

STATEMENT OF RICHARD J. DOVE  
BEFORE THE  
SENATE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

September 6, 2007

Thank you, Madam Chairwoman and Members of the Committee on Environment and Public Works for the opportunity to testify today.

INTRODUCTION

My name is Rick Dove. I reside at 427 Boros Road, New Bern, North Carolina 28560. I am a thirty-two year resident of North Carolina. I am here today speaking on behalf of myself, my family, especially my four grandchildren, and the many other citizens of North Carolina who share my view on the present and imminent dangers posed by industrial meat production in Confined Animal Feeding Operations (CAFOs). My short biographical sketch is attached as Exhibit 1.

BACKGROUND

After retiring as a Colonel from the Marine Corps in 1987, I settled down with my family in eastern North Carolina on the south shore of the Neuse River below the City of New Bern. There, I worked to fulfill a childhood dream of becoming a commercial fisherman. At first, my business flourished, and with a small fleet of boats my son and I

crabbed and fished a forty square mile area of the Neuse estuary. Part of our catch was sold at a local seafood store we owned. The remainder was sold on the wholesale market.

In the mid 1980s, the Neuse was a much different river than it is today. The fish were healthy and plentiful. There were some water quality problems caused by failing waste water treatment plants and unsustainable development, but water quality was more than sufficient to safely support a high level of fishing and recreation. By the mid 1990s, this all had changed.

In September 1991, more than a billion fish died in the area where my son and I fished. These dead and dying fish were covered with open, bleeding lesions on their bodies. Some fish, both alive and dead, had holes completely through their bodies. The stench was unbearable. There were so many dead fish that at one place on the north shore, the fish had to be buried with a bulldozer.<sup>1</sup> Historically, small numbers of fish had always died on the Neuse during the hot summer months. But this fish kill was different. Never before had so many fish died in this manner.

At the same time as the fish were dying, my son and I both suffered the same type of lesions on our bodies that appeared on the fish. There were other symptoms. I experienced memory loss and respiratory problems. It would take years for doctors and scientists to medically link those symptoms to river pollution. Nevertheless, for my son and me, the consequence of what surrounded us was immediate. We had to stop fishing. Giving up on this long held dream was a tough decision, but there was no other choice. Not only did we have serious concerns for our health, we also worried about the safety of what we were catching and selling.

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<sup>1</sup> <http://www.abe.msstate.edu/csd/references/pfiester.htm>

Since 1991, fish have continued to perish in large numbers in the Neuse and other coastal waters of eastern North Carolina. Depending on conditions, such as when rainfall causes runoff, these kills quickly climb into the millions. In the Neuse, nearly all these kills were located in an area near New Bern. This area is the receiving and settling place for upstream waters, much of which originates and flows from the state's farmlands and cities.

By the mid 1990s, the cause of these fish kills on the Neuse and other coastal rivers of North Carolina was identified by state officials as resulting from nutrient pollution, much of which, according to state officials, was coming from CAFOs. In fact, by 1993, the entire Neuse River watershed was listed by the state as nutrient sensitive, a designation it richly deserved. Normally, nutrient pollution simply deprives the water of oxygen and the fish suffocate. However, in 1995, nutrient pollution led to another, far more dangerous, consequence—Pfiesteria. Pfiesteria is a one-celled animal so tiny 100,000 could fit on the head of a pin. It produces a neurotoxin that paralyzes fish and sloughs their skin in order to devour the fish's blood cells. Simply put, it is a vampire organism. Once the news of these fish kills reached the public, the economic consequences that followed were swift and severe. After the 1995 fish kill, the tourism and fishing industries suffered substantial financial losses. So too did the real estate and development sectors of our community. Many of these consequences linger today.<sup>2</sup>

From April 1993 until July 2000, I served as the Neuse Riverkeeper. This was a full time, paid position funded by the Neuse River Foundation, a grassroots, non-profit environmental group. As the Neuse Riverkeeper, it was my responsibility, assisted by a corps of more than 300 citizen volunteers, to patrol the 6,100 square mile Neuse

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<sup>2</sup> <http://www.riverlaw.us/fishkills.html>

watershed by water, land and air. Importantly, it was our job to find, investigate, document and eliminate sources of river pollution. Over that period, more than 30,000 pictures and hundreds of hours of video were taken. In addition to boat and boot patrols, I personally spent more than 1,000 hours in the air locating and documenting non-point sources of pollution, most of which involved CAFOs. During this period, I also had the good fortune of working with a number of dedicated state officials and renowned scientists whose peer reviewed research into water quality and CAFO related issues were extensively published. These include but are not limited to Drs. JoAnn Burkholder and Viney Aneja of North Carolina State University; Lawrence Cahoon and Michael Mallin of the University of North Carolina, Wilmington; Stanley Riggs of East Carolina University and Steve Wing of the University of North Carolina, Chapel Hill. Since stepping down as the Neuse Riverkeeper in 2000, I have stayed current on CAFO issues by volunteering my time with environmental and community groups monitoring CAFO issues.

#### INDUSTRIAL ANIMAL PRODUCTION IN EASTERN NORTH CAROLINA

Nationally, North Carolina is the number two producer of swine.<sup>3</sup> Two eastern North Carolina Counties, Duplin and Sampson, rank one and two as having the highest concentrations of swine to be found anywhere in the United States.<sup>4</sup> Other counties in eastern North Carolina rank in the top ten. Most of these CAFOs are located in poor communities, often of African-American descent. CAFO confinement buildings, lagoons

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<sup>3</sup> <http://www.ncagr.com/stats/livestock/hoginv.htm>

<sup>4</sup> <http://www.ers.usda.gov/publications/agoutlook/sep2000/ao274g.pdf>

and sprayfields are routinely situated within a few feet of the houses of local residents. In most cases, these residents were there first. It was the CAFOs that moved into their neighborhoods.<sup>5</sup> Overall, in the coastal plain of North Carolina, a tiny area located east of where I-95 divides the state, there are now approximately 2,500 industrial swine facilities with approximately 4,000 lagoons raising 10,000,000 hogs.<sup>6</sup> These lagoons are so concentrated that from an airplane flying at 1,000 feet over Duplin and other counties, more than 100 lagoons can be counted from a single spot in the air.

This is a radical change from conditions that existed prior to the mid-1980s. Then, there were 24,000 family farmers raising 2,000,000 swine.<sup>7</sup> It was a time in North Carolina's history when family farmers raised their livestock in close proximity to their neighbors without complaint. It was also a time when the waters and air of North Carolina safely supported the needs of its citizens.

That situation changed in the late 1980s, when North Carolina state senator, Wendell Murphy, along with the Smithfield Foods' slaughterhouse operations, 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 sub therapeutic antibiotics and force-fed growth enhancers in their imported feeds. Their prodigious waste would be dumped, sprayed, spilled and discharged onto adjacent landscapes, waterways and into the air.

