. pork production. The largest producer, Smithfield Foods, controls over 24 percent, followed by Premium Standard Farms (7 %), Seaboard Farms (6%), Prestage Farms (4%), The Pork Group / Tyson (4%), Cargill (4%), Iowa Select Farms (3%), Christensen Farms (3%) and Purina Mills (2%).

[3] Proliferating pork factories have caused the number of hogs in North Carolina to soar from a few million in the mid-eighties to more than ten million today with most of this growth concentrated in North Carolina’s sensitive coastal plain. During the same period, nearly seventy-five percent of North Carolina’s family farmers were replaced by low paying jobs in Smithfield’s pork factories.

[4] Recognizing that these practices benefit the public, Congress exempted the relatively small amounts of agricultural fertilizer that washed off farm fields into waterbodies from the Clean Water Act, RCRA and other environmental statutes.

[5] Whereas traditional independent farmers raised their hogs on pasture or straw bedding which captured the manure, controlled odors and was spread regularly onto crops as fertilizer, factory pork producers completely deprive their hogs of straw bedding so that they can liquefy the waste, which increases odors and leads to runoff.

[6] One facility planned for the Rosebud Sioux Reservation in South Dakota will house 860,000 hogs and produce more

waste than New York City!

[7] Smithfield's corrupt institutional culture and business practices are not restricted to North Carolina.

- In 1985, the Chief Justice of the Fourth U.S. Circuit Court of Appeals upheld the largest civil penalty ever imposed under the "citizen suit" provisions of the federal Clean Water Act, $1,285,322, against Smithfield for pollution into the Pagan River in Smithfield's home state of Virginia.
- A 1996 twenty-three count Federal indictment from Virginia, charged a Smithfield manager and operator with both falsifying and destroying sampling records and intentional illegal discharges of toxic wastewater into the Pagan River. These actions resulted in an eighteen-month prison sentence and a record $12.6 million civil penalty assessed by the U.S. District Court in 1997.
- Virginia recently charged Smithfield with more than 22,000 pollution violations from the mid-1980s to the mid-1990s. This case was dismissed by the judge in March 2001 who said that the federal action preempted the state's claims (based on res judicata).

[8] The State of North Carolina requires that hog facilities adhere to a Certified Animal Waste Management Plan designed to keep animal wastes and other pollutants confined to the facility so they will not be released into public waterways. Records kept by the NCDENR Division of Water Quality ("DWQ") and assembled by North Carolina Sierra Club show that Smithfield's pork factories regularly, habitually, persistently and dependably violate their certified waste plans or operate illegally without the required NPDES Permits.

[9] Mo and Abdalla, "Analysis Finds Swine Expansion Driven Most by Economic Factors, Local Decisions," *FEEDSTUFFS*, June 7, 1998.

[10] Halverson, M., *The Price We Pay for Corporate Hogs*, Institute for Agriculture and Trade Policy, at 56 (July 2000), available at www.iatp.org/hogreport/index.html. .

[11] Halverson, *Corporate Hogs*, at 56.

[12] Halverson, *Corporate Hogs*, at 47.

[13] Marks, Robbin, *Cesspools of Shame, How Factory Farm Lagoons and Sprayfields Threaten Environmental and Public Health*, Natural Resources Defense Council, at 3 (July 2001).

[14] WILMINGTON STAR-NEWS, February 11, 2000, p. 1B; and RALEIGH NEWS & OBSERVER, January 31, 2000, p. A10.

[15] Personal experience of the author.

[16] Halverson, *Corporate Hogs*, at 51; and personal observations and information gathered by New Riverkeeper Tom Mattison and Neuse Riverkeeper Rick Dove.

[17] Halverson, *Corporate Hogs*, at 51.

[18] Halverson, *Corporate Hogs*, at 52.

[19] *Clear Development from Floodplains*, Editorial, RALEIGH NEWS & OBSERVER, November 5, 1999, p. A3, quoting Dewey Botts, North Carolina's then-Assistant Secretary of Environment and Natural Resources.

