

SUSTAINABLE DEVELOPMENT LAW & POLICY



EXPLORING HOW TODAY'S DEVELOPMENT AFFECTS FUTURE GENERATIONS AROUND THE GLOBE

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EDITORS' NOTE

Since the early days of civilization, animals have played an enormous role in human activities. While they have a very definitive utilitarian purpose, they have also forged important strong emotional bonds with people from *every* walk of life, and it is no surprise that they have won the affection and interest of countless humans. Yet, as in so many of our dealings with animals, our relationships with them are full of contradictions. We spend billions of dollars on *some* animals—showering them with affection and using them for non-harmful pleasures—yet we use *other* animals to generate billions of dollars in commerce and often exploit them in the process.

This publication has never released an issue that focuses solely on animal welfare. Rather, it has focused on topics ranging from energy law and policy to land and water use as well as other important topic areas that come to mind when you think of “sustainable development.” However, development will not be sustainable if animal welfare and human-animal relationships are not included in development programs, policies, and laws. In this issue, the *Sustainable Development Law & Policy Brief* seeks to highlight the commonality between animal welfare issues and human justice issues. Our first article, *CAFOs: Plaguing North Carolina Communities of Color* by Christine Ball Blakely, discusses the deleterious effects that Concentrated Animal Feeding Operations (CAFOs) have on both humans and non-humans. Author LaTravia Smith in her article, *The “Fowl” Practice of Humane Labeling: Proposed Amendments to Federal Standards Governing Chicken Welfare and Poultry Labeling Practices*, discusses the unique opportunities to improve poultry welfare in the United States’ agricultural industry and offers methods to ensure the accurate labeling of poultry products. The final article in this issue, *Cruelty to Human and Nonhuman Animals in the Wild-Caught Fishing Industry* by Kathy Hessler, Becky Jenkins, and Kelly Levenda, delves into the grave impacts that the fishing industry has on humans, including health and safety issues, labor law violations, and even human rights abuses, such as human trafficking, child labor, and slavery.

This issue also includes six featured articles exploring other important human and animal welfare topics. Carolyn Larcom discusses how anthropogenic noise interferes with echolocation, a process by which marine mammals use to communicate. Our second featured article by Stephanie Kurose discusses the recent and increasing legislative efforts by some members of Congress to weaken the Endangered Species Act. Alexandra C. Nolan examines “cow-tapping,” a technology developed in Argentina for cleaner methane extraction, which entails inserting a tube into a cow’s stomach to extract methane to use an alternative fuel source. Savannah Pugh explores

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how pesticides, mites, and global warming have contributed to a 90% decline in bee populations in the last twenty years. Israel Cook explores how the growth of the meat industry has placed pressure on slaughterhouses to increase the pace of their product lines in order to satisfy humanity’s demand for meat. Due to the faster pace of production, workers are suffering high rates of injury, and animals are being mistreated while still alive. Amanda Arrington, Director of the Pets for Life Program at The Humane Society of the United States (HSUS), and Michael Markarian Chief Operating Officer for The HSUS—discuss how limited affordable veterinary and pet wellness services disadvantage millions of people and their pets across the United States. The Pets for Life Program promotes the understanding within the larger animal protection movement that a lack of financial means does not equate to a lack of love for a pet. The program delivers direct care to thousands of pets in underserved communities each year.

On behalf of the *Sustainable Development Law and Policy* staff, we would like to thank all of the authors who contributed their time, efforts, and scholarship to this issue. Their scholarship is an inspiration to us all as we search to understand how to

ABOUT SDLP

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Because our publication focuses on reconciling the tensions found within our ecosystem, it spans a broad range of environmental issues such as sustainable development; trade; renewable energy; human rights; air, water, and noise regulation; climate change; land use, conservation, and property rights; resource use and regulation; and animal protection.

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incorporate animal welfare and human-animal relationships into development programs, policies, and laws. Their pieces highlight how animal welfare is inextricably intertwined with human welfare—they are not mutually exclusive. Their pieces also demonstrate how affinity groups and animal welfare groups share many of the same challenges, goals, and enemies—creating potential opportunities for movements to collaborate against exploitation, poverty, and cruelty. We would also like to thank our staff for all of

their hard work and dedication to *SDLP*. Lastly, we would like to thank our readers for your continuing interest and support of *SDLP*.

Sincerely,

Luke Trompeter
Co-Editor in Chief

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CAFOs: PLAGUING NORTH CAROLINA COMMUNITIES OF COLOR

Christine Ball-Blakely*

I. INTRODUCTION

Grocery shopping has become a foraging expedition through a market of lies. The coolers are stocked with milk cartons boasting pastoral scenes of cows grazing on verdant hills. Egg cartons are stamped “all-natural.” Sausage is neatly packaged in a tube and emblazoned with a red barn. But the origins of most meat and dairy products are far divorced from these depictions of traditional farming. In stark contrast, animal products are overwhelmingly produced in Concentrated Animal Feeding Operations (CAFOs),¹ otherwise known as “factory farms.”²

The Environmental Protection Agency (EPA) defines CAFOs as particular types of Animal Feeding Operations (AFOs).³ AFOs are facilities where animals are confined together in a small area, along with “feed, manure and urine, dead animals, and production operations.”⁴ In AFOs, food is brought to the animals rather than the animals grazing in pastures.⁵ AFOs are designated as CAFOs under two circumstances: (1) where the AFO is a “significant contributor of pollutants to waters of the United States,”⁶ or (2) where the AFO “stables or confines” a minimum number of animals.⁷

Today, about ten billion animals are raised and slaughtered in the United States every year.⁸ More than 99% of those animals are raised and slaughtered in CAFOs.⁹ American meat consumption has nearly doubled over the last century,¹⁰ and the USDA projects this consumption will further swell over the next decade.¹¹ With this level of consumption, it comes as no surprise that animal products are cheap. Meat and dairy prices have been steadily dropping in the United States for over a century, in part due to the advent of CAFOs in the 1950s.¹² But while the price Americans pay for animal products at the grocery store may seem low in dollars, the true price is staggeringly high.

