

# NC porkreport



## Truth of the Matter

Warnings about pig farms before hurricanes are often off the mark

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# Truth of the Matter



## With Decades of Experience, Hog Farms Fare Well During Hurricanes. Here's Why

**P**IG FARMERS IN NORTH Carolina have seen plenty of drenching tropical storms and powerful hurricanes strike the state over the years.

Historic record-breakers Floyd and Florence have set the marks for rain and destruction. But few seem to remember the many others. Since 1999, the state has been hit by Gordon, Helene, Allison, Kyle, Isabel, Alex, Bonnie, Charley,

Gaston, Ophelia, Alberto, Ernesto, Barry, Gabrielle, Hanna, Irene, Beryl, Andrea, Arthur, Ana, another Bonnie, Colin, Hermine, Julia, Matthew, Florence, Michael and Dorian.

Indeed, North Carolina has seen at least one storm per year, on average, for decades.

The state's pork producers can confidently say that since Hurricane Floyd took many off-guard in 1999, a

wide-range of actions and adaptations have taken place. Hundreds of at-risk anaerobic treatment lagoons have been closed, no new farms have been built and hurricane preparations are now a year-round practice.

Long before any storm points toward the state, farmers manage their lagoons to maintain adequate storage capacity in the event of a direct strike. When storms approach, generators and feed

What the storm revealed was an industry that embraces common-sense regulation, and one that continuously improves its farming practices with a clear eye on ensuring environmental protections and a sustainable future in the production of safe and affordable food products for a growing population.

are positioned on farms and at key locations across the major hog-producing counties. Depending on the forecasted track, animals are moved to higher ground or to markets early, ensuring safety.

Years of experience have led to extensive planning and preparation for the strong winds, power outages, disruptions to road networks, flooding and more. All of it is important and necessary to ensure continuity of a significant part of the nation's pork supply, and pig farmers have won praise for their quick actions that have mitigated harms.

### **STORMS OF MISINFORMATION**

But hurricanes have also brought a different type of challenge for North Carolina pig farmers: unfounded attacks from activist groups who are opposed to modern agriculture.

In the days leading up to the arrival last year of Hurricane Dorian, which spawned 19 tornadoes in the state, the Associated Press noted that hurricanes stir up more than winds and rain.

They spark storms of bad information.

"The names of hurricanes may change," the AP reported, "but one thing seems to stay the same: Misinformation spreads quickly."

Without question, that has been the case for North Carolina farmers. When a hurricane is predicted to cross the state, activists take advantage of the ability to exploit unfiltered and unchecked social media, spreading distortions and falsehoods while preying on an unknowing mainstream media. The activists purposely aim to stoke fears, warning of purportedly dire environmental threats from pig farms, while at the same time using the moment to

aggressively fundraise. Though the fears are later proven completely inflated or unfounded, the damage to public perception is already done.

Hurricane Florence was a good example. As the powerful storm took aim at the coast of North Carolina in September 2018, with winds that would exceed 140 mph and record-shattering rainfall amounts as deep as a yard stick, activist groups were taking direct aim at our state's pig farmers. They generated and spread thousands of articles, broadcasts and social media and blog posts — predicting, in alarming fashion, that the storm would unleash devastation on the environment in the region that includes the state's largest pig-producing counties. And, many such groups launched "donate now" campaigns in conjunction with their misleading communications efforts.

The director of the North Carolina Environmental Justice Network, as one example, warned that in the aftermath "everything is toppled over and dumped out into the environment and into the rivers and streams and just running through the communities, and so you have all this — nothing but feces and urine in the waterways, and dead animals."

Hurricane Florence delivered a punishing blow to North Carolina. But, in contrast to the predictions and in keeping with documented science from previous historic storms, pig farms did not unleash devastation. Instead, for those who look closer, what the storm revealed was an industry that embraces common-sense regulation, and one that continuously improves its farming practices with a clear eye on ensuring environmental protections and a sustainable future in

the production of safe and affordable food products for a growing population.

### **THE IMPACT OF HURRICANE FLORENCE**

The extensive damage caused by Hurricane Florence is well documented, and it provides a case study in how truth can be lost in a storm.