[20] At a Smithfield Foods, Inc. operation in Jones County, North Carolina, Brown's 5/6, North Carolina's Department of Environment and Natural Resources has documented dozens of violations of the facility's waste management plan. Some of these are set forth in Waterkeeper Alliance's Notice of Intent to Sue Letter found at http://www.keeper.org/hogfight/letters/intent.htm. Waterkeeper Alliance's review of dozens of case files of hog operations indicate that the violations at Brown's 5/6 are typical of hog CAFO operations with waste lagoons.

[21] Fretz, T., et al., *Agriculture and its Relationship to Toxic Dinoflagellates in the Chesapeake Bay*, publication of the University of Maryland School of Agriculture and Natural Resources, at 5 (1997).

[22] Marberry, S., FEEDSTUFFS MAGAZINE, September 18, 2000.

[23] Id.

[24] Mallin at 35.

[25] Id.

[26] Id.

[27] Fretz at 3.

[28] Mallin at 35.

[29] Mallin at 34.

[30] *Framework for the Conversion of Anaerobic Swine Waste Lagoons and Sprayfields*, North Carolina Department of Environment and Natural Resources website, at http://www.enr.state.nc.us/files/hogs/hogplan.htm , at 2.

[31] Mallin at 35.

[32] Nugent, M.; Kamrin, M., *Nitrate -- A Drinking Water Concern*, a publication of the Center for Environmental Toxicology and the Institute of Water Research of Michigan State University, at 1.

[33] Warrick, J.; Smith, P., *New Studies Show that Lagoons are Leaking*, THE RALEIGH NEWS & OBSERVER, February 19, 1995, at http://www.nando.net/sproject/hogs/1water.html , at 2.

[34] Warrick at 53

[35] Mallin at 35.

[36] Warrick at 44.

[37] Lien, D., *Pollution Control Study Rates Manure Pit Leakage*, PIONEER PRESS, July 25, 2001, available at http://www.pioneerplanet.com/news/mtc docs/93221/htm.

[38] Id.

[39] Id.

[40] Id. Citing the findings of Dr. Rodney Huffman, professor of biological and agricultural engineering at North Carolina State University, who studied the groundwater quality in test wells in fields where hog waste had been sprayed as a fertilizer.

[41] Id.

[42] Warrick at 7.

[43] *What We Know So Far ... Nutrients, Ground Water, and the Cheasapeake Bay - A Link with Pfiesteria?*, USGS website, http://www.Usgs.gov/public/press/public-affairs/press-release/pr343m.htm.

[44] Nugent at 1.

[45] Id.

[46] Fretz at 3.

[47] Nugent at 2.

[48] Mallin, M., *Impacts of Industrial Animal Production on Rivers and Estuaries*, AMERICAN SCIENTIST, vol. 88, January – February, at 35 (1998).

[49] Spears, T., *Fertilizers, Manure Pose Mounting Health Threat*, THE OTTAWA CITIZEN, May 2, 2001, available at http://www.ottawacitizen.com/naational/010501/5009899.html.

[50] McBride, D., (North Carolina State Health Director), PUBLIC HEALTH ISSUES RELATED TO INTENSIVE LIVESTOCK OPERATIONS (1998), at 4; and Crane, D.; Schriber, C., *Industrial Hog Operations Emissions Study Released*, News Release from the State of North Carolina Department of Health and Human Services, May 7, 1999, at 2.

[51] Nugent at 2.

[52] Nugent at 2-3.

[53] Id.

[54] Id.

[55] Id; and McBride at 4.

[56] Weyer, P., EPIDEMIOLOGY, vol. 11, at 327-38 (May 2001).

[57] Nugent at 4.

[58] Halverson, *Corporate Hogs*, at 48.

[59] Halverson, *Corporate Hogs*, at 48.

[60] McBride, at 2.

[61] For example, in 1993, half the population of Milwaukee, 400,000 people, were sickened and 114 people died during a cryptosporidium epidemic later traced to contamination of the municipal water supply caused by an industrial meat factory. In Spring 2001, an Ontario water supply contaminated by a meat operation killed three people.

[62] A review of many of these health studies entitled *Human Health Issues Associated with the Hog Industry* was done by Dr. Melva Okun in January 1999. It is available at http://checch.sph/unc/edu/rooms/library/docs/hogs_hhealth.html.