CAFOs are deleterious to human and nonhuman animals alike. In addition to causing unquantifiable animal suffering,¹³ CAFOs put independent family farmers out of business,¹⁴ and they create deplorable working conditions for employees.¹⁵ CAFOs also create massive externalities in the form of environmental destruction while they ravage their vulnerable host communities and trample civil rights.¹⁶ Section II examines some of these communities, located on the North Carolina Coastal Plain, which are home to many African American, Latino, Native American, and economically disadvantaged people.¹⁷ This Section also describes the significant environmental damage that CAFOs deal to these vulnerable communities, which in turn causes plummeting property values and endangers health.¹⁸ Section III explores relevant law and how it fails to protect these

vulnerable communities, creating the enforcement gap.¹⁹ Section IV explains how the *idea* of farming is America’s sacred cow, spurred by rosy visions of wholesome white farmers and their families living out the rugged individualism that our country has worshipped for centuries. Big Agribusiness (“Big Ag”)²⁰ eagerly and effectively exploits this idea, raking in immense profit (including subsidies from misinformed tax payers) and power.²¹ With this power, Big Ag purchases politicians. Those politicians twist the law into an instrument of oppression by carving out the enforcement gap. The enforcement gap invites CAFOs to exploit vulnerable communities. Section V reckons that North Carolina presents a potential blueprint for the way forward.²² Though federal environmental and civil rights laws face further weakening (and perhaps even extinction) under the Trump administration and a Republican-controlled Congress, these vulnerable communities in North Carolina can fight CAFOs at the state level.

II. NORTH CAROLINA: A CASE STUDY IN HOW CAFOs PLAGUE VULNERABLE COMMUNITIES OF COLOR

The “Black Belt,” a “crescent-shaped band throughout the South where slaves worked on plantations,” runs squarely through eastern North Carolina.²³ This part of the country has historically been defined as those places with a “black population majority at the time of the Civil War.”²⁴ After the Civil War and emancipation, many African Americans remained in the Black Belt and worked as sharecroppers and tenant farmers.²⁵ But African American farmers in the Black Belt were systematically deprived of farmland, largely due to discrimination in land sales and lending:

By the turn of the century, many of the black farm operators in the South managed to acquire farmland. Thereafter, however, black farm ownership and control of land, and other resources such as capital, have been severely limited due to systematic discrimination in land sales and farm credit, reported in both historical and contemporary sources. This was particularly the case in the lack of access to credit . . . from the [Farmers Home Administration (FmHA)] which was established in the 1930s to service the credit needs of farmers who failed to meet the lending criteria of other lending institutions.²⁶

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Today, the communities in the Black Belt suffer from economic oppression in the form of high unemployment and poverty, low levels of education, low quality healthcare, and substandard housing.²⁷ CAFOs descended on these vulnerable communities like a plague, beginning in the mid-1980s.²⁸ Because communities of color and low-income communities often lack the political power of affluent white communities, CAFOs disproportionately occupy them.²⁹ Indeed, the proportion of African American, Hispanic, and Native American people living within three miles of a North Carolina pig CAFO are 1.54, 1.39, and 2.18 times higher, respectively.³⁰ Communities of color and low-income communities also lack the resources to leave compromised areas, where they are trapped by decreasing property values and a plummeting quality of life.³¹

There are 9.5 million pigs in North Carolina—the other victims of the state’s \$3 billion pork industry.³² The pigs are spread across approximately 2,100 different operations³³ and produce a total of ten billion gallons of waste each year, which is “enough to fill more than 15,000 Olympic-size swimming pools.”³⁴ The pigs are confined to large indoor facilities with slatted floors,³⁵ and their waste is pumped outdoors to what the pork industry calls a “lagoon.” Lagoons are vast open-air cesspools filled with untreated manure, urine, and afterbirth.³⁶ Some lagoons are as large as seven-and-a-half acres and hold 20 to 45 million gallons of waste.³⁷ There are more than 4,000 lagoons in North Carolina.³⁸ These lagoons “have broken, failed, or overflowed, leading to major fish kills and other pollution incidents.”³⁹ When the lagoons become full, CAFO operators manage volume by spraying the waste through sprinkler systems onto “sprayfields” in large quantities.⁴⁰ “Operators have sprayed waste in windy and wet weather, on frozen ground, or on land already saturated with manure,” causing runoff and leaks into aquifers.⁴¹

This waste management system fails to protect surrounding communities from the environmental impacts of the industry. Instead, CAFOs heap further injustice on surrounding North Carolina communities by polluting their water and air, harming their health, and depressing their property values.

A. POLLUTED WATER

CAFOs pollute surface water and groundwater in several different ways, including lagoon breaches, catastrophic flooding, and runoff.⁴² Potential contaminants include nitrates and pathogens⁴³ as well as ammonium, phosphate, dissolved solids, metals and metalloids, pharmaceutical chemicals, and natural and synthetic hormones.⁴⁴ “Pathogens are parasites, bacterium, or viruses that are capable of causing disease or infection in animals or humans There are over 150 pathogens in manure that could impact human health.”⁴⁵ Metals and metalloids include copper, zinc, arsenic, nickel, and selenium.⁴⁶ Pharmaceutical chemicals include antibiotics, and hormones include estrogen.⁴⁷

The consequences of lagoon breaches are severe, endangering the water supply and aquatic life. In 1995, an eight-acre lagoon breached and spilled “25 million gallons of animal waste into the New River. The spill killed 10 million fish and closed 364,000 acres of coastal wetlands to shellfishing.”⁴⁸ Lagoon

compromises are more likely during hurricane season. Hurricane Floyd pummeled the North Carolina coast in 1999 and compromised fifty-two lagoons, releasing uncontrolled waste into the floodwaters.⁴⁹ “Sampling conducted after Hurricane Floyd in 1999 found dangerous levels of *E. Coli* and *Clostridium perfringens* in water, even after floodwaters had receded.”⁵⁰ In 2016, it happened again. Hurricane Matthew dumped eighteen inches of rain on the North Carolina Coastal Plain, causing flooding so extensive that it was visible from space.⁵¹ “[T]he flood partially submerged [ten] industrial pig farms with [thirty-nine] barns . . . and [fourteen] open-air pits holding millions of gallons of liquid hog manure.”⁵² Once more, uncontrolled waste flowed freely from lagoons into the floodwaters. Sprayfields saturated with lagoon waste are also submerged following such major flooding events.⁵³

Even during normal weather conditions, sprayfield runoff threatens North Carolina lakes, rivers, streams, other surface waters, and groundwater.⁵⁴ Indeed, “[t]he agriculture sector, including CAFOs, is the leading contributor of pollutants to lakes, rivers, and reservoirs. It has been found that states with high concentrations of CAFOs experience on average [twenty] to [thirty] serious water quality problems per year as a result of manure management problems.”⁵⁵ These contaminations cause loss of aquatic life and invade the water supply.⁵⁶ Lagoons and sprayfields also compromise groundwater on a regular basis.⁵⁷

