SRAP
Socially Responsible Agriculture Project

March 14, 2023

Senator Jeff Golden (Sen.JeffGolden@oregonlegislature.gov)
Oregon Senate Committee on Natural Resources
Representative Ken Helm (Rep.KenHelm@oregonlegislature.gov)
House Committee on Agriculture, Land Use, Natural Resources, and Water

Re: Support for SB 85 and SB 85-1 / HB 2667 - *Don't Believe the Dry Litter Lie*

Dear Senator Golden, Representative Helm, Members of the Senate Committee on Natural Resources, and the House Committee on Agriculture, Land Use, Natural Resources and Water:

On behalf of the 501(c)(3) nonprofit organization, the Socially Responsible Agriculture Project (SRAP) and frontline communities across the United States we have worked with for over two decades, I submit the following written testimony in support of SB 85 and SB 85-1 / HB 2667. These bills will require the Oregon Department of Agriculture (ODA) to study and report the impacts of confined animal feeding operations (CAFOs), and would hit pause on issuing or renewing Large Tier 2 (OAR 603-074-0010(9)(d)) CAFO NPDES and WPCF permits. I also attach statements from SRAP staff who have lived next to CAFOs and who have been poultry contract growers, and three ground-breaking reports on the impacts of poultry operations.

SRAP's mission is to collaborate with communities to protect public health, environmental quality, and local economies from the damaging impacts of industrial livestock production, and to advocate for a socially responsible food future. SRAP uses educational, advocacy, and organizing tools across its different program areas and works with hundreds of communities. SRAP has worked with communities in Oregon for several years, and has staff based in the Willamette Valley. Most recently, SRAP has supported Farmers Against Foster Farms' (FAFF) work to protect their communities from Foster Farms (owned by container ship and gas and power generation equipment corporation Atlas Holdings, LLC) and the proliferation of industrial dry litter broiler operations in Oregon. SRAP supports SB 85-1, and in particular wishes to provide you with context for the incorrect narrative that poultry "dry litter" operations do not cause or contribute to water or air pollution.

Introduction

The broiler poultry industry claims that "dry litter" broiler operations do not discharge to surface waters or to groundwater. This is such a pervasive part of industry's messaging that it implies dry litter broiler operations physically cannot discharge to surface or groundwater. Residents of the "American Broiler Belt" would strongly disagree. Research referenced herein confirms that major poultry-producing regions show strong evidence of water quality impacts from industrial broiler operations, including dry litter operations. In fact, the dry litter poultry pollution problem is so obvious and elemental that the Public Broadcasting Services has been able to boil it down to a grade school level exercise.[1] Even basic measures, such as requiring poultry warehouse ventilation fans to have robust filters, seems to be lacking. SRAP has compiled first-hand stories from communities we work with across the U.S. that have been irreparably harmed by dry litter broiler operations. Oregon currently has 11 Tier 1 poultry operations (8 NPDES permits and 3 WPCF permits), and 4 Tier 2 poultry operations (1 NPDES and 3 WPCF permits).[2] We strongly encourage you to not let this happen in Oregon, and to require a moratorium on new and expanding Tier 2 CAFOs while ODA conducts its study.