[63] WASHINGTON POST, September 14, 1998, p. A1; and, Burkholder, J.M., Mallin, M.A., Glasgow, H.B., Jr., Larsen, L.M., Holden, M., Scalian, C., Deamer-Melia, N., Briley, D., Springer, J., Touchette, B.W., Briley, D., Springer, J., Touchette, B.W., Briley, D., & Hannon, E., *Impacts to a coastal river and estuary from rupture of a large swine waste holding lagoon*, JOURNAL OF ENVIRONMENTAL QUALITY, vol. 26, pp. 1451 - 1466 (1997).

[64] Lewitus, A.J., Burkholder, J.M., Glasgow, H.B., Jr., Gilbert, P.M., Willis, B.M., Hayes, K.C., (accepted) *Mixotrophy and nutrient uptake by Pfiesteria piscicida (Dinophyceae)*, JOURNAL OF PHYCOLOGY,.

[65] *What you should know about Pfiesteria piscicida*, E.P.A. website, Office of Water, at http://www.epa.gov/owow/estuaries/pfiesteri/fact.htm at 6.

[66] Id.

[67] The study found that, "[p]eople with high exposure [to *Pfiesteria* toxins] were significantly more likely than occupationally matched controls to complain of neuropsychological symptoms (including new or increased forgetfulness); headache; and skin lesions or a burning sensation of skin on contact with water. No consistent physical or laboratory abnormalities were found. However, exposed people had significantly reduced scores on the Rey Auditory Verbal Learning and Stroop Color-Word tests (indicative of difficulties with learning and higher cognitive function), and the Grooved Pegboard task. There was a dose-response effect with the lowest scores among people with the highest exposure." Gratten, L., et al., *Learning and Memory Difficulties after Environmental Exposure to Waterways Containing Toxin - Producing Pfiesteria or Pfiesteria-like Dinoflagellates*, LANCET, vol. 352, pp. 532 - 39 (1998).

[68] The study reported that, "[h]uman exposure to aerosols from icthyotoxic cultures … has been associated with narcosis, respiratory distress with asthma-like symptoms, severe stomach cramping, nausea, vomiting, and eye irritation with reddening and blurred vision (hours to days); autonomic nervous system dysfunction; central nervous system dysfunction [sudden rages and personality change (hours to days), and reversible cognitive impairment and short-term memory loss (weeks)]; and chronic effects including asthma-like symptoms, exercise fatigue, and sensory symptoms (tingling or numbness in lips, hands, and feet; months to years). Elevated hepatic enzyme levels and high phosphorous excretion in one human exposure suggested hepatic and renal dysfunction (weeks); easy infection and low counts of several T-cell types may indicate immune system suppression (months to years)." Glasgow, H.B.; Burkholder, J.M.; Schmechel, D.E.; Tester, P.A.; and Rublee, P.A., *Insidious effects of a toxic dinoflagellate on fish survival and human health*, JOURNAL OF TOXICOLOGICAL AND ENVIRONMENTAL HEALTH, 46: 101 - 122 (1995).

[69] A 1995 study of hog lagoons by Dr. Rodney Huffman and Dr. Philip Westerman found average concentrations of ammonia-nitrogen of up to 1,000 mg/L in wells near hog lagoons. Mallin at 30, 35.

[70] *Cesspools of Shame*, at 18, citing Jackson, L., *Large Scale Swine Production and Water Quality, Pigs, Profits and Rural Communities*, Thu, K., and Durrenberger, E.P., ed., pp. 107-8 (1998).

[71] Id and Warrick at 7.

[72] *Premium Standard Farms Whitetail Concentrated Animal Feeding Operation Air Monitoring Repor*t, U.S. E.P.A., at 7, May 31, 2000.

[73] *Framework for the Conversion of Anaerobic Swine Waste Lagoons and Sprayfields*, North Carolina Department of Environment and Natural Resources website, at http://www.enr.state.nc.us/files/hogs/hogplan.htm , at 3.

[74] Id.

[75] Id.

[76] *Airborne Nitrogen Contributes Pollution to U.S. Estuaries*, Press Release, U.S. Department of the Interior and U.S. Geological Survey, December 15, 2000, available at http://water.usgs.gov/nawga/sparrow/coast/agu_sparrow.html.

[77] Mallin at 30.

[78] Research of Dr. Leon Chesnin, professor of waste management and utilization at the University of Nebraska-Lincoln, cited by Warrick at 7.