The amount of fecal matter produced by industrial swine in eastern North Carolina is staggering. Based upon a study by Dr. Mark Sobsey, professor of

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<sup>5</sup> <http://www.unc.edu/news/archives/mar99/wing2.htm>

<sup>6</sup> <http://www.riverlaw.us/consequences.html>; <http://www.enr.state.nc.us/files/hogs/hogplan.htm>

<sup>7</sup> <http://www.riverlaw.us/>

environmental sciences and engineering at the University of North Carolina School of Public Health<sup>8</sup> that compared hog to human waste, the 10,000,000 hogs in eastern North Carolina produce more fecal waste each day than is produced by all the citizens (combined) in North Carolina, California, Pennsylvania, New York, Texas, New Hampshire, and North Dakota.

In North Carolina, this incredible amount of fecal matter is constantly being flushed from the confinement buildings where these animals are kept. Once flushed, the feces and urine from these animals is stored in the open environment in huge earthen sewage pits called lagoons. These lagoons constantly discharge to the surrounding environment by leaking into the groundwater and vaporizing their compounds through the air. As the lagoons fill up, the waste is sprayed onto fields frequently tiled with drainage pipes that promote direct runoff to nearby ditches. Most all of these ditches are connected to public trust waterways.<sup>9</sup> Since many CAFO sprayfields are located in areas with extremely high water tables and sandy soil, applied swine waste to fields at agronomical rates is literally “thrown to the wind.” Under these conditions the swine waste is not used to fertilize crops. Instead, CAFO owners simply spray the liquefied swine feces and urine into the air in order to lower lagoon levels through vaporization. It is a process that breaks the liquefied swine waste into small particles so it can be misted into surrounding areas. CAFO owners have no control over this swine waste as it is indiscriminately deposited throughout the surrounding community. This practice is growing in popularity among

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<sup>8</sup> <http://www.riverlaw.us/realhogfacts.html>

<sup>9</sup> Impacts of Waste from Concentrated Animal Feeding Operations on Water Quality Volume 115 number 2, February 2007, Environmental Health Perspective

CAFO owners in North Carolina. State officials are aware of the process. They have advised me that they can find nothing in the law to prevent this from happening.

The lagoon and sprayfield method of swine waste disposal is best characterized as an “outhouse” system. It causes substantial runoff to the public trust waters and pollution of the air in neighboring communities. It is especially problematic during periods of above average rainfall, which occur approximately one-half the time. It is a major polluter of both air and water through the release of ammonia, hydrogen sulfide and methane gases.

North Carolina is also heavily populated with poultry operations. Each year, in CAFOs, more than 700,000,000 chickens and 40,000,000 turkeys are produced.<sup>10</sup> Like swine waste, the feces and urine produced by these animals is overwhelming. It is also disposed of in a similar manner, except that there are usually no lagoons. Instead, poultry waste is composted prior to being applied to fields. As with swine CAFOs, most of the fields where poultry waste is applied contain drain tiles (pipes) and ditches to promote runoff to surface waters.

Please see Exhibit 2 for pictures that pertain to the testimony provided above.

### BROKEN PROMISES--LESSONS LEARNED

In the late 1980s and early 1990s, as the swine industry was busy setting up its CAFOs in eastern North Carolina, industry leaders told concerned citizens and political leaders that there would be no problems resulting from the use of lagoons and

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<sup>10</sup> <http://www.ncagr.com/stats/livestock/broilerprod.htm>

sprayfields. They claimed that as swine CAFOs were built, everyone would prosper; that new, good, high paying jobs would be created; and that local crop farmers would benefit as they produced crops needed for animal feed. They also calmed neighbors' fears by stating that the odors would be nonexistent or minimal and that infestation of flying insects, such as black flies would not occur. When health concerns were raised, swine CAFO promoters were quick to deny any possible link between human illnesses and hog waste, including the gasses emitted from that waste. They also boldly claimed that their operations would not adversely impact the environment because they were regulated as "Zero Discharge Waste Facilities." These were claims and promises that could not and would not be kept. This is what followed:

#### JOBS:

The new jobs that were promised turned out to be low paying and undesirable. Moreover, it is an absolute falsehood that converting from traditional farming practices to CAFOs creates jobs. In fact, it destroys them. The very basis of CAFO production is to produce meat by reducing cost. Everything is consolidated and concentrated. CAFOs employ the fewest possible workers. The number of hog producers in the United States was more than 1,000,000 in the 1960s. By 2005, it had dropped to 67,000.<sup>11</sup> While some new jobs may have been created in North Carolina as the industry consolidated its production in the state, those gains clearly came at the expense of traditional family farmers throughout the United States. New jobs are not being added due to the need for

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<sup>11</sup> Community Health and Socioeconomic Issues Surrounding Concentrated Animal Feeding Operations Environmental Health Perspective, Volume 115 number 2, February 2007

increases in hog production. According to the U.S. Department of Agriculture, the number of hogs in the US inventory today is nearly the same as it was in 1915.

#### ODOR AND INSECTS:

Of all the statements made by CAFO owners, the one that claimed that there would be no offensive odors and no increase in flying insects, like black flies, is most reprehensible. Citizens throughout eastern North Carolina where CAFOs are located have complained about these problems since the CAFOs first arrived. Today, when questioned about the problem, the best swine industry officials offer is that “odor is in the nose of the beholder.” While the problem with odor and insects is well documented in scientific reports and the complaints of citizens, nothing of real substance has been done to alleviate the problem.<sup>12</sup>

#### THE HUMAN HEALTH COSTS OF CAFOs:

Like similar operations across the country, North Carolina swine and poultry CAFOs emit significant amounts of particulate matter (fecal matter, feed materials, volatile organic compounds, skin cells, bioaerosols, etc.), ammonia, hydrogen sulfide, sulfur dioxide and other harmful contaminants into the air. Air pollution from CAFOs has been directly linked to increased respiratory diseases (such as asthma, hypersensitivity pneumonitis, industrial bronchitis) cardiovascular events (sudden death associated with particulate air pollution), and neuropsychiatric conditions (due to odor as well as delayed effects of toxic inhalations). People working in and near CAFOs have experienced

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[http://www.rollingstone.com/politics/story/12840743/porks\\_dirty\\_secret\\_the\\_nations\\_top\\_hog\\_producer\\_is\\_also\\_one\\_of\\_americas\\_worst\\_polluters/4](http://www.rollingstone.com/politics/story/12840743/porks_dirty_secret_the_nations_top_hog_producer_is_also_one_of_americas_worst_polluters/4)

increased headaches, sore throats, excessive coughing, diarrhea, burning eyes and reduced quality of life compared to more distant residents. CAFO air pollution is especially problematic, because residents close to these facilities are exposed on a near constant basis.<sup>13</sup>

Ever since the hog industry established CAFOs in North Carolina, citizens have been complaining and expressing their health concerns as hog waste was being sprayed on their persons and property, odors and black flies invaded their houses and their wells became contaminated. They also complained about the lack of redress on these matters from state officials and CAFO owners. Recently, a number of these citizens from across eastern North Carolina recorded their concerns and feelings in a locally produced documentary entitled: ...the Rest of the Story: Corporate Hog Farming in North Carolina. This fourteen minute documentary more appropriately presents the environmental injustice these citizens suffer far better than I could possibly do through my testimony. A copy is attached as Exhibit 3. Your review of this material is highly encouraged.