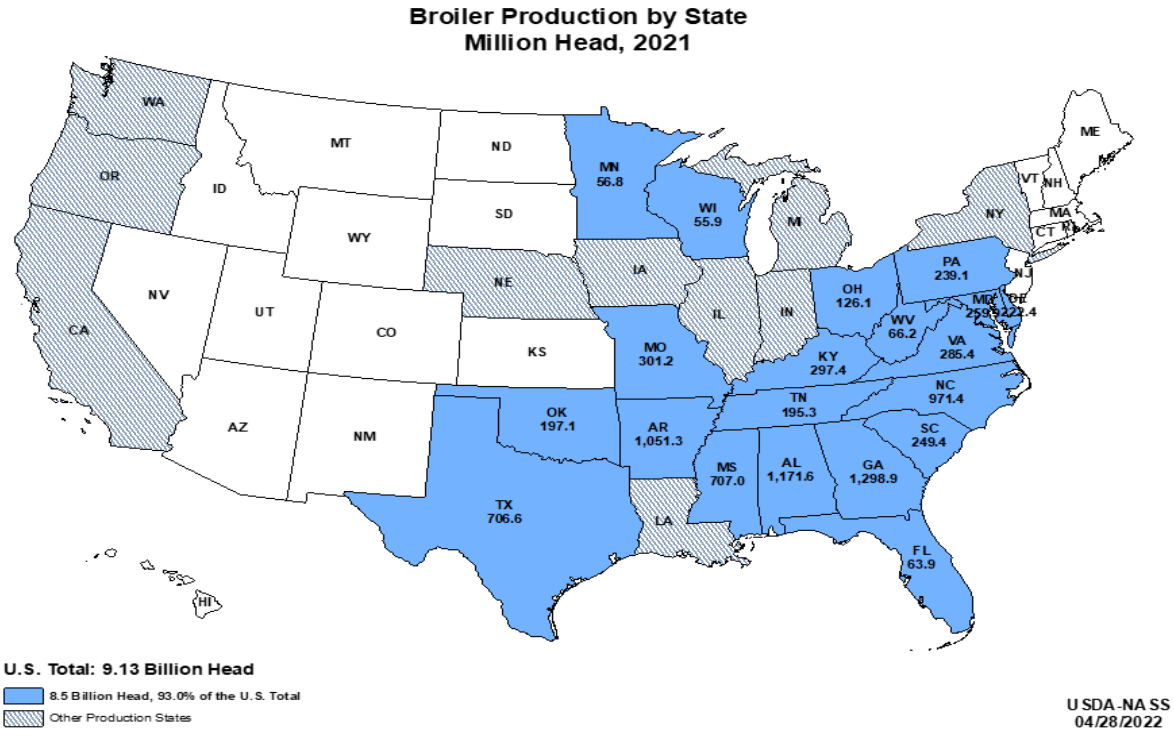

Fig. 1 The "Broiler Belt"
USDA, National Agricultural Statistics Service. Charts and Maps:
Broilers: Inventory by State, U.S. (2021) https://www.nass.usda.gov/Charts_and_Maps/Poultry/brlmap.php

[1] PBS, "Chicken Waste and Water Pollution. Grades 6-8, 9-12." Adapted from Frontline, "Poisoned Waters." https://opb.pbslearningmedia.org/resource/envh10.sci.life.eco.chickenwaste/chicken-waste-and-water-pollution/

[2] ODA, Water Quality Permitting for CAFOs in Oregon, Joint Hearing of Committee on Agriculture, Land Use, and Water at 20 (Feb. 20, 2023)
https://olis.oregonlegislature.gov/liz/2023R1/Downloads/CommitteeMeetingDocument/262810

I. Lack of a dry litter broiler regulatory and permitting framework in Oregon makes us a prime target for even bigger poultry industry impacts.

EPA regulations have addressed dry litter operations since at least 2003. In the intervening 20 years, nationally the U.S. has only continued to amass examples of worsening water pollution attributable to dry litter broiler operations. States with dry litter broiler operations have made "some" regulatory efforts, which only shift responsibility for waste[3] or create exemptions allowing waste to "disappear" untracked into watersheds and communities, but yet regulators continue to incorrectly presume that dry litter operations do not discharge. Most of the regulatory efforts states have made *have come years after dry litter broiler operations have irreparably impacted the natural environment, public health, and communities' welfare.* Industry knows from their decades of experience in the Broiler Belt that the lack of stringent protective regulations in Oregon is attractive. Our lack of a protective legal framework is *precisely* why in recent years we have become targeted by industrial animal agriculture interests.

The lack of an existing protective legal framework in Oregon is even more problematic because warehouse size has dramatically increased just in the last few years, indicating that the poultry industry fully intends to take even *greater* abusive advantage of our state's inexperience. The "old" generation of warehouses were approximately 200 feet long and held around 30,000 birds.[4] In the last few years, warehouse size increased to 600 feet long and around 45,000 birds.[5] The proposals for Oregon dry litter operations are as big or even bigger - 652 feet long and approximately 35,000 to 48,000 birds. And, Oregon proposals expect the "average" finished weight per chicken to be 6.5 pounds, which is an increase over the size of "old" bird average weights of 5.3 to 5.76 pounds,[6] and which also means more manure would be produced per bird.

Very generally speaking, there are three key ways dry litter broiler operations pollute the environment: (1) poultry urine and feces inside warehouses release ammonia so when ventilation fans push ammonia outside into the community, the gas converts to nitrogen that falls on land, streams, and rivers; (2) field applications with ammonia volatilize, rising and falling back down into land, water, and communities; and (3) runoff from fields overladen with waste feeds algae that reduces oxygen in waters. Each of these pathways are trajectories for environmental pollution and negative human health effects. Of course, with larger facilities, larger birds, and more manure also comes more water usage, more stormwater, and more trucks hauling birds and feed and manure than a typical older model "Broiler Belt" bird operation might experience. If the poultry industry gains even a toehold in Oregon before our state enacts commensurately protective terms and conditions for their operation, monitoring and reporting, and has proper enforcement mechanisms in place, we will undoubtedly be wishing we had done everything possible to avoid degradation of our rural communities and natural environments.

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[3] See **Attachment A**, Pew Charitable Trust, "Big Chicken: Pollution and Industrial Pollution in America." (July 26, 2011) at 18-19, https://www.pewtrusts.org/-/media/legacy/uploadedfiles/peg/publications/report/pegbigchickenjuly2011pdf.pdf ("Big Chicken").

[4] See, e.g, **Attachment B**, Environmental Integrity Project (EIP), "Poultry Industry Pollution in the Chesapeake Region: Ammonia Air Emissions and Nitrogen Load Higher than EPA Estimates." (April 20, 2022) at 26 https://environmentalintegrity.org/wp-content/uploads/2020/04/EIP-Poultry-Report.pdf ("EIP Estimates Higher Emissions than EPA").

[5] See, e.g., **Attachment B,** EIP Estimates Higher Emissions than EPA at 20.

[6] See, e.g., **Attachment B,** EIP Estimates Higher Emissions than EPA at 13 (Table 5).

II. Other states have not been able to stop, mitigate, or remediate dry litter broiler pollution for decades; if Oregon is even going to consider permitting these facilities in the future, it must first investigate what strategies do not work and why, and find methods to stop water and air pollution from entering the environment before allowing any facilities.