Eight trillion gallons of rainwater fell on North Carolina over a three-day span in Florence. (That's 900,000 gallons of water for every pig in the state.) Rivers swelled to record heights and entire communities were inundated by flood waters. The total damage: \$17 billion and 48 deaths. It was the costliest and one of the deadliest hurricanes in our state's history.

No one in eastern North Carolina was spared, including the agriculture community. The damage was profound, with more than \$1 billion in reported crop losses.

But the widespread devastation predicted by activist groups never materialized as it relates to pig farms. Those anaerobic lagoons that were the targets of misinformation campaigns — 98% of them performed exactly as intended, suffering little or no damage.

That's not to say there were no impacts at all involving the state's 3,300 lagoons. Six farms experienced some form of structural damage to a containment wall in their lagoons, ranging from a full breach that released liquid contents in two cases to other instances of a "cracking" in the dike wall or less significant impacts. In addition, 28 farms had lagoons that filled up with the rainwater to the point that some liquid overflowed, and eight farms saw lagoons inundated by floodwaters, which means



## The Environmental Threat Posed by Municipal Wastewater Systems

Municipal waste plants often discharge raw human sewage directly into the waters of the state, in both periodic rain events and more significant storms. It happens year-round in all parts of the state. These circumstances are the result of what are called “sanitary sewer overflows” and/or direct bypasses of the treatment system itself.

In a hurricane with significant rainfall, it is almost a certainty that there will be a discharge from some municipal waste systems. Indeed, more than 120 million gallons of municipal waste was discharged into the surface waters from 200 municipal systems in Hurricane Florence.

When Hurricane Dorian hit the state in 2019, municipal systems reported discharging 1.5 million gallons of raw human waste in sewer overflows over a five-day period. Hog farms saw negligible impacts from the storm.

Indeed, it is not a certainty that a hog farm lagoon will release any contents from treatment lagoons into the waters of the state during a hurricane. By design and by law, farmers must maintain a “freeboard” of roughly 19 inches, precisely to protect the structural integrity of the lagoon and to absorb significant rain events. In practice, lagoons are managed more conservatively.

Moreover, if a hurricane is so severe that it is causing impacts to multiple hog farm lagoons, public officials and authorities understand that many municipal plants, affecting large populations of people, would in those circumstances also be experiencing more difficulty in containing and treating human waste.

the flooding came up to, and spilled over into, the lagoon. Context, then, is crucial.

In each of these cases, it was primarily rainwater mixed with watered-down liquid waste that escaped the lagoons, with post-storm inspections showing that solids left in the lagoons.

In a briefing to state lawmakers, the director of the NC Division of Water Resources emphasized that impacts from lagoons were minimal, characterizing discharges as consisting of mostly water from the storm while also emphasizing the enormous amount of rainwater that fell.

“I am not sure why there is so much focus (on animal facilities),” division director Jim Gregson told lawmakers in a November 2018 briefing. “Looks bad, but primarily what you’re seeing on inundated farms is storm water.”

This is why, in the aftermath of Florence, DEQ Secretary Michael Regan said: “We are really focused on our (municipal) wastewater treatment facilities because there are probably orders of magnitude more human waste that has escaped these wastewater treatment facilities than what has escaped these pig lagoons.”

The NC Department of Environmental Quality reported that more than 200 municipal wastewater treatment plants spilled approximately 121 million gallons of sewage into our state’s waterways during Hurricane Florence.

Following Hurricane Matthew in 2016, the Division of Water Resources conducted extensive monitoring of waterways across eastern North Carolina. Its conclusion: the hurricane had “minimal and temporary” impacts on water quality. The report states:

*“After reviewing the data collected, and comparing that to precipitation amounts, river levels and known areas of flooding, the overall impacts of Hurricane Matthew on surface water quality were initially minimal and temporary, and the long-term effects appear to be similar to previous storms and long-term historical conditions. While many eastern North Carolina areas were inundated by floodwaters and incidents of spills, breaches or waste facility shut-downs were reported, the amount of water discharged into the river basins resulted in*

*a diluting effect, which primarily resulted in lower than normal concentrations of various pollutants.”*

The truth of the matter is that there remains a disconnect between the experts who have conducted evaluations and the activist groups and mass media, which have tended to ignore science or offer distortions in advancing political goals, agendas and outcomes.