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<sup>13</sup> For information on these pollutants and the human health impacts identified in this paragraph see the following: Iowa State University and The University of Iowa Study Group, Iowa Concentrated Animal Feeding Operations, Air Quality Study, Final Report (2002) (“Iowa Air Quality Study”), <http://www.publichealth.uiowa.edu/ehsrc/CAFOstudy.htm>; Minnesota Planning Agency Environmental Quality Board, Final Animal Agriculture Generic Environmental Impact Statement (2002), (“Minnesota EIS for Animal Agriculture”), <http://www.eqb.state.mn.us/geis/> for information concerning health impacts of particular AFO air pollutants; North Carolina Residents, 108 *Envtl. Health Persp.* 223-38 (2000); S. Wing & S. Wolf, Intensive Livestock Operations, Health, and Quality of Life Among Eastern K. Thu et al., A Control Study of the Physical and Mental Health of Residents Living Near a Large-Scale Swine Operation, 3 *J. Agric. Safety & Health* 1, 13-26 (1997)

## THE SAD TRUTH:

In North Carolina, like the rest of the country, none of the air pollution emitted by CAFOs is regulated or controlled by state or federal agencies. None of these operations has Clean Air Permits or anything equivalent under North Carolina law. As a result, there are few, if any, regulatory requirements to address air and odor pollution from swine and poultry factories and citizens have little legal recourse when they experience these afflictions. As Pickle Robins, a local farmer living next to a swine CAFO once told me, “They can just put the stink on you and there ain’t nothing you can do about it and that’s the sad truth.”

## DRINKING WATER CONTAMINATION:

Throughout eastern North Carolina, residents depend heavily on private wells to supply drinking water for their families. Due to widespread concerns voiced by these citizens that their wells might be contaminated with nitrates from animal waste, in his second term, Governor James B. Hunt, Jr., made free well water testing for nitrates available to all North Carolina citizens living adjacent to industrial swine facilities. During the next two years, a total of 1,595 wells in 57 counties which were adjacent to swine facilities had been tested for nitrates. The results were alarming. **Of the tested wells, 163 (10.2 percent) showed nitrate contamination at or above the drinking water standard of 10 mg/L. In some counties, the percentage of contaminated wells**

**was near 50%.<sup>14</sup>** Contaminated wells continue to be discovered and the North Carolina General Assembly has been pressed by local citizens to address the problem

#### CAFOs POLLUTE OUR WATERWAYS:

Nutrient pollution from swine CAFOs has been scientifically linked to the fish kills previously mentioned in this testimony and the growth of algae and other aquatic vegetation that clogged North Carolina waterways. Along the Trent River, a major tributary of the Neuse, more than 71 miles of waterway was identified as impaired by state officials as a direct result of nutrient pollution from CAFOs .<sup>15</sup> As a result of these fish kills and the dangers presented by Pfiesteria outbreaks, state officials posted the Neuse River estuary with signs warning citizens not to go in or near the water when fish are distressed and/or dying.

What impact has pollution from swine and other CAFOs had on the Neuse River? In 1995, 1996 and 1997, due to nutrient pollution from CAFOs and other sources, the Neuse was listed as one of the most threatened rivers in North America. That listing, coupled with media attention and lawsuits brought by the Neuse River Foundation, forced state officials to take affirmative action aimed at reducing nutrient loading to the Neuse. Unfortunately, these efforts have only been partially effective. What success has been achieved in nutrient reduction has been credited more to drought conditions and the corresponding lack of runoff than anything the state has done, especially as it relates to pollution from CAFOs.

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<sup>14</sup> <http://www.epi.state.nc.us/epi/mera/ilocontamination.html>

<sup>15</sup> [http://h2o.enr.state.nc.us/list\\_303d/listnar.pdf](http://h2o.enr.state.nc.us/list_303d/listnar.pdf)

In 2006, a number of internationally renowned North Carolina scientists (Dickey, Burkholder, Reed, Mallin, Cahoon et al) released the results of a ten year data collection and analysis project undertaken for the purpose of determining water quality trends in the Neuse River estuary. The study period was from May 1993 to June 2003. All sampling and analytical procedures were recognized by both state and federal regulatory agencies, and any modifications were sanctioned by the Environmental Protection Agency. The study found that the loading of nutrients, especially nitrogen, should have been substantially reduced over the period due to a reduction goal legislated by the North Carolina General Assembly. This goal of attaining a 30% reduction in nitrogen arriving at the Neuse estuary required major adjustments by nearly all major contributors. Based upon the actions taken, a substantial reduction should have resulted. Many crop farms have ceased production and those remaining have cut their use of fertilizer by as much as 40%. Industrial and municipal wastewater treatment plants substantially upgraded their facilities to reduce nutrient discharges. At the Neuse estuary and upstream to Goldsboro, 11 wastewater dischargers committed to the removal of their river discharges (most now removed). Additionally, mandatory buffer protections were enacted along with rules substantially restricting the discharge of sediments and stormwater. Unfortunately, there was no reduction. To everyone's dismay, the report noted an alarming increase in ammonia levels found in the Neuse estuary. It also revealed that concentrations of ammonium, the most destructive form of nitrogen, dramatically increased by 500%. Ammonia not only stimulates prolific alga blooms, it is also the agent that promotes fish kills. Where is all that ammonia coming from? According to state authorities, "Approximately 2/3 of the nitrogen in the swine excretions is emitted to the air in

accordance with the design of a lagoon and sprayfield system. A DENR study estimates that swine facilities produce 20% of North Carolina's total atmospheric nitrogen compounds which react with other constituents in the air and is deposited to land, vegetation, and water bodies. This figure is 53% for just Eastern North Carolina”<sup>16</sup>

The Neuse is not alone in the degradation suffered from CAFO pollution. In a related set of trend analyses, a significant increasing trend in ammonium concentrations was also found for an adjacent, more rapidly flushed system, the Cape Fear Estuary.<sup>17</sup>

Millions of fish died in other rivers as well. Many had open, bleeding lesions on their bodies similar to those in the Neuse. In 1995, the New River near Jacksonville, North Carolina was severely impacted when a CAFO lagoon broke through its earthen wall. More than 20,000,000 gallons of swine waste spilled into the river killing millions of fish.<sup>18</sup> Large fish kills related to nutrient pollution have also been reported in the Tar-Pamlico River and the Pamlico Sound and in other waters across North Carolina.<sup>19</sup>

It is not surprising that in 2007, in large measure due to CAFO pollution, the Neuse was placed back on the list of the 10 Most Endangered Rivers in America.<sup>20</sup>

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<sup>16</sup> <http://www.enr.state.nc.us/files/hogs/hogplan.htm> (originally published at this site--no longer available)  
Excerpts available at [www.riverlaw.us](http://www.riverlaw.us)

<sup>17</sup> Burkholder, J.M., D.A. Dickey, C. Kinder, R.E. Reed, M.A. Mallin, G. Melia, M.R. McIver, L.B. Cahoon, C. Brownie, N. Deamer, J. Springer, H. Glasgow, D. Toms and J. Smith (2006) Comprehensive trend analysis of nutrients and related variables in a large eutrophic estuary: A decadal study of anthropogenic and climatic influences. *Limnology and Oceanography*, volume 51, pp. 463-487.