First, it goes without saying, if dry litter broiler operations in fact did *not* cause or contribute to water or air pollution, or negatively impact public health, then why have Broiler Belt states needed to regulate these facilities? Or even with those regulations, why does water and air pollution from dry litter broiler operations remain such a pervasive, nagging, and growing problem in those states? We have included below six examples from different states to help Oregon begin to investigate this problem before conducting any further permit reviews in Oregon. And, if dry litter broiler operations do not impact public health, why have so many studies undertaken near dry litter broiler facilities or waste application fields confirm exceedingly high rates of flies, odors, bird feathers, and human infections, respiratory diseases, and allergies? For example, a 2016 letter authored by the Johns Hopkins Center for a Livable Future Bloomberg School of Public Health presented *known* human health concerns to a Maryland county that had 11 million broilers (approximately the same number of broilers as proposed by the J-S Ranch, Evergreen Ranch, and Hiday Ranch in the Santiam Basin). Relying on USDA and peer-reviewed published studies, Johns Hopkins identified, for example: [7]

- Infections resulting from the potential transmission of harmful microorganisms from broiler operations to nearby residents, for example, via flies or contaminated air and water;
- Health effects, including asthma, bronchitis, allergic reactions, associated with exposures to air pollution from broiler operations;
- Health effects (e.g. thyroid problems, methemoglobinemia, neurological impairments, liver damage) associated with exposures to nitrates, drug residues, and other hazards that may be present in ground and/or surface waters contaminated by manure from broiler operations.
- Found people living near broiler operations may be exposed to harmful microorganisms, which have been found to be spread in the air up to 3,000 meters from broiler operations.
- Identified that the shape and spread of airflow varies with changes in wind patterns, making it difficult to predict which residents might be *most* affected; nevertheless, infectious agents were found on deposits of particulate matter several miles away.[8]
- A 2010 USDA study measured VOCs inside broiler operations, and noted that while few studies have characterized nearby residents' exposures to VOCs from broiler operations, research confirmed that *even employing best management practices and mitigation techniques, broiler operations still generate airborne contaminants*.[9]

[7] See **Attachment C**, Letter from the Center for a Livable Future, Johns Hopkins University to Wicomico County, MD (Jan. 22, 2016) at 3, https://clf.jhsph.edu/sites/default/files/2019-04/wicomico-co-broiler-production-letter.pdf ("Johns Hopkins 2016 Letter").

[8] **Attachment C,** Johns Hopkins 2016 Letter at 3.

[9] **Attachment C,** Johns Hopkins 2016 Letter at 4.

III. Six examples of other states that have failed to stop, mitigate, or remediate dry litter broiler pollution and impacts, and which Oregon must investigate, analyze, and address prior to reviewing, issuing, or renewing any dry litter operations.

Example # 1: The Chesapeake Bay and the Delmarva Peninsula (Delaware, Maryland, Virginia, Pennsylvania)

In the 1990s, scientists recognized that dramatic reductions of the discharges of nutrients and sediment from poultry operations would be required to stem the loss of Chesapeake Bay resources and to reverse increasingly large seasonal dead zones, and that the dissolved oxygen levels needed to be higher to sustain spawning, nursery water resources for fish and shellfish.[10] Despite at least two decades of "prolonged and wide-ranging cleanup efforts", including those specifically targeted at farm-generated pollution from broiler operations, nutrient reduction goals still were not reached and nutrient overload on the bay was still evident.[11] Most of this pollution is from nonpoint source runoff due to improper manure management.[12] Research in the Delmarva also explicitly noted that poultry operations have leached manure into groundwater that feeds into the rivers, and the bay, and that such buildup in groundwater could continue to deliver pollutants to rivers and streams for years to come *as had already occurred in other areas* such as the Suwanee River Basin, Florida.[13] From a regulatory standpoint, certain state tactics included:

- In 1999, Virginia required 20,000+ broiler operations to obtain a state permit and implement a nutrient management plan for manure applications based on crop phosphorus needs (in lieu of more permissive nitrogen application rates), and subsidized export broiler litter "away" outside of the Delmarva watershed.
- Maryland subsidized export of broiler litter and assistance for broiler operations in a cost-share program with integrators.
- Delaware subsidized the export of broiler litter in a cost-share program with integrators.
- Broiler growers may also make incremental efforts through subsidized programs, such as manure shed construction, cover crops, highly erodible land buffers, and vegetative buffers.[14]

These efforts, though, have done little. In 2011, USDA concluded that essentially every acre of farmland in the watershed fertilized with animal manure requires better management.[15]

In 2020, the Environmental Integrity Project published a report and policy recommendations, "Poultry Industry Pollution in the Chesapeake Region: Ammonia Air

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[10] See **Attachment A,** Big Chicken at 15-16.

[11] **Attachment A,** Big Chicken at 15-16.

[12] **Attachment A,** Big Chicken at 17 (citing USDA Report USDA Natural Resources Conservation Service. 2011. Assessment of the Effects of Conservation Practices on Cultivated Cropland in the Chesapeake Bay Region. www.nrcs.usda.gov/technical/nri/ceap/chesapeake_bay/index.html).

[13] **Attachment A,** Big Chicken at 17.

[14] **Attachment A,** Big Chicken at 18-19.