[79] Id., citing the research of Dr. Hans Paerl, professor of Marine and Environmental Sciences at University of North Carolina at Chapel Hill.

[80] Citing the research of Dr. Viney Aneja of North Carolina State University.

[81] McBride at 5.

[82] *Cesspools of Shame*, at 18, citing Pratt, G., *Dispersion Modeling Analysis of Air Emissions from Feedlots in Nine Townships in West-Central Minnesota*, Air Quality Division, Minnesota Pollution Control Agency (1998).

[83] *Cesspools of Shame*, at 18, citing *Feedlot Air Quality Summary: Data Collection, Enforcement and Program Development*, Minnesota Pollution Control Agency, at 12 (1999).

[84] Crane at 1.

[85] Id.

[86] McBride at 4.

[87] Halverson, *Corporate Hogs*, at 48.

[88] (internal citations omitted); Halverson, M., *Farm Animal Health and Well-Being*, Supplementary Literature Summary and Technical Working Paper for the Minnesota Generic Environmental Impact Statement on Animal Agriculture, prepared for the Minnesota Planning Agency Environmental Quality Board, at 259-260 (April 2001), available at http://www.mnplan.state.mn.us/eqb/geis/TWP's/HalversonTWPAnHealth&WB(2).pdf.

[89] Halverson, *Corporate Hogs*, at 48.

[90] McBride at 2, citing the research of Dr. Mark Sobsey, professor at University of North Carolina's School of Public Health, and other researchers.

[91] McBride at 3.

[92] Id.

[93] Id.

[94] Id.

[95] Id.

[96] McBride at 2.

[97] McBride at 4.

[98] Id.

[99] Recer, P., *Researchers Identify Killer Virus*, Associated Press wire story, May 25, 2000.

[100] Id.

[101] Id.

[102] Id.

[103] *Antibiotic Use in Food Animals Contributes to Microbe Resistance*, News Release of the National Academy of Sciences, July 9, 1998.

[104] McBride at 4.

[105] Mallin at 31.

[106] Id. at 32.

[107] Id. at 30.

[108] *Hogging It: Estimates of Antimicrobial Abuse in Livestock*, Union of Concerned Scientists, at 1 (January 2001), available at http://www.ucsusa.org/food/hogging.

[109] *Hogging It*, at 10.

[110] *Hogging It*, at 57.

[111] *Hogging It*, at 57.

[112] *Hogging It*, at 1.

[113] *Hogging It*, at 2.

[114] *Hogging It*, at 18.

[115] *Hogging It*, at 39, citing U.S.D.A. publication, *Swine '95: Grower/Finisher, Part II: Reference of 1995 U.S. Grower/Finisher Heath and Management Practices* (APHIS 1996b).

[116] *Hogging It*, at. 11, 12.

[117] *Hogging It*, at 12 and Halverson, *Corporate Hogs*, at 32.

[118] Halverson, M., *Farm Animal Health and Well-Being*, Supplementary Literature Summary and Technical Working Paper for the Minnesota Generic Environmental Impact Statement on Animal Agriculture, prepared for the Minnesota Planning Agency Environmental Quality Board, at 65 (April 2001).

[119] *Hogging It*, at 2.

[120] *Hogging It*, at 5.

[121] McBride at 3-4.

[122] Id.

[123] McBride at 4.

[124] CBC News, *Hogs Use Lots of Water, 20 Million Liters a Year*, Webposted on July 6, 2000, available at http://cbc.ca/cgi-bin/templates/Nwview.cgi?/news/2000/07/06/hogfarms000706. Depending on the size of the operation, this figure will vary. Another source estimates that a large operation of 80,000 finishing hogs uses 200,000 gallons of water per day, or 73 million gallons of water per year. *Cesspools of Shame*, at 38.

[125] Halverson, *Corporate Hogs*, at 51, citing Barlett, D. and Steele, J.B., *The Empire of Pigs: A Little Known Company is a Master at Milking Governments for Welfare*, TIME, November 30, 1998, at 52-64 (1998).

[126] Halverson, *Corporate Hogs*, at 51.