<sup>18</sup> <http://scholar.lib.vt.edu/VA-news/VA-Pilot/issues/1995/vp950626/06260030.htm>

<sup>19</sup> <http://www.esb.enr.state.nc.us/Fishkill/fishkill.htm>

<sup>20</sup> [http://www.americanrivers.org/site/PageServer?pagename=AR7\\_MER2007\\_Neuse](http://www.americanrivers.org/site/PageServer?pagename=AR7_MER2007_Neuse)

## WIND, RAIN AND FLOODS:

When hurricanes, tropical storms and heavy rains routinely threaten to flood North Carolina, pollution discharges from CAFOs substantially increase. In aerial flights over swine CAFOs immediately preceding heavy rain events, large numbers of CAFOs are observed dumping animal waste just hours before the storm's scheduled arrival. The number of CAFOs spraying waste under these conditions far exceeds what would be observed on a normal day. Clearly, these operators understand that what they are applying on their fields will, for the most part, be washed into the wetlands, streams and rivers once the heavy rains arrive. For these operators, it doesn't matter. Their only objective is to do everything they can to lower their lagoon levels in advance of the storm.<sup>21</sup> North Carolina is often referred to as "hurricane alley." It is a well deserved label. Unfortunately, the swine lagoons in eastern North Carolina lay directly in the path of these storms. The results are often catastrophic. In 1999, when hurricane Floyd made its way across North Carolina's coastal plain, more than 50 lagoons were flooded. So much hog waste was spilled that its pinkish color could be clearly observed running down the river. Thousands of hogs, both alive and dead, were also observed in the river, on the tops of flooded confinement buildings and in piles waiting to be buried. Estimates of dead hogs ranged widely between 30,000 and 400,000. The correct number may never be verified. After the storm, Governor Hunt promised that all of the flooded lagoons as well as those in the flood plain, would be shut down. Later, he changed his mind and proclaimed that only those CAFOs that were damaged by more than 50% would be

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<sup>21</sup> <http://www.riverlaw.us/hurricanefloyd/hurricaneisabel.html>

eliminated. In the end, only a handful were shut down. Most still remain in harms way waiting for the next storm and new promises of corrective action.<sup>22</sup>

Some years the state experiences excessive rainfall. This last occurred in 2003 when rainfall exceeded 100 year record levels. The rains began in January and continued through October. The fields were so saturated that farm tractors were unable to plow many of the fields. On many farm fields, what crop was able to be planted, drowned under the onslaught of water. Meanwhile, the rains continued to fill the lagoons. This situation was exacerbated by the inability of swine CAFO operators to apply swine waste to fields at agronomical rates as required by law and their waste management plans. As the hogs kept eating and defecating, the lagoons filled even faster. One solution would have been to reduce the size of the swine herd. That didn't happen. The swine inventory at the beginning of the year was reported at 9,000,000. At year's end, it was recorded at 10,000,000. Under these conditions, it was impossible for most CAFOs to follow the law and apply their swine waste at agronomical rates. So where did all that waste go? No doubt—it went down the river. This is clearly documented in the pictures and video that were taken during the year.<sup>23</sup>

As a result of the developing problems in CAFO operations, since 1997, the North Carolina General Assembly has imposed a moratorium on the construction of new hog lagoons and sprayfields (except for those obtaining permits before the effective date of the moratorium).

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<sup>22</sup> <http://www.riverlaw.us/hurricanefloyd.html>

[http://www.mhhe.com/biosci/pae/es\\_map/articles/article\\_53.mhtml](http://www.mhhe.com/biosci/pae/es_map/articles/article_53.mhtml)

<sup>23</sup> <http://www.riverlaw.us/enforcement.html>

## ANTIBIOTICS AND CAFOs:

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. The Environmental Protection Agency has found antibiotics administered to swine, in lagoons, groundwater, air above sprayfields, adjacent waterways and the main stream of the Neuse River.

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 non therapeutic purposes!*** The hog industry uses eleven million

pounds of antibiotics annually while a comparatively modest three million pounds are used in human medicine.<sup>24</sup>

Antibiotics administered to hogs are now making their way into the air, ground water and our rivers and streams .At one North Carolina CAFO, swine antibiotics have been found in the tap water. The EPA has also reported finding antibiotics used in swine production in the main stream of the Neuse River.<sup>25</sup>

### THE GOVERNORS SPEAK OUT

Having credibility on CAFO issues is critically important. The industry works hard and spends a great deal of money on lawyers and lobbyists who attack critics in an effort to confuse the issues. While there are countless peer reviewed scientific studies that clearly support my testimony, some of the strongest support for what I have stated comes from two of North Carolina's leading state officials who served as Governor during the establishment of CAFOs and the aftermath that followed. These were: Governors Hunt (1993-2001) and Easley (2001--). Their positions on swine CAFOs are set forth below:

#### Governor James B. Hunt, Jr. (1993-2001)

In the late 1990s, then North Carolina Governor James B. Hunt, Jr's administration

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<sup>24</sup> NRDC, Cesspools of Shame, How Factory Farm Lagoons and Sprayfields Threaten Environmental and Public Health, 2001.

<sup>25</sup> <http://www.factoryfarm.org/docs/CivEngSeminarPresentation.pdf>

strongly condemned the pollution practices of swine CAFOs.

Here are some excerpts from his state sponsored website:<sup>26</sup>

#### “Background

Swine production has mushroomed over the last decade. Despite a decreasing number of swine facilities, the number of hogs has increased threefold to ten million.....There are approximately 2,400 major swine facilities in North Carolina with approximately 4,000 active anaerobic lagoons, and there are about 650 inactive swine lagoons.....

#### Economic Impacts

.....swine production in North Carolina can produce significant odor, reduce neighboring property value, and harm tourism.

#### Environmental and Public Health Impacts

.....the environmental and public impacts of the swine industry demand further action by the State and the swine industry. Swine production impacts to the environment and public health are listed below.

- Surface Water. Surface water can be contaminated by discharges from the lagoons or run-off from sprayfields. In 1998, there were 107 documented discharges from swine facilities with 31 of these reaching the surface waters.