[15] See **Attachment A,** Big Chicken at 21 (citing USDA Natural Resources Conservation Service, "Assessment of the Effects of Conservation Practices on Cultivated Cropland in the Chesapeake Bay Region." (2011) www.nrcs.usda.gov/technical/nri/ceap/chesapeake_bay/CB_summary.pdf)

Emissions and Nitrogen Higher than EPA Estimates." The EIP study concluded that *despite* state strategies attempting to reduce nitrogen and phosphorus pollution (such as manure management plans, phosphorus limited areas, tree and vegetative strips),[16] *pollution continues*. EIP found that EPA's 2011 estimated air emissions (which were developed based on European broiler operation data from the 1980s and 1990s) were lower than recent scientific studies' findings of actual broiler pollution.[17] Using 2018 data, EIP then *conservatively* estimated ammonia emissions from poultry operations entering the Chesapeake Bay as nitrogen pollution from air emissions to be 11,633,024 pounds and 12,399,273 pounds from nitrogen runoff.[18] These numbers – totaling approximately 24 million pounds and *excluding* other agricultural nitrogen pollution - are more nitrogen than from all of the urban and stormwater runoff in Virginia and Maryland combined; and these numbers are *seventeen times* the nitrogen pollution than all overflows from combined sewage and stormwater systems in the Chesapeake Bay Watershed which includes the cities of Washington, D.C. and Harrisburg, Pennsylvania.[19] EIP's conclusions corroborated a North Carolina State University study, which estimated that Maryland's Eastern Shore ammonia deposition may actually be 2-3 times higher than previously assumed.[20] EIP further suggests that because broiler weights are increasing, heavier birds produce more manure, more ammonia to blow out into communities, more waste to manage, and thus more ammonia and nitrogen that will be deposited onto fields and enter waterways.[21] To some extent, EPA has acknowledged its current air emission estimates for broilers are too low.[22]

In the Chesapeake Region, neither local, state, or EPA requires poultry operations to install monitoring or air pollution control devices.[23] One township did require future operations to install air pollution control filters and ultraviolet lights on exhaust fans to catch particulate matter and kill pathogens, and a density limitation requirement.[24] State efforts to control and monitor poultry pollution have been opposed by industry. Yet industry studies have uninformative limited sample size (e.g., using only four operations) and measurements taken from too far away to be meaningful indicators of true pollution and public health impacts.[25] In 2020, Maryland debated but did not pass a moratorium on 300,000+ poultry operations.

The personal stories of Delmarva residents negatively affected by the poultry industry abound. For one resident, his estimated property value dropped 70%, air pollution averages

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[16] **Attachment B,** EIP Estimates Higher Emissions than EPA at 1.

[17] See **Attachment B,** EIP Estimates Higher Emissions than EPA at 2-3, 13-14.

[18] **Attachment B,** EIP Estimates Higher Emissions than EPA at 2 and Table 1. EIP further broke down nitrogen pollution by poultry type. Broilers contributed to 67% of the pollution. See EIP Estimates Higher Emissions than EPA at 9 (Table 3).

[19] **Attachment B,** EIP Estimates Higher Emissions than EPA at 2-4.

[20] **Attachment B,** EIP Estimates Higher Emissions than EPA at 4.

[21] **Attachment B,** EIP Estimates Higher Emissions than EPA at 11-13.

[22] **Attachment B,** EIP Estimates Higher Emissions than EPA at 15.

[23] **Attachment B,** EIP Estimates Higher Emissions than EPA at 16.

[24] **Attachment B,** EIP Estimates Higher Emissions than EPA at 16-17, 22-24.

[25] See, e.g., **Attachment B,** EIP Estimates Higher Emissions than EPA at 17-18; see also Cox, J. "Delmarva chicken ammonia debate remains up in the air." Bay Journal (Jan. 13, 2023), https://www.bayjournal.com/news/pollution/delmarva-chicken-ammonia-debate-remains-up-in-the-air/article_57f3c266-9291-11ed-85de-2f5289c78d31.html

twenty times higher than background levels.[26] Another resident hand built his dream home, and a 1.3 million industrial chicken operation began dumping waste behind his home, creating a nightmarish fly problem.[27] A third resident describes "blizzards" of white feathers roaring into her yard 24 hours a day accompanied by a foul wind of dust and bacteria from the 24 chicken houses next door, prohibiting her from playing in the yard or ride her horses because of the nauseating gas odors coming from buildings' exhaust fans.[28]

EIP's report made six policy recommendations for the Chesapeake Bay Watershed states to take simply to start to address the poultry industry's pollution and public health threats:

1) EPA should update the ammonia emission estimates it uses to simulate nitrogen loads to the Bay to reflect the most recent available science.

2) All large new animal feeding operations should be required to install air pollution monitors and report their emissions on an annual basis to state environmental agencies and the EPA.

3) EPA should establish safety thresholds for ammonia that apply to the fenceline areas between poultry operations and neighboring residents, to help protect local communities from excessive levels of ammonia.

4) States and the EPA should require poultry houses to install effective air pollution control systems, including filters to capture particulate matter being blown by poultry house exhaust fans out into the community.

5) Poultry companies should pay for the planting of more trees and forested areas around chicken houses, to protect neighbors and to help catch and reduce ammonia emissions.

6) Because the Chesapeake Bay region states are already struggling with overproduction of manure, lawmakers should impose limits on the approval of new permits for large animal feeding operations, especially in areas that produce more manure than crops can use.