Contaminants can enter ground water from a variety of CAFO sources, including leaking lagoons, breaches in piping or barn infrastructure, and land application of liquid and solid wastes. There are guidelines for design and construction of barns, infrastructure piping, and lagoons that in theory would preclude leakage to ground water, but in practice these events do occur. In fact, even when properly constructed, slow leakage from lagoons over time can release large amounts of contaminants such as ammonium.⁵⁸

Contaminated groundwater leads to contaminated drinking water in rural areas like the Black Belt.⁵⁹ Indeed, rural populations have elevated rates of reliance upon wells for drinking water.⁶⁰ Nonetheless, in this area of North Carolina, “[m]ost hog operations . . . are located in areas with high dependence on well-water for drinking.”⁶¹ Those that do rely on wells for drinking water are at higher risk for water contamination because the Black Belt is located on the North Carolina Coastal Plain, which has high water tables and wells that are unlined and shallow.⁶² For these reasons, some residents have stopped using their wells.⁶³

The health impacts of polluted water are serious, particularly for those community members who have weakened immune systems. Symptoms of illnesses caused by contaminated water include “nausea, vomiting, fever, diarrhea, muscle pain, death,” and kidney failure.⁶⁴ People at high risk of illness or death constitute approximately 20% of the United States population, and they include the elderly, infants, young children, and those who are pregnant, HIV positive, on chemotherapy, or are otherwise immunosuppressed.⁶⁵

In addition to pathogen-driven illnesses, there is also the threat of new viruses.⁶⁶ Indeed, there is speculation that H1N1 may have spawned in pig CAFOs in Mexico.⁶⁷ But despite this risk, CAFOs are not required to test for new viruses because they are not on the list of mandatory reportable illnesses to the World Organization for Animal Health.⁶⁸

Finally, there are often antibiotics in CAFOs' animal feed.⁶⁹ Seventy percent of all antibiotics used in the United States are administered to animals as additives in their feed.⁷⁰ The goal of administering these antibiotics is to promote animal growth, and therefore profitability.⁷¹ The Center for Disease Control has recommended that the use of antibiotics in "food animals" be "phased out."⁷² These antibiotics are dangerous because "[t]he antibiotics often are not fully metabolized by animals, and can be present in their manure. If manure pollutes a water supply, antibiotics can also leech into groundwater or surface water."⁷³ The risk to the community is high because this exposure causes antibiotics to be less effective for humans while also leading to the development of antibiotic-resistant microbes.⁷⁴

B. POLLUTED AIR

CAFOs produce emissions that fuel climate change⁷⁵ and diminish ambient air quality.⁷⁶ Indeed, between the animals themselves and the degrading waste in lagoons and on sprayfields, CAFOs cause asthma, acid rain, and climate change by releasing the following into the air: 400 volatile organic compounds (VOC), particulate matter, methane, ammonia, hydrogen sulfide, ozone, endotoxins, and noxious odors.⁷⁷ CAFOs produce nearly 75% of the United States' ammonia air pollution.⁷⁸

These emissions are so concentrated that it can be dangerous even to approach a lagoon—particularly in hot summer months.⁷⁹ "The oxygen-deficient, toxic, and/or explosive atmosphere which can develop in a manure pit has claimed many lives."⁸⁰ There are multiple tales of farm workers who entered lagoons to make repairs and succumbed to the emissions. Some died from hydrogen sulfide poisoning, while others asphyxiated in the oxygen-starved air.⁸¹ Others died after collapsing during rescue attempts.⁸²

But it is not necessary to be near a lagoon to suffer from the emissions—members of communities plagued by CAFOs also carry health risks. One study showed that people in CAFO-occupied communities "suffered disproportionate levels of tension, anger, confusion, fatigue, depression, and lack of overall vigor as well as more upper respiratory and gastrointestinal ailments than neighbors of other types of farms and non-livestock areas."⁸³ Ammonia is a "strong respiratory irritant" that causes chemical burns to the respiratory tract, skin, and eyes.⁸⁴ It also causes severe coughing and chronic lung disease.⁸⁵ Hydrogen sulfide is acutely dangerous, causing "inflammation of the moist membranes" in the eyes and respiratory tract as well as olfactory neuron loss, pulmonary edema, and even death.⁸⁶ Particulate matter causes "chronic bronchitis, chronic respiratory symptoms, declines in lung function, [and] organic dust toxic syndrome."⁸⁷

Some of the most vulnerable individuals in these communities are children. "Children are known to be more vulnerable

to the adverse health effects of air pollution due to their higher minute ventilation, immature immune system, involvement in vigorous activities, the longer periods of time they spend outdoors, and the continuing development of their lungs during the postneonatal period."⁸⁸ Twenty-six percent of schools surveyed in North Carolina reported that CAFO odors are noticeable outside the school, and 8% reported that the odors were noticeable inside the school.⁸⁹ Economically disadvantaged children are more likely to suffer health impacts from CAFOs, including asthma, because those children are more likely to live and attend schools in closer proximity to CAFOs.⁹⁰

C. PLUMMETING PROPERTY VALUES

There is evidence that CAFOs adversely affect property values. "The most certain fact regarding CAFOs and property values are that the closer a property is to a CAFO, the more likely it will be that the value of the property will drop."⁹¹ This decline is due in part to the health risks that CAFOs bring to communities, but it is also due to the tremendous nuisances that CAFOs create: odors from pig CAFOs, "reminiscent of rotten eggs and ammonia," are insufferable.⁹² "My family, neighbors, and I have been held prisoner in our own homes by the unbearable stench from the multiple industrial hog operations within a quarter mile of my community."⁹³ Many community members no longer hang laundry outside on clotheslines to dry for fear that their clothing will be ruined by the fine mist of manure that sprinkles their homes and cars.⁹⁴ Swarms of flies and mosquitos—attracted to the prolific waste in communities plagued by CAFOs—accompany the odor, bringing even further risk of disease.⁹⁵

The degree to which CAFOs harm property values varies depending on several factors. One study found that properties within three miles of a CAFO decreased in value by 6.6% on account of the CAFO, while properties within one-tenth of a mile of a CAFO decreased in value by as much as 88%.⁹⁶ Another study suggests that properties downwind from and closest to CAFOs suffer the largest decreases in value.⁹⁷ The size and type of CAFO can also affect the degree to which nearby properties decrease in value.⁹⁸ A decrease in property value hurts the property owner most directly, but this harm infects the entire local economy when property tax rates plummet along with property values.⁹⁹

III. LAW AS AN INSTRUMENT OF OPPRESSION: PROPPING UP CAFOs

While CAFOs devastate the environment and public health, they are severely under-regulated at the federal level.¹⁰⁰ And at the state level, so-called "right-to-farm" and "ag-gag" laws in North Carolina shield CAFO operators from nuisance suits and whistleblowers, while North Carolina purports to regulate CAFOs with laws that largely fail to protect communities.¹⁰¹ Thus, the law has parted like the Red Sea to make way for CAFOs and all the misery that they rain down on vulnerable communities.