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<sup>26</sup> <http://www.enr.state.nc.us/files/hogs/hogplan.htm> (originally publish at this site--no longer available) Excerpts available at [www.riverlaw.us](http://www.riverlaw.us)

- Groundwater. Groundwater can be contaminated either through leaking lagoons or leaching of sprayfield applied waste. An NCSU study showed that waste from 38% of older, unlined anaerobic lagoons leaked nitrogen compounds into the groundwater at "strong" or "very strong" levels, while preliminary estimates of a Department of Environment and Natural Resources (DENR) study indicate that 25% of lined facilities may leak to contaminate groundwater. DENR data show that conventional sprayfields seem to be just as problematic as lagoons.
- Odor. Odors are generated from lagoons, sprayfields, or swine houses. When odors are not confined to the property of the operations, they have the potential to cause health problems, heightened community tensions, and losses in property values.....
- Atmospheric Deposition. Approximately 2/3 of the nitrogen in the swine excretions is emitted to the air in accordance with the design of a lagoon and sprayfield system. A DENR study estimates that swine facilities produce 20% of North Carolina's total atmospheric nitrogen compounds which react with other constituents in the air and is deposited to land, vegetation, and water bodies. This figure is 53% for just Eastern North Carolina.
- Nutrient Imbalance. The rapid growth of the swine industry has resulted in a nutrient imbalance in parts of North Carolina. The feed imported to swine facilities generates more nutrients than receiving plants, land, and waters can absorb. For example, 95%

of the nitrogen in manure produced in the Neuse River Basin is imported from outside the basin.

- Public Health. Swine waste is a source of nitrates in groundwater and pathogens in the ground and surface waters which can directly impact human health. Odors too can adversely impact human health as they can cause coughing, nausea, dizziness, headaches, and burning eyes as well as psychological effects....”

Governor Michael F. Easley

In 2000, while campaigning for Governor, Michael Easley, the current Governor of North Carolina, published a White Paper containing the following commitments to rid the state of swine CAFO lagoons and their pollution.<sup>27</sup>

“My comprehensive clean water plan starts with the obvious point that the anaerobic swine waste lagoon and spray field system has proved to be too risky. It must go..... As Governor, I will lead a broad, consistent effort to address the environmental degradation caused by large-scale, factory hog farming. Certainly, the companies that own and profit from the hog industry must bear their fair share of legal liability when the people they hire break our water quality laws. Those who enjoy direct financial benefits from hog production must have an economic incentive to promote compliance with state environmental rules. Therefore, my Administration will make sure that major hog

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<sup>27</sup> <http://www.riverlaw.us/thegovernors.html>

companies, and other "integrators" of small farmers into large-scale hog operations, share liability for water quality violations at their contract farms.

Moreover, a lagoon phase-out, starting with those abandoned and in flood plains or other at-risk locations, is also critical. Hog lagoons have spilled into our waterways too often, and the issue of damage from atmospheric nitrogen and ammonia falling as rain is too serious to continue with "business-as-usual."

As a result, the phase out of hog waste lagoons must begin immediately, and be subject to a strict timetable. Demanding compliance with this timetable will force the development of new, environmentally-friendly technologies to control hog waste. As such technologies develop, the timetable can be accelerated. But mandatory deadlines are necessary to continue the pace of research and development, and to force implementation. Specifically, as Governor, I will insist on the following timetable:

- (1) Large scale, on-farm installation of testing and new technologies, at the expense of integrators, to begin immediately;
- (2) Testing, evaluation, and oversight of new waste facilities, by independent scientists, beginning in year one;

(3) Full scale installation of the technologies found most effective, no later than years three and four; and

(4) Completion of phase out and total elimination of the lagoon system no later than year five, and substantially sooner if the independent scientists determine that faster implementation is possible.

Whether by the initiative of the elected branches or by court order, the outmoded lagoon system will be replaced. The real question is what will take its place. Converting to cleaner, safer waste technologies will come at a price. We must be sensitive to independent family farms, so many of which have attempted to operate responsibly. These farmers simply played by the rules set by the General Assembly. Still, they must convert and, as Governor, I will see that they do so. While the conversion is underway, large-scale farms must make operational improvements, including buffers, biocovers, and windbreak walls, to minimize dangers to our waters, as well as our air”

#### NORTH CAROLINA 2007--HOPE TURNS TO DESPAIR

In 2007, the North Carolina General Assembly was poised to pass legislation mandating a plan to rid the state of the lagoons and sprayfields used by CAFOs . Several pending bills would have accomplished the following:<sup>28</sup>

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<sup>28</sup> <http://www.ncga.state.nc.us/gascripts/BillLookUp/BillLookUp.pl?Session=2007&BillID=s1465>

- Set a date certain after which the use of lagoons and sprayfields would no longer be authorized for use by swine CAFOs.
- Ban the construction of new lagoons
- Establish new standards required for the treatment of swine waste
- Provide some state funding to help small swine producers make the transition from lagoons to the newly approved technologies.
- Provide some limited funding to help private citizens with contaminated wells obtain other sources of drinking water.

By the time the legislative session ended in August 2007, little remained of what was originally proposed. The date certain legislation was turned into a study bill and the legislation to prohibit new lagoons was totally compromised. A bill was passed that did ban the construction of lagoons on newly constructed facilities. However, through intense lobbying of the swine CAFO industry, a compromise brokered by Governor Easley provided for the repair of existing lagoons and replacement of those lagoons with new lagoons when they could no longer be repaired and imminently threatened public health. Swine lagoons have a useful life of approximately 20-25 years and at some point they will all have to be replaced. In this regard, there is little doubt of where the industry is headed. Lagoons and sprayfields represent the cheapest method for disposing of hog waste. Regardless of their harm, operating lagoons is profitable and that is the industry's bottom line.

Making matters worse was another amendment that encouraged the continued use of existing lagoons and sprayfields by swine CAFOs through the capture of

methane gas. What this legislation authorized was the partial covering of existing lagoons with a tarp to capture methane gas. The intended outcome is for CAFO owners to be able to sell that methane to utility companies for up to four times its true market value. Utility companies participating in the methane capture program would be permitted to pass these additional costs to their ratepayers. The capture of methane gas is a laudable objective, but it must incorporate the newly approved technologies that move the industry away from lagoons and sprayfields that massively pollute.

### WHY CAFO POLLUTION MUST BE BROUGHT UNDER CONTROL

By illegally polluting, industrial hog producers gained a critical advantage over their competitors – the traditional family farmer – in the marketplace. These are not businessmen making an “honest buck.” Instead, they are lawbreakers who 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 of state environmental laws by Smithfield’s facilities. During periods of above average rainfall, violations are significantly increased. NCDENR officials readily admit that at critical times they do not have the resources to enforce the law. As a result, enforcement is virtually non-existent except for what private citizens are able to do pursuant to the provisions of the federal Clean Water Act. 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. Even today, state water quality inspectors and state and local county health officials are not permitted to go inside swine CAFO confinement buildings. That is the sole responsibility of the State Veterinarian who works under the North Carolina Department of Agriculture—a CAFO friendly agency. 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.