In addition to other states, Oregon should identify provisions used, abandoned, and proposed for the Delmarva and Chesapeake Bay region, and analyze them for their effectiveness – or lack thereof - in stopping, mitigating, and remediating dry litter broiler pollution and impacts.

Example # 2: Georgia

In 1999, a study by the U.S. Geological Survey (USGS) found high levels of phosphorus in Georgia's West Fork Little River, in areas with intensive poultry production.[29] In 2002, University of Georgia researchers found that 13 counties in the state had excess phosphorus in

[26] **Attachment B,** EIP Estimates Higher Emissions than EPA at 20.

[27] **Attachment B,** EIP Estimates Higher Emissions than EPA at 22-23.

[28] **Attachment B,** EIP Estimates Higher Emissions than EPA at 25-28.

[29] See **Attachment A,** Big Chicken at 13-14.

the soil; of those, 10 were areas where poultry was concentrated.[30] Interestingly, less than a decade earlier, only four counties had been identified as having excess phosphorus. In response to dry litter broiler operation pollution, some counties in Georgia placed temporary moratoriums on poultry farms after residents complained; only once more stringent conditional use permitting processes and reviews were in place were these moratoriums lifted.[31] While these provisions may be well outdated at this point, and not suitable for the size of dry litter operations proposed in Oregon, in addition to other states, Oregon should identify these provisions and analyze them for their effectiveness – or lack thereof - in stopping, mitigating, and remediating dry litter broiler pollution and impacts.

Example # 3: Nebraska

In North Bend, Dodge County, Nebraska - Costco's expansion

In 2016, Costco applied for and broke ground on a chicken processing plant in Freemont, Dodge County, Nebraska (pop. 27,000) which was expected to spur a growth of producers in a 65 mile driving radius of the processing facility.[32] Costco invested $450 million in the plant with a goal of producing over 100 million broilers a year through 432 broiler warehouses.[33] Johns Hopkins concluded Costco would produce the same waste quantity as Omaha (pop. 437,000).[34]

Only three years into the massive production operation and only at about half of the authorized capacity, citizen complaints and criticisms were in full swing, and government oversight and guidance was lacking. The Nebraska Farmers Union and GC Resolve commissioned a study which identified spikes in phosphorus and poultry-related bacteria in Nebraska streams. The streams analyzed in the study are near fields fertilized by litter laced with chicken manure from the Costco-Lincoln Premium Poultry operation.[35] Notably, almost 80% of the study samples violated EPA acceptance limits for orthophosphate, total phosphorus, and nitrogen and the study concluded is "evident" that the increased levels of nutrients and pathogens may be attributable to Costco's expansion. The Nebraska Farmers Union study identified further study recommendations and policy recommendations, notably:[36]

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[30] See **Attachment A,** Big Chicken at 13-14.

[31] See **Attachment D**, twenty-two part investigative journalism series prepared by The Charlotte Observer and the Raleigh News & Observer (Dec. 2022 - Jan. 2023) available at https://www.charlotteobserver.com/topics/big-poultry including Off, G. et al., "With little oversight, NC poultry farms raise 1 billion birds a year. Who pays the cost?" The Charlotte Observer (Dec. 1, 2022). *Due to the graphics, incompatibility of accurate "print to PDF" functions, and the fact that there are 22 separate articles, SRAP encourages you to review the articles online at* https://www.charlotteobserver.com/topics/big-poultry.

[32] See, e.g., K. Moore, "Building for better broilers." AgUpdate (Jul. 5, 2018) (https://www.agupdate.com/midwestmessenger/news/livestock/building-for-better-broilers/article_488ddb7e-7f02-11e8-b1c4-67bb555f1ad3.html).

[33] See, e.g., Lincoln Premium Poultry website at http://www.lincolnpremiumpoultry.com/uncategorized/eastern-nebraska-gears-up-for-poultry-production/ .

[34] Johns Hopkins Center for a Livable Future, Letter to Fremont, Nebraska (Sept. 19, 2016) at https://d3n8a8pro7vhmx.cloudfront.net/gcresolve/pages/51/attachments/original/1488005599/John_Hopkins_-_Fremont_NE_Poultry_Processing_and_Production_Letter_final.pdf?1488005599

[35] See Sutton, M. "Poultry Litter and Stream Health." (Dec. 2022) https://acrobat.adobe.com/id/urn:aaid:sc:VA6C2:bf5a83a1-7bc3-4a9d-87f3-0f22fa85077d ("NFU Study")

[36] NFU Study at 14-19.

Study Recommendations

- Establish molecular DNA testing of bacteria to identify contamination source.
- Maintain litter storage and application location and rate data.
- Identify other areas and sources of potential impact.
- Develop grower partnerships and designate test farms.
- Engage citizen scientists and increase public transparency of water quality issues.

Policy Recommendations

- Develop a working erosion and runoff model and update livestock operation matrix.
- Require nutrient management plans to include mitigation of litter impacts to soil health.
- Buffer running waterways to reduce soil loss and contaminant runoff due to erosion.

While these recommendations may only partially suitable for a state like Oregon, and not suitable the size of dry litter operations currently proposed in Oregon, in addition to other states, Oregon should analyze these recommendations for their effectiveness in stopping, mitigating, and remediating dry litter broiler pollution and impacts in other states before proceeding with any further review or renewal of dry litter broiler operation permits.