A. DEVIL IN THE DETAILS: THE ENFORCEMENT GAP IN FEDERAL ENVIRONMENTAL LAW

American environmentalism was born in the 1960s. Following the passage of the Clean Air Act (CAA)¹⁰² in 1963 and the Clean Water Act (CWA)¹⁰³ in 1972, landmark environmental protection laws began sprouting up through the decades. Still, because “farms are virtually unregulated by the expansive body of environmental law that has developed in the United States”¹⁰⁴ environmental injustice abounds in vulnerable communities.

1. THE CLEAN WATER ACT

The Clean Water Act (CWA) declares in § 101(a) that it aims to “restore and maintain the chemical, physical, and biological integrity of the Nation’s waters” and achieve “water quality which provides for the protection and propagation of fish, shellfish, and wildlife” by establishing a framework for federal regulation of surface waters quality standards and pollution discharges into the navigable waters of the United States.¹⁰⁵ To accomplish this goal, the CWA “authorizes the regulation and enforcement of requirements that govern waste discharges into U.S. waters.”¹⁰⁶ Section 402 of the CWA¹⁰⁷ establishes the National Pollutant Discharge Elimination System (NPDES), which administers the effluent (waste) limitations established in § 301¹⁰⁸ and prohibits the discharge of pollution¹⁰⁹ from point sources¹¹⁰ into navigable waters of the United States without a permit from the Environmental Protection Agency (EPA) or the state.¹¹¹

Some CAFOs are large enough to qualify as regulated point sources under the CAFO Rule.¹¹² Those CAFOs must fulfill permit and annual report requirements.¹¹³ Regulated CAFOs are also responsible for creating a plan for handling waste.¹¹⁴

But the CWA still fails to prevent CAFOs from polluting water. First, fewer than 10% of all CAFOs are large enough to qualify as a regulated point source under the CAFO Rule.¹¹⁵ Second, the stormwater exception swallows the CAFO Rule. “Agricultural return flows and stormwater discharge are considered non-point sources and therefore do not require NPDES permits to discharge pollutants through these avenues. This exception to the Clean Water Act extends so far as to include rainwater that contacts stored manure and subsequently flows into navigable waters.”¹¹⁶ Thus, the CWA fails to regulate runoff or to provide incentives to CAFO owners and operators to try to avoid catastrophes during hurricanes and floods.¹¹⁷ Third, punishing case law has greatly weakened the CAFO Rule, contributing to the low number of CAFOs that are actually required to obtain a NPDES permit.¹¹⁸ Fourth, noncompliance is rampant and enforcement is dismal¹¹⁹—in part due to a lack of data on existing CAFOs.¹²⁰ Fifth, the CWA does not directly regulate groundwater.¹²¹

2. THE CLEAN AIR ACT

The Clean Air Act (CAA) “regulates ‘criteria-pollutants’ that deteriorate ambient air quality, hazardous air pollutants, and emissions from certain specific sources of air pollution.”¹²²

The EPA is authorized to “set mobile source limits, ambient air quality standards, hazardous air pollutant emission standards, [and] standards for new pollution sources. . . .”¹²³ The EPA is also authorized “to identify areas that do not attain federal ambient air quality standards set under the act . . . and phase out substances that deplete the Earth’s stratospheric ozone layer.”¹²⁴ The goal of the CAA is to prevent ambient air emissions from harming the environment and public health.¹²⁵

Under the CAA, the EPA must set minimum national standards for air quality, or National Ambient Air Quality Standards (NAAQS), but the states are primarily responsible for ensuring compliance with NAAQS.¹²⁶ Areas that are struggling to meet NAAQS, called “nonattainment areas,” must implement special measures to control air pollution.¹²⁷ The CAA also creates a comprehensive permit system that applies to major sources of air pollution, which are those sources emitting more than 100 tons of regulated pollutants each year.¹²⁸

The CAA applies to CAFOs in theory.¹²⁹ But in reality, the CAA still fails to prevent CAFOs from polluting the air. First, “air emissions from farms typically do not exceed thresholds specified in the Clean Air Act . . . and thus generally escape most CAA regulatory programs.”¹³⁰ Second, regulators at both the federal and state levels have been lax in enforcing the CAA (and other environmental laws) against CAFOs. Instead, regulators “traditionally focused most effort on controlling the largest and most visible sources of pollution to the water, air, and land—factories, waste treatment plants, motor vehicles—rather than smaller and more dispersed sources such as farms.”¹³¹ Third, the CAA Mandatory Greenhouse Gas (GHG) Reporting Rule¹³² addresses manure management systems, but Congress barred the EPA from using funds to implement mandatory GHG reporting for manure management facilities.¹³³ Fourth, there is a dearth of data.¹³⁴ The CAA “requires accurate measurement of emissions to determine whether [CAFOs] emit regulated pollutants in quantities that exceed specified thresholds.”¹³⁵

Citing a need for such data, the EPA entered into an Air Compliance Agreement¹³⁶ with CAFO owners and operators.¹³⁷ “Early in 2002, representatives of agriculture industry groups—especially pork and egg producers—approached EPA officials with a proposal to negotiate a voluntary agreement that would produce air quality monitoring data on emissions from animal feedlot operations.”¹³⁸ In exchange for industry cooperation, the EPA agreed to provide immunity for past and ongoing violations of the CAA to all participating CAFOs. “EPA granted covenants not to sue and released participants from EPA liability for failing to comply with certain provisions of the CAA.”¹³⁹ Critics of the agreement include environmental groups and state and local air quality officials, who were not included in the negotiation process.¹⁴⁰

More than 13,900 operations across forty-two states signed up to participate in the agreement, including 1,856 pig operations.¹⁴¹ After the EPA released the data gathered under the agreement in 2011, an Environmental Integrity Project analysis showed that “measured levels of several pollutants—particles, ammonia, and hydrogen sulfide—exceeded CAA health-based

standards, worker protection standards, and federal emission reporting limits at some of the study sites.”¹⁴² The EPA’s methodologies have come under fire, however, since the study failed to include turkey operations, beef cattle operations, or sprayfields, and collected data from a very small number of operations.¹⁴³ Years later, after granting thousands of CAFOs immunity, the EPA still has not taken steps to use the data collected to better regulate CAFOs under the CAA. This holding pattern, and the enforcement gap more broadly across federal law, is likely the result of the politically powerful farm lobby exerting its influence.¹⁴⁴

B. INDUSTRY ABOVE PEOPLE: NORTH CAROLINA LAW

North Carolina law serves CAFO owners and operators in three main ways. First, the state has eviscerated nuisance as a cause of action under its so-called “Right-to-Farm” law. Second, the state has passed an “ag-gag” law intended to prevent the public from discovering the misconduct and illegal actions of CAFO owner and operators. Third, the state has lax environmental regulations of CAFOs.