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.<sup>29</sup>

### ALTERNATIVES

There are myriad alternatives to the CAFO lagoon and sprayfield system, but the industrial hog producers refuse to adopt innovations that might cut profit margins. In 2000, Smithfield Foods, the world’s largest pork producer, entered into an agreement with the Attorney General of North Carolina that funded the evaluation of environmentally superior waste management technologies for use on North Carolina

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<sup>29</sup> [www.riverlaw.us](http://www.riverlaw.us); [http://www.senate.gov/~gov\\_affairs/031302dove.htm](http://www.senate.gov/~gov_affairs/031302dove.htm)

swine farms owned by them. Later, Premium Standard Farms and Front Line Farmers, joined in the agreement. Smithfield and Premium Standard provided all the funding for this effort.. Dr. Mike Williams, Director of the Animal and Poultry Waste Management Center at North Carolina State University was designated to oversee the project. As a result of this effort, a number of technologies were developed that would, when fully implemented, eliminate the use of CAFO lagoons and sprayfields. One approved system was, Super Soils. Unfortunately, the Smithfield Agreement provided that any new technology had to be economically feasible. This provision, by measuring the cheap cost of constructing and operating a lagoon system against any new technology, made it impossible to meet economical objections from swine CAFO owners. However, one study concluded that while costs were higher for Super Soils systems, there were benefits that dramatically outweigh these costs.

The result of one study reported by the Charlotte Observer on July 15, 2007, stated:

“our state could gain the economic equivalent of 7,000 jobs and enjoy a \$10 billion economic boost if the industry adopted technology that produced usable by-products from hog wastes. The Super Soils technology identified by researchers at N.C. State University would provide one effective alternative. Farmers could produce container mix for use in nurseries and other plant growers and boost employment. Over a 20-year period that could generate thousands of jobs and produce up to \$1.1 billion in farm revenue. It also would reduce air pollution and dangers to health and avoid accidental lagoon breaches that can pollute waterways”

So why would CAFO industry leaders refuse to give these new technologies a chance in North Carolina where they are so desperately needed? The answer to that question probably has less to do with North Carolina than it does with the swine industry's operations across the rest of America's farmlands. When new innovative technologies are successfully adopted and proven to work in this state, their use will be demanded wherever lagoons and sprayfields are in use. The record of this industry clearly reflects that regardless of the public need and benefit, industrial bottom line financial considerations will always prevail.

Does the industry have the financial ability to make the switch to cleaner technologies? They do! Smithfield Foods, the world's largest swine producer and owner of most all hogs in North Carolina, has doubled its net earnings over the past five years to 11.5 billion dollars. Their CEO and other top executives are rewarded annually with millions in bonuses<sup>30</sup>.

Another alternative to swine and other CAFO production is traditional family farming where hogs and other livestock are raised without lagoons and confinement buildings. No one has ever stood in line to buy pork in America. Traditional family farmers have always been able to keep the shelves full. Industrial farming practices do have a serious downside. Too often, corporate profits take precedence over all other considerations, including animal welfare, environmental protection, social responsibility and the safety of residents living of neighboring communities. CAFOs represent a race to the bottom. It is not sustainable and it will fail. Clearly, these facilities operate outside the laws of nature. To believe that raw animal waste can be safely contained in 4,000

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<sup>30</sup> <http://www.changetowin.org/why-organize/corporate-hall-of-shame/smithfield-foods.html>

thousand earthen pits left baking under the hot summer sun in a concentrated and environmentally sensitive area of the state—is nothing short of insane. There will be consequences. The question is—how bad and when?

#### CONCLUSION:

North Carolina's experience shows that the environmental laws which limit pollution from factory farms need to be strengthened, not weakened. Any effort to amend CERCLA and EPCRA to exempt CAFOs would be a significant reversal, eliminating much needed protection for our communities and the environment while rewarding known polluters with an ill-deserved amnesty. CAFO owners, especially the large integrators, contend that they are not a part of the problem. After all, it's just manure. And if, as they claim, there is no problem, why are they seeking relief from laws that support public safety and protect our air and water?

Farm industry lobbyists and supporters claim that CAFOs are already extensively regulated under the Clean Water Act, the Clean Air Act, and that CERCLA and EPCRA add unnecessary regulatory burdens. In fact, no swine or poultry operations in North Carolina are regulated under the Clean Air Act, and only swine operations are covered by Clean Water Act NPDES permits. In the wake of the 2002 Waterkeeper Alliance v. EPA court decision, the North Carolina poultry operation successfully lobbied state agencies to exempt most poultry CAFOs from the requirement to obtain an NPDES permit. As a result, in North Carolina an entire industry, one now seeking an exemption from CERCLA, is unregulated by any environmental law.

North Carolina's NPDES permits, like nearly every other CAFO permit in the nation, rely on the calculation of agronomic rates that let swine producers apply as much

waste to fields as crops can take up. Unfortunately, this method has failed to prevent discharges of excess nutrients to our streams and rivers, and of course, there is no agronomic rate for pollutants such as fecal coliform and other pathogens. In short, current research indicates that the Clean Water Act regulatory program is insufficient to protect our surface waters and groundwater drinking supplies.

It is important to recognize that the solution to many of the pollution problems caused by factory-style livestock operations may be solved by sustainable family farmers. These farmers, historically the bedrock of American agriculture, are not subject to the requirements of CERCLA and EPCRA and would not benefit from the proposed exemption. Indeed, Congress had this community in mind in 1986 when it originally drafted CERCLA to have an exemption for the “normal field application of fertilizer.” The proposed changes to CERCLA and EPCRA amount to a legislative bail-out that would only aid large factory farm operators who are unable to manage responsibly the large quantities of manure they produce. Some operations have polluted groundwater and surface water with excess nutrients and dangerous pathogens, arsenic and other toxic metal compounds and antibiotics.

The scale of this pollution can be truly shocking. There is evidence that some large animal confinements can release enormous quantities of toxic chemicals – comparable to pollution from the nation’s largest manufacturing plants. For example:

- Threemile Canyon Farms in Boardman, Oregon, reported that its 52,300 dairy cow operation emits 15,500 pounds of ammonia per day, more than 5,675,000 pounds per year.<sup>i</sup> That’s 75,000 pounds more than the nation’s number one

manufacturing source of ammonia air pollution (CF Industries of Donaldson, Louisiana) reported according to the 2003 Toxics Release Inventory.<sup>31</sup>

- Buckeye Egg's facility in Croton, Ohio, had ammonia emissions of 1,600,000 pounds in 2003.<sup>32</sup> This amount corresponds to roughly 4,400 pounds per day, or about 44 times the reporting threshold that EPA set based on health considerations

CERCLA currently provides a much needed avenue of response for community officials. In an often-cited example, the City of Waco, Texas is spending more than \$54 million for capital improvements specifically to deal with taste and odor problems caused by excessive phosphorus pollution from dairy cow waste. Facing what appeared to be ever-increasing water treatment expenditures to eliminate ever-increasing nutrient loadings from agricultural operations, the City urged upstream feeding operations to adopt better manure management techniques. When that effort failed, they used the most effective legal tool available: a CERCLA cost recovery suit. The suit – against 14 operations that had a history of problems – was used not to shut down dairies or collect monies from farmers, but to leverage new, enforceable agreements for better manure management at these facilities.