### LESSONS LEARNED

Proactive steps taken by pig farmers help explain why these hurricanes had a limited impact. North Carolina farmers face the threat of hurricanes nearly every year and have learned to prepare well in advance of hurricane season. That experience has paid dividends many times over.

In the months leading up to Hurricane Florence, pig farmers were vigilantly preparing their farms, just as they do every year. The summer of 2018 was dry, and anaerobic lagoons were well managed heading into the heart of hurricane season. With ample storage capacity, nearly all of these lagoons were in position to withstand the record-breaking floods that would follow.

As the storm grew closer, farmers and the companies they grow for moved more than 20,000 pigs to higher ground for safety. Hurricane Floyd, nearly 20 years prior, had taught farmers a harsh lesson about the potential for animal mortality — and farmers responded by taking additional precautions on farms located in flood-prone areas.

The pork industry embarked on another major project immediately following Hurricane Floyd to minimize the damage from future floods. It worked closely with the state of North Carolina to establish the NC Swine Floodplain Buyout Program that would buy — and close — pig farms located in the 100-year floodplain.

That commitment to protect the environment is already yielding results. Inundation mapping performed by the NC Department of Agriculture and Consumer Services’ Emergency Programs Division indicates that 75% of those now-closed pig farms would have likely flooded during subsequent hurricanes.

## More Than 300 Lagoons Have Been Closed



These photos from the NC Foundation for Soil and Water Conservation show a lagoon (top) prior to permanent closure (bottom).



Since a voluntary program was established in 2000, the North Carolina Swine Floodplain Buyout Program has led to the permanent closure of 43 farms and 103 lagoons in four phases over the first 10-years of the program. A fifth phase, with about \$5 million in funding, was approved in 2018 and the NC Department of Agriculture and Consumer Services is expected to announce the conservation easements soon.

The NC Foundation for Soil and Water Conservation, which includes industry representation, has closed an additional 231 out-of-service lagoons through a separate grant program that removes them permanently.

Under the state's buyout program, participating producers must agree to a permanent conservation easement on the portion of land containing barns and lagoons that are vulnerable to flooding. The property owner has continued rights to the land, and can continue to use it for agricultural purposes, but not for most animal agriculture activities.

The N.C. Pork Council recognized the effectiveness of the buyout program following Hurricane Matthew and immediately began seeking funding to continue the program, which had not received any new funding since 2007.

These decisions are not taken lightly, but demonstrate a commitment to environmental protection. Because of strict regulations, there have been no hog farms built in North Carolina in more than two decades. Under state law, the permits cannot be transferred so any farms that close will mean less pork production benefiting the state's economy.

### Timeline of the lagoon buyout program

Phase 1 – 1999 \$5.7 million; 17 farms

Phase 2 – 2002 \$6.1 million; 18 farms

Phase 3 – 2004 \$3.8 million; 5 farms

Phase 4 – 2007 \$3 million; 3 farms

Phase 5 – 2018 \$5 million; TBA

Another significant factor: no new pig farms have been built in North Carolina, in flood plains or elsewhere, since 1997. The NC General Assembly enacted a moratorium on new or expanded pig farms in 1997 and made it permanent ten years later.

### FOCUS ON THE FACTS

In the aftermath of recent hurricanes, the fears of activist groups did not materialize. The evidence showed that, thanks to careful planning and

responsible preparation, North Carolina pig farms withstood the powerful storms remarkably well. Remember, during Florence, more than 98% of the state's 3,300 anaerobic lagoons performed exactly as intended with little to no damage.

Reports from state agencies ultimately confirmed that pig farms were not a source of serious lasting environmental concern, while there remains growing concern about municipal wastewater treatment plants due to their location

in and near population centers and along waterways.

The next time a powerful storm descends on North Carolina, it's sure to bring heavy rains and strong winds — along with more unsubstantiated accusations about the supposed environmental damage that pig farms may cause. To the extent those allegations will be reported by the news media, pig farmers urge caution and common sense — because alarmist allegations are not true. 