Citizen photographs in Dodge County, Nebraska (taken January – February 2023)

Top: Land application of dry litter broiler operation waste on fields.
Bottom: Stockpiling of dry litter broiler waste on a field, next to surface water.
Many waterways in this area lead into the Platte River.

Dry litter broiler waste stockpiled on a field (Feb. 13, 2023).

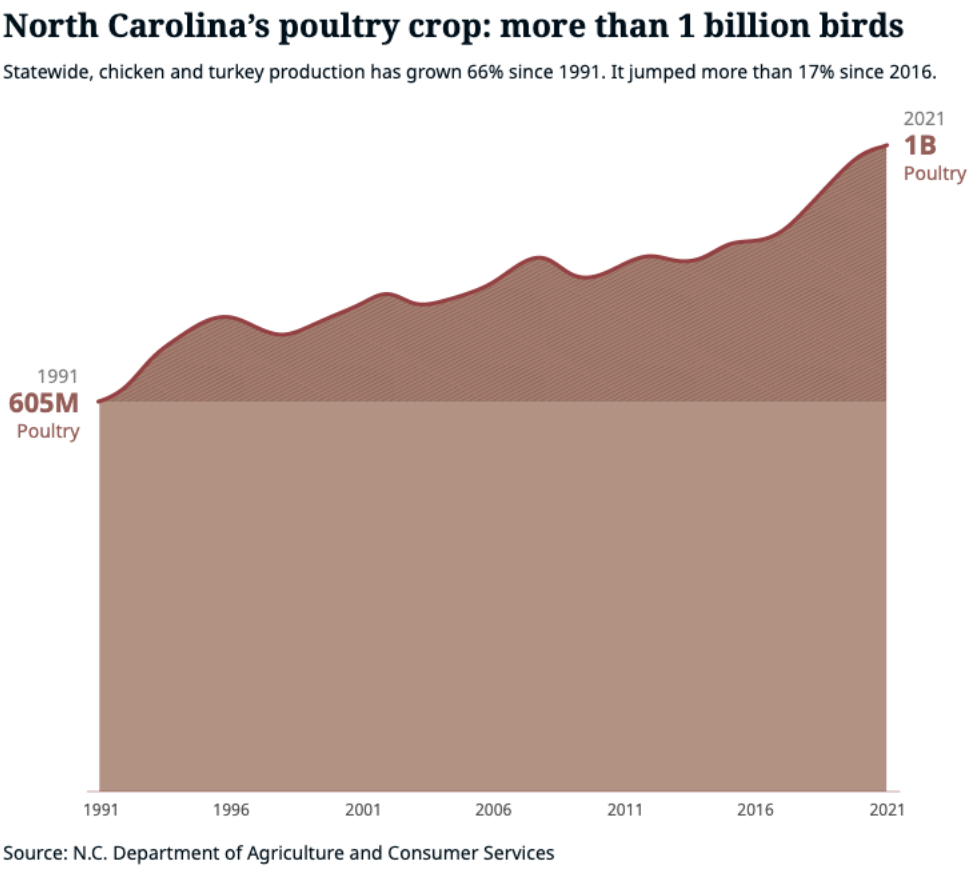
Example # 4: North Carolina

Last year, two major North Carolina newspapers released their twenty two part investigative journalism series on the 1 billion bird broiler industry in North Carolina, identifying the industry's locations and impacts.[37] North Carolina has roughly 4,700 dry litter poultry facilities (approximately 27,000 individual warehouses) for 99% of the state's birds.[38] *Nearly half of these warehouses have been built just since 2015, as state and local officials allowed the industry to grow with no local control and minimal state regulation*.[39]

[37] See **Attachment D,** and n. 31 supra referring to North Carolina's twenty two part investigative journalism series conducted by The Charlotte Observer and The Raleigh News & Observer.

[38] **Attachment D**, Off, G. "North Carolina keeps poultry farm locations a secret. We mapped them anyway." The News & Observer. (Dec. 5, 2022).

[39] **Attachment D,** Off, G. et al., links to "With little oversight, NC poultry farms raise 1 billion birds a year. Who pays the cost?" The Charlotte Observer (Dec. 1, 2022).



Some of the highlights of the Charlotte Observer and Raleigh News & Observer investigation, which Oregon's lawmakers should be aware of include the following:

- Local laws do not require notification to neighbors, to challenge siting, permit approvals, to comment, or to impose local restrictions. *This secrecy prevents regulators, researchers, and the public from assessing the industry's collective impact on people and the environment.*[40]
- The reporters identified as least 232 poultry warehouses – housing 5.8 million birds at a time – sited in floodplains.[41]
- Impacts from poultry warehouses extend beyond property lines (odors from manure and dead birds travel ½ mile, risk of illness for people increases within ¾ mile, home values reduced within 1 mile).[42]
- Roughly 250,000 North Carolinians now live within half a mile of a poultry farm.
- Poultry warehouses are located in nearly every river basin in the state, in remote spots but also bordering on state parks, outside cities, and within half mile of elementary schools.[43]
- North Carolina's 1 billion birds create more waste than 7.5 million people (nearly 72% of the state's population).