1. *INSULT TO INJURY: THE NORTH CAROLINA “RIGHT-TO-FARM” LAW*

Property owners have been suing pig farmers for centuries. In *William Aldred’s Case*,¹⁴⁵ “the Court of the King’s Bench recognized [a]n action on the case lies for erecting a hogstye so near the house of the plaintiff that the air thereof was corrupted.”¹⁴⁶ Common law nuisance theories remain an essential tool for U.S. property owners who seek to protect their right to enjoy their property, even after the development of complex environmental laws.¹⁴⁷ But in North Carolina, nuisance suits against CAFOs are now an option extinguished and community members are left without legal remedy.

North Carolina first enacted its so-called “right-to-farm” (RTF) law¹⁴⁸ in 1979.¹⁴⁹ That early version of the law created an affirmative “coming to the nuisance” defense for preexisting CAFO owners and operators when they faced suits from community members who purchased property in the CAFO-occupied community.¹⁵⁰ The rationale behind these laws was that the CAFO was there first.¹⁵¹

In 2013, North Carolina’s RTF law became a “right-to-commit- nuisance” law (RTCN).¹⁵² Now, a CAFO “may raise an affirmative defense to liability in a nuisance action regardless of whether it had undergone a change in ownership, size, or type of product produced. As a result, agricultural operations may be able to benefit from these protections regardless of whether the facility actually preceded its neighboring landowners.”¹⁵³ The RTCN amendments followed close on the heels of lawsuits filed by hundreds of community members against Murphy-Brown, LLC¹⁵⁴—a subsidiary of Smithfield Foods, Inc.—for the operation of pig CAFOs in eastern North Carolina, and they will further disempower community members to fight the destruction of their homes and neighborhoods.¹⁵⁵

The North Carolina legislature recently pushed through yet another RTCN bill, overriding Democratic Governor Cooper’s

veto.¹⁵⁶ Republican State Representative Jimmy Dixon, whose campaign finance records reveal that he has accepted \$115,000 from the pork industry, sponsored House Bill 467.¹⁵⁷ He characterized the bill as “protecting ‘red-blooded, hard-working’ American farmers.”¹⁵⁸ Republican State Senator Brent Jackson sponsored the Senate companion bill, and his campaign finance records reveal that he has accepted more than \$130,000 from the pork industry.¹⁵⁹ Previous North Carolina law provided that the jury would determine the amount of compensatory damages in nuisance cases.¹⁶⁰ But now, the law “will essentially cap the damages property owners can collect in nuisance lawsuits at the fair market value of their property, which critics point out is often made lower by the presence of those commercial farms.”¹⁶¹ Thus, this bill severely limits any damages that a community member might win against a CAFO owner or operator, which in turn makes challenging CAFOs via nuisance law a less appealing option.¹⁶²

2. *GAGGING WHISTLEBLOWERS: THE NORTH CAROLINA “AG-GAG LAW”*

Ag-gag¹⁶³ laws are designed to shield CAFOs from whistleblowers and reporters who seek to collect evidence of wrongdoing. “Ag-Gag bills were designed to place restraints on free speech by making it a crime to take photos or video on a factory farm without the written permission of the owner.”¹⁶⁴ These laws are harmful to the public because they thwart undercover investigations that reveal dangerous and abhorrent activity such as animal abuse, environmental crimes, and food safety risks that could sicken millions.¹⁶⁵ Without the investigations that ag-gag laws seek to prevent, the public may not discover such information until the damage is already done.

Nonetheless, ag-gag legislation is sweeping the nation.¹⁶⁶ On January 1, 2016, North Carolina’s ag-gag law¹⁶⁷ went into effect.¹⁶⁸ This law is even broader than most ag-gag laws:

The law provides for a civil cause of action against whistleblowers who seek to inform the public about matters of public concern *in their workplace*. This law will deter whistleblowers in facilities like nursing homes, hospitals, day cares, schools, and animal agriculture from reporting concerning or illegal conduct.¹⁶⁹

Organizations, journalists, and employees who conduct undercover investigations of CAFOs and release evidence of wrongdoing to the public or to the press will be liable and could face civil suit and damages.¹⁷⁰ This law shrouds CAFOs in secrecy, making it more difficult for community members to discover any wrongdoing that CAFO owners and operators are committing in their backyards.¹⁷¹

3. *NORTH CAROLINA REGULATIONS: INDUSTRY OVER PEOPLE*

Despite . . . documented environmental and human health harms from CAFO pollution, the industry and its allies have been able to emasculate government protection of its citizens at every level. Local governments have been stripped of control in many communities,

*preventing them from passing zoning or public health ordinances to address CAFO pollution. State and federal permitting and enforcement activity is nonexistent or weak . . .*¹⁷²

In the 1980s, a pig farmer turned state senator named Wendell Murphy, set out to vertically integrate pig farming in North Carolina.¹⁷³ He aimed to pass state laws that would incubate the pig CAFO industry and stymie environmental regulation.¹⁷⁴

In 1986, Murphy helped pass a bill that eliminated the sales tax on hog and poultry houses; in 1987, the sales tax was waived on any equipment related to the CAFO industry. In 1991, county managers from four of the state's largest hog counties considered imposing regulations on the hog industry. Instead, Murphy cosponsored a bill that prohibited them from passing such zoning ordinances. When the bill passed, CAFO facilities were protected like traditional family farms.¹⁷⁵

Through his legislation, Murphy's vision of vertical integration came to pass: though there were 22,000 pig farmers raising two million pigs in North Carolina thirty years ago, today there are only 2,300 farmers raising nine million pigs.¹⁷⁶ Like Murphy's legislation, this trajectory began in the 1980s when "[t]he number of small, diversified farms fell precipitously. Most of the farms that survived did so by going big—raising thousands of animals that spend their entire lives inside barns."¹⁷⁷ WH Group, a Chinese corporation that bought out Smithfield Foods in 2013, is now the dominant corporation behind pig CAFOs in North Carolina.¹⁷⁸