[127] Halverson, *Corporate Hogs*, at 51, citing Redwood, J.G., *Pump/Recharge Rate Affects Intrusion: Groundwater Mangerment, Monitoring and Conservation Keep Intrusion Under Control*, Georgetown, ON, Solinst, Cananda, Ltd., (Undated); and U.S. Environmental Protection Agency, Identification and Control of Pollution from Saltwater Intrusion (1973).

[128] Halverson, *Corporate Hogs*; and Report on NASD Livestock Confinement Dusts and Gases, at http://www.cdc.gov/NIOSH/nasd/docs6/mn98016.html.

[129] *Tired Old Lagoons*, RALEIGH NEWS & OBSERVER, January 31, 2000, p. A10.

[130] *State Set to Erase Neglected Lagoons*, RALEIGH NEWS & OBSERVER, January 22, 2000, p. A1.

[131] For example, a retired farmer in North Carolina spent $24,000 to clean up the lagoons at one operation. *State Set to Erase Neglected Lagoons*, RALEIGH NEWS & OBSERVER, January 22, 2000, p. A1.

[132] WILMINGTON STAR-NEWS, August 17, 2000, p. 8A.

[133] *Wicker Says He'll Build on Hunt's Progress*, THE BULLETIN FRONTRUNNER, January 18, 2000.

[134] WILMINGTON STAR-NEWS, August 17, 2000, p. 8A.

[135] Shiffer, J., *Hog Farms Pose Risks of Waste Spills and Runoff, But That's Not All*, RALEIGH NEWS & OBSERVER, July 5, 1998.

[136] Halverson, *Corporate Hogs*, at 52, quoting from WINSTON-SALEM JOURNAL 1999.

[137] Note that although the Smithfield / Easley Agreement purports to eliminate hog lagoons, even if fully implemented, it would only affect the lagoons directly owned by Smithfield, which are a small percentage of the total waste lagoons in the state.

[138] *Cesspools of Shame*, at 47, 48.

[139] *Cesspools of Shame*, at 5.

[140] *Cesspools of Shame*, at 5.

[141] Personal communication with the author and North Carolina Department of Environment and Natural Resources staff in January 2001.

[142] *See* SMITHFIELD FOODS, INC., 2000 ANNUAL REPORT, at 3-5 (2000).

[143] (emphasis added) SMITHFIELD AGREEMENT, JULY 25, 2000, N.C. ATT'Y GEN'L – SMITHFIELD FOODS, INC., at 1, para. 2.

[144] SMITHFIELD ANN'L REP., at 4. Another statement evidencing Smithfield's control over its facilities is the following: "[T]his vertical integration should provide a more predictable earnings stream because Smithfield Foods is now insulated from much of cyclicality common to our business. … By participating in both ends of the business, we remove many of [the market] peaks and valleys." SMITHFIELD ANN'L REP., at 4. *See also*, the following quotation from CEO Joseph W. Luter, III, in the report: "Control over this level of supply also assures our processing operations of consistent, high-quality raw materials for fresh pork and processed meat products." SMITHFIELD ANN'L REP., at 12.

[145] SMITHFIELD ANN'L REP., at 12.

[146] SMITHFIELD ANN'L REP., at 13.

[147] . SMITHFIELD ANN'L REP., at 12

[148] SMITHFIELD ANN'L REP., at 12.

[149] SMITHFIELD ANN'L REP., at 2.

[150] *Research Being Conducted by a Winnepeg Company Show Dramatic Variability in Some of the Components of Manure Fertilizer During the Pump Out of the Storage Lagoon*, Farmscape, Episode 719, July 10, 2001.

[151] The National Pork Producers Council (NPPC) contend that EPA omitted from its cost calculations the cost of lagoon covers for a substantial percentage of hog operations ("Category III" operations within EPA's analysis). According to the NPPC, the cost of lagoon covers, as calculated by FAPRI, would result in the loss of as few as 150 sow operations out of the tens of thousands of CAFOs in the country. *See* Comments on Proposed Revisions To The National Pollutant Discharge Elimination System Regulations and Effluent Limitation Guidelines and Standards for Concentrated Animal Feeding Operations, submitted to EPA by the National Pork Producers Council, July 30, 2001. These estimated plant closures are losses contemplated by Congress, the EPA and courts under technology-driven CWA standards.