[40] **Attachment D,** "Who pays the cost?"

[41] **Attachment D,** "Who pays the cost?"

[42] **Attachment D,** "Who pays the cost?"

[43] **Attachment D,** "Who pays the cost?"

- North Carolina lax rules and regulations make it "impossible" to track where the waste ends up.[44]
- Visual aesthetics are of concern as the metal roofs can be seen for miles away and are easily seen from 2,000 feet in the air.

The North Carolina journalists gathered stories from neighbors complaining about the stink, turkey vultures, threats to property values, traffic from manure haulers, tractor trailers stuffed with birds whose feathers are dispersed across the roads and highways they travel. For example, Tarry Thomas, of Chinquapin, Duplin County, lives near a poultry operation. She described it as "you can tell when they clean… its trashy … and looks like snow on the ground, we hear gear changes… we get the noise and smell.. and everything."[45]

None of these conclusions should have been a surprise to North Carolina. In 2016, N.C. State University and UNC-Chapel Hill researchers identified poultry waste as one source of unwanted organic nitrogen throughout the Neuse River Basin.[46] One of the conclusions of this study was that poultry waste, on average, added more organic nitrogen to the water than hog waste.[47] These conclusions were consistent with North Carolina regulators' conclusions in 2014.[48] In addition to other states, Oregon should identify and analyze North Carolina's dry litter provisions for their effectiveness – or ineffectiveness - in stopping, mitigating, and remediating dry litter broiler pollution and impacts.

[44] **Attachment D,** "Who pays the cost?"

[45] **Attachment D,** "Who pays the cost?" video embedded in article.

[46] **Attachment D,** "Who pays the cost?" (citing Osburn, C.L. et al. "Predicting Sources of Dissolved Organic Nitrogen to an Estuary from an Agro-Urban Coastal Watershed." Environmental Science and Technology 50, 16 8473-8484 (July 12, 2016)).

[47] **Attachment D,** "Who pays the cost?"

[48] **Attachment D,** "Who pays the cost?"

Big Poultry, Part 2. *"*Anson County, southeast of Charlotte, produces some 59 million chickens and turkeys a year. They're raised in barns that stretch as long as 600 feet. Here are some of those barns, as seen from the air."
Melissa Melvin-Rodriguez mrodriguez@charlotteobserver.com

Example # 5: Oklahoma / Arkansas Border

In the Eucha and Spavinaw watersheds within the poultry-rich region of Eastern Oklahoma and the northwestern Arkansas border, nearly 44 million chickens were produced in roughly 2,450 chicken houses in 2010.[49] Here as elsewhere, the waste disposal practice has been for broiler litter to be spread on cropland, and over time, this led to major problems with algal blooms, which in turn degraded drinking water supplies.[50] *When voluntary measures to curb out-of-control nutrient pollution failed,* Tulsa and its Metropolitan Utility Authority, which supplies drinking water to Tulsa and more than a dozen other cities, went to court for relief.[51] With strong evidence of water problems linked to overapplication of poultry manure on area cropland, the city and the utility were able to reach a settlement that altered common practices.[52] *Despite additional nutrient management planning requirements, including lower limits on the phosphorus land application quantities, a court-supervised soil testing and monitoring program,*

[49] **Attachment A,** Big Chicken at 14.

[50] **Attachment A,** Big, Chicken at 14.

[51] **Attachment A,** Big Chicken at 14.

[52] See **Attachment A,** Big Chicken at 14; see also "Study finds chicken waste will continue to pollute Tulsa taps." The Oklahoman. (May 25, 2001).

and manure shipment tracking, there was too much excess nutrient already built up in the environment, and water quality did not improve to the extent anticipated.[53] In 2005, the Oklahoma Attorney General sued 14 Arkansas poultry companies seeking compensation for damage to the Illinois River.[54] After 18 years of litigation, just this January 2023, Judge Frizzell gave the state of Oklahoma a "home run" ruling, agreeing that pollution from phosphorus in chicken waste had caused low dissolved oxygen, abundant filamentous green algae, blue green algae, and reduced transparency in the Illinois River, constituting public trespass and nuisance, under state and federal law.[55] In the intervening years, the poultry industry made some changes to their practices, and the parties to the suit will propose remedies to the Court on March 17, 2023. In addition to other states, Oregon should identify and analyze provisions abandoned in this matter, as well as those employed in the intervening years, and those proposed as part of the remedies phase of this case, for their effectiveness in stopping, mitigating, and remediating dry litter broiler pollution and impacts.

Example # 6: Pennsylvania

A study conducted by Johns Hopkins and Geisinger Health System found that people living within an average of 2.5 miles of poultry farming across a 38 county area had a 66% higher chance of being diagnosed with pneumonia than those who lived an average of 37.9 miles away from a poultry farm.[56] The same team of researchers found people living near dense clusters of poultry farms were more likely to suffer infectious diarrhea and campylobacter infection than those living farmers away.[57] In 2019, the American Public Health Association cited these studies when it called upon the federal government to better track air pollution from animal farming operations and for more oversight of dry manure, including poultry litter.[58]

SRAP includes two letters for your consideration, from Maria Payan and her son Michael Payan, describing their experiences living next to four poultry warehouses with 25,000 chickens each. The broiler warehouse fans covered their vehicle with particulate matter and dust, they saw vultures circling daily, the smell of rotting poultry permeated everything, Maria's son would vomit from the stench upon arriving home from school, and experienced palm-sized blisters from the bathwater.[59] Mr. Payan recalls the change in a child's life before and after the poultry operation came in; he played in streams and the woods until the broiler operation came in, and no longer would experience the childhood joys of exploring a vibrant ecosystem such as seeing butterflies, frogs, and birds.[60] Ms. Payan and Mr. Payan are staff at SRAP.