The North Carolina Department of Environmental Quality (DEQ) regulates the state's Animal Feeding Operations (AFOs), which are defined such that they include pig operations with (1) at least 250 pigs and (2) a liquid animal waste management system.¹⁷⁹ DEQ has also been responsible for "establish[ing] siting requirements for application setbacks from property boundaries and perennial streams since 1992."¹⁸⁰ Almost all permitted pig CAFOs are subject to the regulations of the North Carolina Swine Waste Management System General Permit (General Permit), which contains requirements regarding operation and maintenance, monitoring and reporting, inspections, performance standards, general conditions, and penalties.¹⁸¹ The substance of the General Permit comes up for revision every five years, and was renewed in 2014 "following extensive public involvement."¹⁸²

DEQ only agreed to regulate CAFOs after the disastrous lagoon breach of 1995, which dumped more than 20 million gallons of waste into the New River.¹⁸³ In 1997, North Carolina instituted a moratorium on new and expanded pig CAFOs as a result of the disaster.¹⁸⁴ This moratorium became permanent in 2007 with regard to CAFOs using or proposing to use the lagoon and sprayfield waste management system.¹⁸⁵ The existing CAFOs, however, are still allowed to utilize this system under the General Permit.¹⁸⁶ DEQ insists that the lagoon and sprayfield waste system is working because CAFO operators are

limited in the amount of waste they can apply to sprayfields at once. "All waste must be applied at no greater than agronomic rates—an amount that can be used productively by the crops planted."¹⁸⁷ But in January 2015, researchers found that high levels of fecal bacteria in local waterways are linked to CAFOs, and state officials have only dismissed community members' concerns.¹⁸⁸ DEQ visits CAFOs only once each year, and the agency has never revoked a permit or shut down a farm.¹⁸⁹

IV. THE ROOT OF ALL EVIL: MONEY AS THE SOURCE OF THE ENFORCEMENT GAP AND LAW AS AN INSTRUMENT OF OPPRESSION

A. SPECIAL INTERESTS

Section III presented the ways in which the law is failing to protect CAFO-occupied communities and even aids in their oppression. Big Ag has engineered this failure by maintaining a stranglehold on the American political process in two ways. First, Big Ag exploits the image of the wholesome farming family, almost always portrayed as white, that many Americans admire.¹⁹⁰ By portraying industrial farms as the small family farms of yore, the Big Ag lobby successfully controls public and political opinion. Second, Big Ag spends tremendous amounts of money influencing members of Congress.

The American Farm Bureau Federation (AFBF), rated by *Fortune* magazine as one of the top twenty-five most powerful special interest groups in the United States, is a prime example of how Big Ag lobbying groups control the political process.¹⁹¹ "The [AFBF] promotes the interests of farm corporations in Washington D.C., and in state capitals. For decades, they have spent millions fighting environmental regulations of all kinds."¹⁹² And because Big Ag has convinced the country that industrial farms are small family farms, it is all too easy to characterize environmental regulations as the big boot of the Federal Government standing on the little guy's throat. Ron Prestage, President of the National Pork Producers Council, recently said of the proposed Clean Water Rule: "[T]his regulation isn't about clean water. This massive land grab is about federal control of private property, growing the size of government and allowing activists to extort and micromanage all kinds of farming and business activities."¹⁹³

And then there is money. "[Q]uestions about whether environmental laws should apply to CAFOs continue to give rise to controversy in Congress and the states, and the \$297 billion and growing agricultural industry maintains an extensive bench of lobbyists to take advantage of that controversy."¹⁹⁴ Between 2005 and 2010, Big Ag spent \$126.9 million lobbying Congress and federal regulatory agencies.¹⁹⁵ AFBF alone spent \$33.6 million and employed fifty lobbyists who spent their time fighting the Clean Water Act and other rules affecting CAFO pollution.¹⁹⁶ In 2016, Big Ag spent \$127,592,310 lobbying.¹⁹⁷ Big Ag directed the majority of that money to Republican politicians, including \$2,702,601 to then-Republican presidential candidate Donald J. Trump.¹⁹⁸ Finally, Big

Ag receives an average of \$38.4 billion in farm subsidies (also known as “corporate welfare”) per year.¹⁹⁹

B. NORTH CAROLINA: “CAPTURED BY THE INDUSTRY”²⁰⁰

North Carolina makes no secret of its allegiance to Big Ag. In 2015, then-Governor Pat McCrory attended a rally held by the pork industry. “McCrory told those at the industry rally,” which was held to oppose lawsuits over the industry’s environmental practices, that the “state government would fight for them.”²⁰¹ A Pulitzer Prize-winning investigative series on the North Carolina pork industry revealed that the industry and the government have been close since the beginning:

In a seven-month investigation, The N&O found that state agencies aid the expansion of pork production but are slow to act on a growing range of problems resulting from that increase. The industry has won laws and policies promoting its rapid growth in North Carolina. It also has profited from a network of formal and informal alliances with powerful people in government.²⁰²

One explanation for this closeness is that when the North Carolina tobacco industry went into decline in the 1980s, the burgeoning pork industry filled the void.²⁰³ But whatever reason, one thing is clear: North Carolina is prioritizing industry over community—especially communities of color.

V. NORTH CAROLINA: FIGHTING BACK AND GRASSROOTS GROWTH

*Poor people, and people of color especially, continue to suffer from the horrible conditions brought on by the industrial hog industry . . . People just can’t ignore this.*²⁰⁴

Members of CAFO-occupied communities have pleaded with North Carolina government officials for years. “[C]ommunities have repeatedly asked [DEQ] for stronger protections. Citizens have tried to reach a resolution with government officials that is agreeable to neighbors, regulators, and the industry. Some have brought civil complaints for nuisance and trespass against individual facilities.”²⁰⁵ Advocacy organizations, including North Carolina Riverkeepers, Waterkeepers Alliance, North Carolina Environmental Justice Network (NCEJN), and Rural Empowerment Association for Community Help (REACH), have all joined in the fight to take back these communities from CAFO occupation.²⁰⁶ But alas, “over the decades, complaints have largely fallen on deaf ears.”²⁰⁷

A. COMMUNITY ORGANIZING AND INFORMATION GATHERING

Community members rallied together and armed themselves with information. Devon Hall, who was one such community member, co-founded REACH in 2002 and began collaborating with Professor Steve Wing, a public health professor at the University of North Carolina.²⁰⁸ Hall and Wing (the researchers) worked alongside community members to gather valuable data for their fight against CAFOs.²⁰⁹