[152] "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); s*ee also NRDC v. EPA,* 822 F.2d 104, 111 (D.C. Cir. 1987).

[153] "Best professional judgment" (BPJ): Where EPA has not yet promulgated national effluent standards for a particular category of point sources, the permit writer must use, on a case-by-case basis, his or her best professional judgment to impose "such conditions as the permit writer determines are necessary to carry out the provisions of the Clean Water Act.

33 U.S.C. § 1342(a)(1)(B); *NRDC v. EPA*, 863 F.2d 1420, 1424 (9th Cir. 1988).

[154] **"**Best practicable technology" (BPT): BPT represents the "average of the best existing performance by plants . . . within each industrial category." *Kennecott v. EPA*, 780 F.2d 445, 448 (4th Circ.1985).

[155] BAT uses "the optimally operating plant, the pilot plant which acts as a beacon to show what is possible." *Kennecott v. EPA*, 780 F. 2d 445, 448 (4th Cir. 1985). BPT standards are less rigid than BAT standards. This difference is reflected in the application of cost analysis as detailed below.

[156] "Best available demonstrated control technology" (BACT): The Clean Water Act places even stricter requirements on new sources of pollution – stricter than BAT. 33 U.S.C. § 1316; *NRDC v. EPA*, 822 F.2d 104, 110 (D.C. Cir. 1987). Moreover, new sources are considered major federal actions for purposes of NEPA. *Id.* at 112.

[157] Conventional pollutants include suspended solids, pH, oil, grease, fecal coliform and biochemical oxygen demand (BOD). 40 C.F.R. § 401.16 (2002). Toxic pollutants include arsenic, asbestos, copper, cyanide, lead, mercury, nickel, selenium, silver, and zinc. 40 C.F.R. § 401.15 (2002); Non-conventional pollutants are all those that are neither conventional nor toxic. 40 C.F.R. § 439.1(k)(2002).

[158] In its introduction, FAPRI credits the Farm Foundation for providing travel expenses to industry experts, explaining that these CAFO industry experts "were assembled to help construct models of operations that are reflective of each of the agricultural industries."

[159] The EPA has reopened this comment period because of new data submitted by FAPRI, which compiled its data with the CAFO industry's considerable influence. Yet the industry's new data, while alleging significant costs related to CWA compliance, ignores the vast profits derived by CAFOs from their current disregard for the health, safety and welfare of the nation's population and water resources. Before considering costs of compliance, the EPA should demand that the CAFO industry disclose its profit margin for the past two decades of operation. In addition, the EPA should commission a study of the costs to the environment from the industry's current practices.

[160] "Traditional and other farming methods" include farms that do not use lagoon and sprayfield systems for hog waste management.

[161] This is demonstrated vividly by a recent circuit court case in Dekalb County, Alabama, *Ivey v. Gold Kist*, Civ. Act. No. CV-2001-081 (January 9, 2002), in which farmers and neighbors of a hog CAFO, were granted a substantial nuisance award because the court found the CAFO a nuisance because of the odor associated with the production of hogs and the spreading of sewage. The Judge noted: "The plaintiffs are not hypersensitive city dwellers complaining of a minor annoyance. They are a group of hardy, hard working, self sufficient, independent, reasonable, and fair minded men and women who expect to be treated just as they would treat others."

[162] Coglianese, Cary and Jennifer Nash, "Environmental Management Systems and the New Policy Agenda," p. 4, *Regulating from the Inside* (Resources for the Future 2001).

[163] *Id.* at 5-6.

[164] *Id.* at 6; Gallagher, Deborah Rigling, "International Standards for Environmental Management Systems: A Future Promise for Environmental Policy?", presented at the Twenty-First Annual Research Conference for the Association of Public Policy Analysis (Nov. 4-6, 1999).

[165] *Id.*

[166] Coglianese and Nash, pp. 13-14. See also Gallagher.

[167] *See* Gallagher, Deborah Rigling, "Many Shades of Green: How do Internal and External Stakeholders Influence the Types of Environmental Management Systems that Facilities Develop?", presented at the Twenty-Second Annual Research Conference for the Association for Public Policy Analysis and Management (Nov. 2-4, 2000).

[168] *See* Coglianese and Nash, p. 5.

[169] *See id.* p. 15.

[170] *Id.* p. 15.