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[53] See **Attachment A,** Big Chicken at 14.

[54] Barnes, S. June 14, 2005. "Oklahoma: Lawsuit on Pollution From Poultry." New York Times.

[55] See, e.g., "Killman, C. "After 18 years, 'a home run' for Oklahoma as judge rules in poultry-pollution lawsuit." Tulsa World (Jan. 18, 2023, updated Mar. 3, 2023) https://tulsaworld.com/news/state-and-regional/crime-and-courts/after-18-years-a-home-run-for-oklahoma-as-judge-rules-in-poultry-pollution-lawsuit/article_3fa41802-9771-11ed-a005-a706e564ba4f.html#:~:text=Former%20Oklahoma%20Attorney%20General%20Drew,caused%20pollution%20in%20the%20watershed.

[56] **Attachment D,** "Who pays the cost?"

[57] **Attachment D,** "Who pays the cost?"

[58] **Attachment D,** "Who pays the cost?"

[59] **Attachment E**, Statement from Maria Payan.

[60] **Attachment F**, Statement from Michael Payan.

In addition to other states, Oregon should identify and analyze Pennsylvania's provisions for their effectiveness in stopping, mitigating, and remediating dry litter broiler pollution and impacts.

IV. Former Contract Growers Support SB 85-1 / HB 2667

Even former poultry contract growers support a "pause" on permitting in Oregon until a study can be done. Susie "Karen" Crutchfield and her husband were Tyson poultry contract growers in Arkansas for nearly 20 years, but every time they thought they were nearly free of debt obligations to public lenders, Tyson would create a new requirement for them.[61] The last straw came when, only 3 years away from being able to exit their debt and at the age of 60, Tyson tried to force the Crutchfields to take on another $250,000 to $300,000 loan over 15 years. Unwilling to continue in this cycle, the Crutchfields refused and Tyson canceled their contract, forcing the Crutchfields into bankruptcy. The Crutchfields' story is but one of many,[62] and one that demonstrates how industrial poultry does not support an equitable food system.

Similarly, Michael Diaz was a poultry contract grower in South Carolina with four warehouses for 100,000 square feet of space. Mr. Diaz wanted to feel great pride in his role as a farmer, making sacrifices for the greater good of our society, but found that corporatization of broiler farming took away the honor of farming.[63] He was ashamed at what contract growing required of him, and the conditions corporate control mandated for the birds he raised.[64] Mr. Diaz's barn only required one person to operate it, so it did not create jobs, nor did he make enough money to hire staff.[65] Mr. Diaz also learned the hard way that building poultry contract warehouses does not increase one's property value, and in fact only devalues a farmer's land.[66]

Ms. Crutchfield and Mr. Diaz are staff at SRAP.

Conclusion

Thank you for your consideration of this information. For the reasons above, and as the above examples clearly indicate, we urge that Oregon pass SB 85-1 and that you not believe the dry litter lie. As ODA and the Legislature undertake this important study of failed regulatory and policy approaches, SRAP can be available to serve as a resource for you.

s/ Elisabeth Holmes
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[61] See, e.g., **Attachment G,** Edwards, S. "Rude Awakening in America's Farmland." Huffington Post (Jan. 13, 2013); (Fassler, J. "A new class-action lawsuit claims poultry processors conspire to keep farmers trapped and dependent." The Counter (Feb. 1, 2017); Kaiser-Schatzlein, R. "Monopolies make their own rules." New Republic (Jul. 7, 2020).

[62] See, e.g., the movie "Under Contract: Farmers and the Fine Print" (2017).

[63] **Attachment H**, Statement from Michael Diaz.

[64] **Attachment H,** Statement from Michael Diaz.

[65] **Attachment H,** Statement from Michael Diaz.

[66] **Attachment H,** Statement from Michael Diaz.

Index of Attachments

Attachment	Description
A	Pew Charitable Trust, "Big Chicken: Pollution and Industrial Poultry Production in America." (July 2011)
B	Environmental Integrity Project, "Poultry Industry Pollution in the Chesapeake Region: Ammonia Air Emissions and Nitrogen Load Higher than EPA Estimates" (April 22, 2020)
C	Johns Hopkins Center for a Livable Future Letter to Wicomico Co. Pennsylvania (Jan. 22, 2016)
D and D1	Index of twenty two part series of investigative journalism articles from The Charlotte Observer and Raleigh News and Observer (Dec. 2022 - Jan. 2023) and see the online storyboard "Big Poultry: How a Secretive Industry Rules the Roost in North Carolina." Links to all twenty two articles at https://www.charlotteobserver.com/topics/big-poultry and to the storyboard at https://www.charlotteobserver.com/news/state/north-carolina/article267887592.html
E	Statement from Maria Payan
F	Statement from Michael Payan
G	Articles regarding Susie Crutchfield (2013-2020)
H	Statement from Michael Diaz