In the Duplin Health Awareness Project,²¹⁰ the first of ten such studies, the researchers set up equipment in neighborhoods within a mile of CAFOs to monitor the air quality for toxins and PM.²¹¹ Then, the researchers instructed community members to sit outdoors and note odor intensity and their own daily stress levels.²¹² At the same time, the community members tracked their own blood pressure and lung function with medical equipment.²¹³ They recorded all of the data they collected about their surroundings, health, and well-being.²¹⁴ The researchers and the community members were able to develop data proving what the community members already knew from experience: there are “correlations between hog waste and asthma and other respiratory problems, such as bronchitis, along with compromised immune systems and increased stress and anxiety.”²¹⁵

REACH took further action to monitor air and water and to organize the community. First, the organization worked with Waterkeeper Alliance, who deployed Riverkeepers to take water samples from area waterways.²¹⁶ Additionally, the collaborators created maps of the CAFOs and lagoons and patrolled the community to record violations of the General Permit, such as when CAFO operators spray manure on the sprayfields before or during a storm.²¹⁷ Finally, REACH went door-to-door in communities to distribute fact sheets and unite neighbors. “We told them, this is how many pigs live around you, and this is who’s making the money. We got good at mobilizing the community.”²¹⁸ Ultimately, the community utilized the information and data they collected to try to prevent DEQ from renewing the General Permit in 2014.²¹⁹ While they did not succeed in preventing the renewal, their efforts did come to fruition in 2007 when the North Carolina legislature made the moratorium on new lagoon and sprayfield CAFOs permanent.²²⁰

But community mobilization and investigative efforts are not without risk. CAFO operators harassed water samplers.²²¹ Community members reported that CAFO operators subjected community members who spoke out to several intimidation tactics, “including sustained tailgating, yelling, threats of gun and other physical violence, and driving back in forth in front of their houses.”²²² When community members called DEQ to report illegal spraying during or before a storm, they were rewarded with calls from disgruntled CAFO operators after DEQ informed them of the complaint.²²³ Such complaints are confidential—but nonetheless, DEQ regulators sometimes choose to expose those who make them.²²⁴ In the most egregious incident of harassment, a CAFO operator entered “the home of an elderly African American woman and sh[ook] the chair she sat in while threatening her and her family with physical violence if they continued to complain about the odors and spray.”²²⁵

B. CIVIL RIGHTS COMPLAINT

In March 2014, DEQ ignored community pleas and renewed the General Permit that allowed CAFOs to continue using lagoons and sprayfields as waste management.²²⁶ This was the last straw for North Carolina activists. “We’ve been asking the state and our representatives for years to do something different about how this industry operates in the state,” says NCEJN’s

Muhammad. ‘It was an insult to the community and to the people of the state of North Carolina to renew those permits.’”²²⁷

In September 2014, Earthjustice and the University of North Carolina Center for Civil Rights, representing Waterkeeper Alliance, NCEJN, and REACH (Citizens), filed a complaint (“Complaint”)²²⁸ in the EPA External Civil Rights Compliance Office (ECRCO) (formerly the Office of Civil Rights) under Title VI of the Civil Rights Act of 1964 (Title VI)²²⁹ and its implementing regulations.²³⁰ Under Title VI, state regulatory programs that receive federal funding may not operate in such a way that disproportionately impacts communities of color in a negative way.²³¹ In their Complaint, the groups allege that “the State’s lax regulation of hog-waste disposal discriminates against minority communities in eastern North Carolina, and that its [Department of Environmental Quality’s] recent permit allowing thousands of hog facilities to function without adequate waste-disposal controls violates federal law.”²³²

In February 2015, ECRCO began investigating DEQ on the basis of the Complaint.²³³ In March, the Citizens and DEQ agreed to enter into alternative dispute resolution, funded by the EPA.²³⁴ As the January 2016 mediation date approached, the National Pork Council and the North Carolina Pork Council moved to intervene—a troubling development for the Citizens, since the negotiations were confidential.²³⁵ The Citizens objected to industry involvement in the mediation:

On behalf of our clients, who were adamant that the Pork Council should not be at the table—this was not about them, it was about DEQ’s responsibility to protect the environment and health and safety of the people of North Carolina—we said no, there’s no place for you here.²³⁶

Nonetheless, the National Pork Council and the North Carolina Pork Council appeared at the session, and DEQ made it clear that the agency supported their presence during negotiations.²³⁷ Earthjustice attorney Marianne Lado declined to “speculate on whether DEQ told the pork councils about the mediation, but added that the agency ‘tried to normalize the problem and suggest that it was acceptable for pork councils to be there. [DEQ] didn’t act surprised that they were there.’”²³⁸ The Citizens were concerned about exposing the identities of the community representatives present at the meeting, due to the pork industry’s long history of intimidating residents.²³⁹ The Citizens withdrew from mediation in March 2016 and the negotiations broke down.²⁴⁰

In May 2016, ECRCO reinstated its DEQ investigation.²⁴¹ The Citizens filed an additional complaint (“Second Complaint”)²⁴² against DEQ in July, alleging that the agency “engaged in and failed to protect [the Citizens] from intimidation, which is prohibited by Title VI and EPA regulations, 40 C.F.R. § 7.100.”²⁴³ The Second Complaint discussed the long history of the pork industry using intimidation tactics against residents of eastern North Carolina.²⁴⁴ In August, ECRCO agreed to investigate DEQ based on the Second Complaint.²⁴⁵ DEQ requested that the original Complaint be dismissed, but

ECRCO declined to do so.²⁴⁶ In October, twenty community representatives drove to Washington, D.C., to share their story with EPA and members of Congress.²⁴⁷ A month later, officials from ECRCO toured the area and listened to residents with Senator Cory Booker, a member of the Senate Environment and Public Works Committee.²⁴⁸

Finally, in January of 2017, ECRCO took an “unprecedented step”²⁴⁹ and sent an official Letter of Concern to DEQ.²⁵⁰ In the letter, ECRCO expressed “deep concern about the possibility that African Americans, Latinos, and Native Americans have been subjected to discrimination as the result of NC DEQ’s operation of the Swine Waste General Permit program, including the 2014 renewal of the Swine Waste General Permit.”²⁵¹ ECRCO also expressed “grave concerns about these reports indicating a potential hostile and intimidating environment for anyone seeking to provide relevant information to NC DEQ or EPA.”²⁵² ECRCO made several recommendations to DEQ:

- Assess the Swine Waste General Permit to determine how it should be changed to substantially reduce impacts on nearby residents. The EPA also asked for a timeline.
- Assess current regulations on industrialized hog farms and determined what could be changed. If the DEQ claims it doesn’t have the authority to change a rule, it needs to show evidence of the impediment.
- Evaluate risk management options, such as covering the lagoons, not using dead boxes [a holding pen for hog carcasses] and not spraying on the weekends.
- Assess current swine waste technologies and what could be adopted.
- Conduct an internal evaluation of DEQ’s enforcement and compliance of industrialized hog farms. If corrective measures are needed, deliver a timetable to do so.
- Evaluate its non-discrimination program if its [sic] in place, using a federal checklist. If the program hasn’t been established, DEQ is to correct the deficiencies.²⁵³