If Congress amends Superfund with a special exemption for livestock waste, it will deny the City of Waco and others American communities a critical legal tool for protecting their invaluable water supplies from pollution by large-scale agricultural operations that fail to properly manage their waste. Such an amendment would declare that water users, not polluters, must bear the burdens of pollution, a radical shift from the

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<sup>31</sup> Letter from Tom Lindley on behalf of Threemile Canyon Farms to EPA Region X, April 18, 2005

<sup>32</sup> United States v. Buckeye Egg Farm, L.P. et al, Civil Action No.3:03 VC7681,

“polluter pays” principle enshrined in CERCLA and in our common sense of right and wrong.

Another impact of the proposed exemptions would be to prevent federal, state and local emergency responders from accessing information about toxic releases from these facilities. As discussed above, many of the large feeding operations release large volumes of hazardous air pollutants, such as ammonia and hydrogen sulfide and an increasing number of studies have found a variety of health problems among animal feeding operation workers and residents who live near these operations, including bronchitis, asthma, and antibiotic-resistant bacterial infections. These findings are of great concern to many rural communities, and action by Congress to ban reporting by these facilities would do a great disservice to those who are working hard to develop a better understanding of the full impacts of these releases.

Representatives of some large-scale agriculture operations have argued to members of Congress and to farming communities that such an amendment is urgently needed to protect family farms from frivolous lawsuits and allow farmers to continue to use manure as fertilizer for crop production. These assertions are simply untrue, and grossly misrepresent both remedies available under the statute and current legal trends. There are three key points correcting this misinformation. First, as indicated above, CERCLA’s cost recovery and reporting requirements do not threaten responsible operators who manage manure as a valuable fertilizer. Second, neither CERCLA nor EPCRA contain “citizen suit” provisions similar to those in the Clean Water Act or Clean Air Act. In fact, only municipal, state and tribal governments can bring the type of cost-recovery actions brought by the City of Waco and State of Oklahoma. Third, there is no rash of frivolous lawsuits currently

clogging the courtrooms of America and forcing farmers into bankruptcy. In fact, in the 25-year history of CERCLA, there have been only 3 cost-recovery lawsuits against animal feeding operations to address manure-related contamination.

- City of Tulsa v Tyson Foods targeted several large chicken operations and attempted to recover costs for water treatment incurred by the City and the Tulsa water utility. The case was settled in 2003.
- In 2004, the City of Waco sued 14 dairy operations for water quality problems with Lake Waco, the City's drinking water supply. Settlements were reached with all 14 defendants.
- In 2005, the State of Oklahoma sued large-scale poultry producers for redress of water quality problems in the Illinois River watershed. This case is still pending.<sup>33</sup>

These lawsuits involved large-scale animal operations or operations that had a history of problems with manure management. In each case, the lawsuit followed long controversy and attempted negotiations regarding waste management practices. Lawsuits were filed after previous negotiations failed and water quality conditions worsened. Settlements involved plans for improved manure management, not penalties.

As indicated by the scope of the pollution problem caused by factory farms, we need strong, broad, and effective environmental laws to protect natural and human resources from the ill effects of industrial-scale livestock pollution.

While CERCLA's cost recovery provisions are important for governmental responses to hazardous conditions, for advocates like myself, the real value of the law, and of EPCRA's parallel provisions, lies in the right-to-know reporting provisions of

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<sup>33</sup> Civil Action No. 4:05-cv-000329 JOESAJ, United States District Court for the Northern District of Oklahoma.

CERCLA Section 103 and EPCRA Section 304. Information about chemical releases enables citizens to hold companies and local governments accountable in terms of how toxic chemicals are managed. Transparency also often spurs companies to focus on their chemical management practices since they are being measured and made public. In addition, the data serves as a rough indicator of environmental progress over time. The amendment proposed by the livestock industry's allies would deprive Americans of this much needed resource, and prevent them from playing meaningful roles in the democratic process.

The answer to the current situation, one in which rural residents are forced to endure sickness and nuisances, is more reporting of air emissions as required by CERCLA and EPCRA, not a reprieve for those responsible for creating such misery. CERCLA and EPCRA create an obligation for large livestock producers to share information with their neighbors, information that is vital for identifying, treating, and preventing illnesses; information that allows community leaders and health officials to develop protective placement and response plans; information that reveals the truth about this industry and inspires reforms in its practices. In North Carolina and across the nation, we need more of this information, not less.

Very respectfully submitted

Rick Dove

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EXHIBIT 1.

**Richard (Rick) J. Dove**  
(Short Biographical Sketch)

Present Position

Photo/Video journalist. Owner and Chief Photographer/Videographer of Dove Imaging, a full service photo and video imaging service. List of published photo/video journalist credits can be found at [www.doveimaging.com](http://www.doveimaging.com)

Photographic Editor, WATERKEEPER Magazine, Tarrytown New York

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. Twice served in Vietnam. Retired in officer grade O-6 (Colonel).
- 1987-1991 Commercially fished the Neuse River. Owned and operated a retail/wholesale seafood store in Havelock, North Carolina.
- 1991-1993 Practiced law (R.J. Dove and Associates) with law offices in Havelock and Jacksonville, North Carolina.
- 1993-2000 Served as the Neuse Riverkeeper
- 2000-2005 Southeastern Representative for Waterkeeper Alliance
- 2005----- Waterkeeper Alliance Volunteer//Special Projects Consultant  
Neuse River Foundation Volunteer

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### Special Appointments

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

Member, North Carolina Sedimentation Control Commission Advisory Committee (Commission appointment, 1997-2000)

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

Testified before the U. S. 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.

Testified before U. S. Congress, Senate Committee on Government Affairs, March 13, 2002 on issue of pollution generated by Confined Animals Operations (CAFOs).

### Professional Memberships

Maryland State Bar Association

North Carolina State Bar Association

Member, Environmental Committee, North Carolina State Bar Association

Member, Republicans for Environmental Protection

Waterkeeper Alliance

### National/International Television, Newspaper Magazine and Book Features

As spokesperson for the Neuse River between 1993 and 2000, 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, Rollingstone Magazine, George Magazine and the Washington Post. One chapter of the book, *And the Waters Turned to Blood*, Simon and Schuster, published 1997 details Rick Dove's work on the Neuse River related to the microorganism, *Pfiesteria*. Other books highlighting his activities include: This Moment on Earth by Senator and Mrs. John Kerry (2006) and Crimes Against Nature by Robert F. Kennedy, Jr. (2004)

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## Awards

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

Named one of Time Magazine/Time for Kids Heroes of the Planet □ October 1998

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

Received 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 1 of 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.

Recognized by the Clean Water Network as a *Clean Water Hero* on 30<sup>th</sup> Anniversary of the Clean Water Act on October 18, 2002

Rick Dove 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.

EXHIBIT

2



air Spraying 3

This photo was taken in Duplin County, North Carolina in 2003. Swine waste is pictured being sprayed into the air over the lagoon for the purpose of lowering the lagoon level. This result is achieved as particles of vaporized waste are misted into the air where there are then moved by the wind into surrounding communities. This is a growing practice in North Carolina. State officials claim they are powerless to stop it.

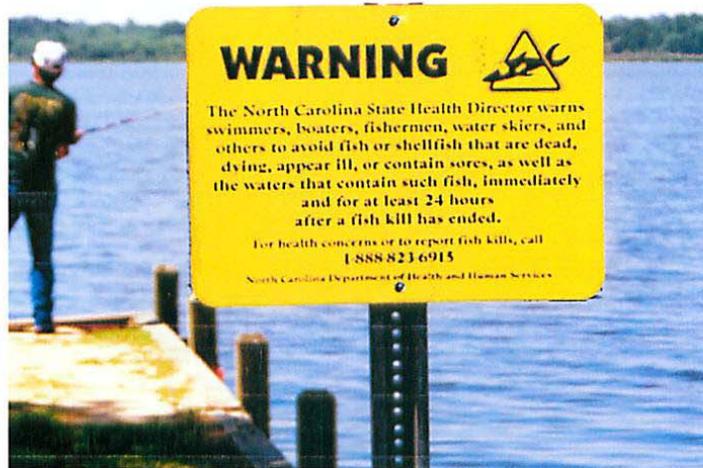
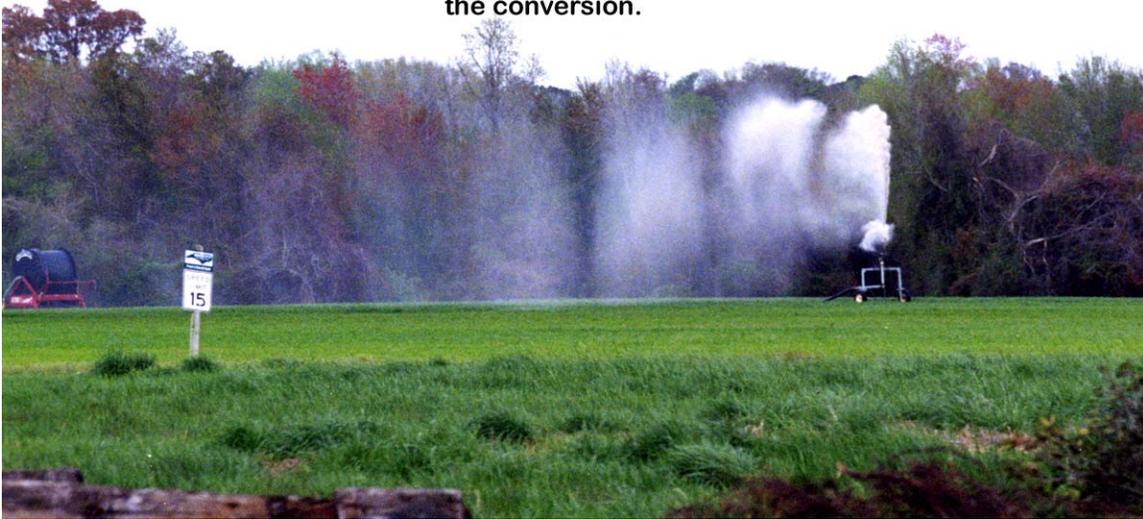


EXHIBIT 2

Hog waste is easily misted into the air as it is sprayed on fields. The same happens as it is sprayed over lagoons. The wind easily carries the waste into surrounding communities where people live and children play. Affordable alternative technologies are available to prevent this from happening. The industry has the financial resources to make the conversion.



More than a billion fish have died in the Neuse River estuary since the swine CAFOs set up operations in eastern North Carolina

**LEACHATE FROM COMPOSING POULTRY WASTE COLLECTS ALONG THE BASE OF THE PILE WHERE STORMWATER CAN CARRY IT OFF TO STREAMS AND RIVERS. THIS WASTE HAS TESTED HIGH IN ARSENIC**



**Poultry litter, two stories high and a football field in length, is being stored here adjacent to a tributary of the Chesapeake Bay in Maryland**





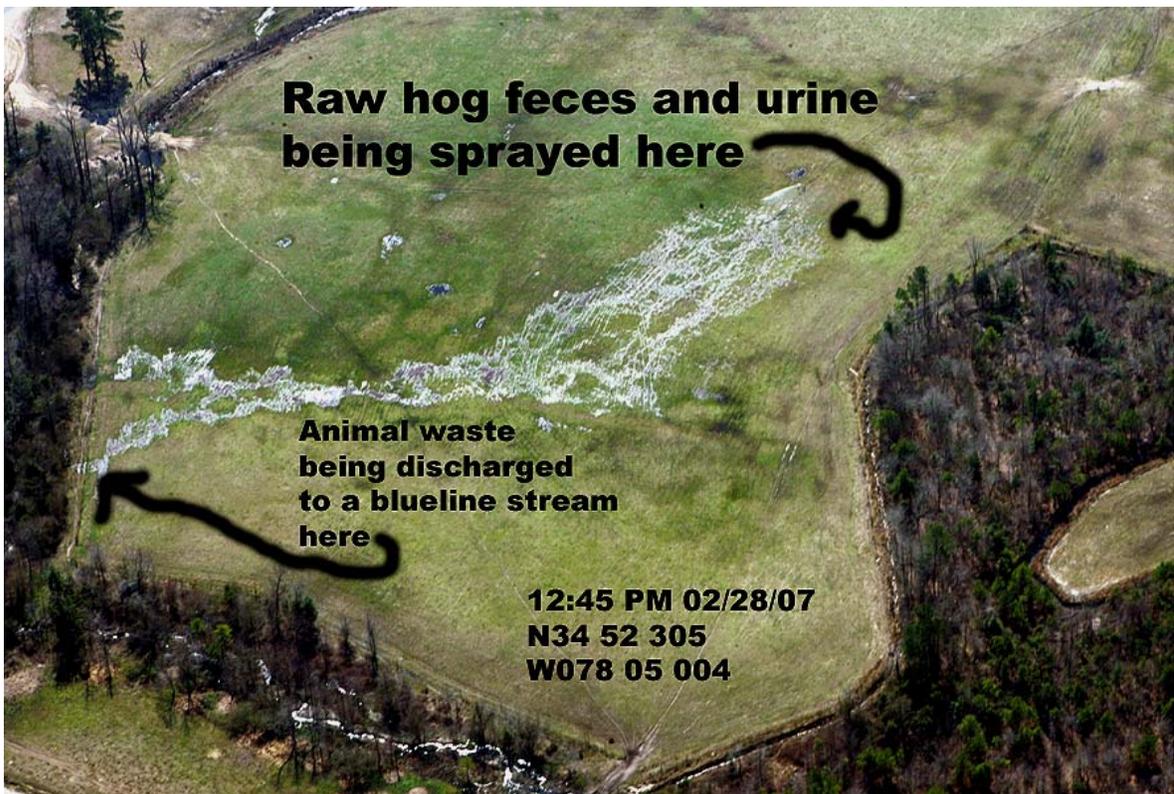
**Dead fish litter shore  
of the Neuse River,**



**Sign on Neuse River  
warns people of danger**



**Hurricanes and heavy rains cause massive  
pollution problems from swine facilities in the  
North Carolina floodplain**





For more pictures, please visit  
[www.neuseriver.com](http://www.neuseriver.com)