While the Letter of Concern is not the firm decision that community members had hoped to receive, they are pleased that people are taking notice of the community’s plight.²⁵⁴ And there is reason to remain hopeful: “the agency’s pointed, harsh letter and its ongoing investigation—plus a new administration at DEQ—could tip the scales toward environmental justice.”²⁵⁵

C. OVERCOMING IN A TIME OF AGGRESSIVE REGRESSION

In November 2016, Donald J. Trump was declared the victor of the 2016 United States Presidential Election.²⁵⁶ At the same time, both houses of Congress remained under Republican domination.²⁵⁷ As a result, both the Executive and Legislative branches of the Federal Government now seek to greatly reduce or eliminate the EPA, and the President’s budget proposal included an External Civil Rights Compliance Office reduction of \$268,000 and eleven full-time employees.²⁵⁸ The EPA has issued a plan to lay off 25% of its employees and eliminate fifty-six programs.²⁵⁹ Thus, it may be necessary for communities seeking to protect themselves from CAFOs to focus on state law in the foreseeable future.

North Carolina is an ideal state for such action. The community has succeeded in generating tremendous publicity, which will make it more difficult for state legislators and DEQ to continue to ignore their pleas. Roy Cooper, a Democrat and former Attorney General of North Carolina, unseated Pat McCrory in the state's 2016 gubernatorial race.²⁶⁰ This change may give community members the toe-hold they need to take back their state from Big Ag, even if EPA fails them going forward.

There are several ways community members might move forward in this fight at the state-level. First, they may campaign to repeal the so-called "right-to-farm" law and the ag-gag law. Second, they may continue to exert pressure on DEQ to update the General Permit and ban lagoon and sprayfield waste management systems. In the (weaker) alternative, they may campaign for lagoons to be covered and for sprayfields to be rigorously inspected to avoid runoff. Third, they may leverage the EPA Letter of Concern to DEQ and petition DEQ to adopt EPA's recommendations. Fourth, and perhaps most importantly, the communities may campaign to replace the Republican members of the North Carolina legislature with representatives who would aid them in their fight against CAFOs.

The fourth objective is likely to be difficult at present, however, as there is evidence that the Republican legislature suppresses the votes of North Carolinians of color²⁶¹ and gerrymanders districts along racial lines.²⁶² Fortunately, lawsuits have challenged both of these barriers to the full participation and representation of marginalized North Carolina communities.²⁶³ With the help of the federal courts, the communities may be able to change the makeup of their legislature and ensure that their representatives actually represent them and not Big Ag.

VI. CONCLUSION

CAFOs are major polluters that exploit and endanger the vulnerable communities they occupy. Therefore, they must be treated as such at both the federal and state levels. CAFOs should be strictly regulated as major polluters and should be subject to strict siting regulations that protect vulnerable communities like those of the North Carolina Coastal Plain.

To break down the political barriers that prevent these essential regulations from coming to fruition, it is necessary to

attack the corrupting influence of corporate money in politics. So long as the farm lobby can buy politicians to guard and promote the interests of Big Ag, including the corporate welfare the industry siphons from taxpayers in the form of subsidies, it will be impossible to make meaningful progress in this arena.

Likewise, it is necessary to challenge and change the narrative that CAFOs are family farms with happy pigs dotting their pastureland. This lie, which depends upon the American tradition of exalting the white, rugged farmer of yesteryear, has proven wildly successful and forms the foundation of the CAFO house of cards. The first step in challenging and changing this narrative is to unmask CAFOs and Big Ag. Their true faces are those of massive industry, not small business. Once unmasked, it will become politically feasible to regulate this industry appropriately. Such regulation has the potential to ensure that the industry's access to our economic infrastructure and society is a privilege that will not be to the detriment of the most vulnerable among us, including non-human animals.

In this time of great political turmoil, the North Carolina communities have modeled a path forward: grassroots organization and mobilization. By forging connections among neighbors, researchers, advocacy organizations, and public interest law firms, the communities created a formidable coalition of justice-minded people. While it may be that EPA is of little help going forward, these communities can continue to fight CAFOs at the state level. With Mr. Cooper in the Governor's Mansion, they just may be able to get enough traction to make change in their state.

More broadly, Americans must recognize and resist the vast destruction that CAFOs cause. CAFOs fuel climate change, wantonly torture sentient non-human animals, and harm human health. Big Ag manipulates our political system and exploits taxpayers for tremendous profit. And, as the case of North Carolina demonstrates, CAFOs are cogs in the machine that has systematically oppressed communities of color for centuries. While comprehensive CAFO regulation (or, ideally, elimination) will increase the cost of animal products at the checkout counter, the status quo is a cost that communities of color cannot continue to bear.



ENDNOTES

¹ Liam H. Michener, Note, *Meating America's Demand: An Analysis of the Hidden Costs of Factory Farming and Alternate Methods of Food Production*, 7 J. ANIMAL & ENVTL. L. 145, 147 (2016) (citing *Farmed Animals and the Law*, ANIMAL LEGAL DEF. FUND, <http://aldf.org/resources/advocating-for-animals/farmed-animals-and-the-law/> (last visited Oct. 24, 2017)); *Farm Animal Welfare*, AM. SOC'Y FOR THE PREVENTION OF CRUELTY TO ANIMALS, <https://www.aspcan.org/fight-cruelty/farm-animal-cruelty/what-factory-farm> (last visited Oct. 24, 2017).

² Michener, *supra* note 1, at 146–47.

³ 40 C.F.R. § 122.23(b) (2012).

⁴ *Animal Feeding Operations*, USDA, <https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/plantsanimals/livestock/af/> (last visited Dec. 20, 2017).

⁵ *Id.*

⁶ § 122.23(c).

⁷ *See id.* § 122.23(b)(4) (defining "Large CAFO"); *see also id.* § 122.23(b)(6) (defining "Medium CAFO").

⁸ Michener, *supra* note 1, at 147.

⁹ *Id.*; *see generally Pork Facts*, NAT'L PORK PRODUCERS COUNCIL, <http://nppc.org/pork-facts/> (last visited Dec. 20, 2017) (noting that the pork industry boasts that it butchers an average of 115 million individual pigs each year, twenty-six percent of which are exported to other countries).

¹⁰ DAVID ROBINSON SIMON, *MEATONOMICS: HOW THE RIGGED ECONOMICS OF MEAT AND DAIRY MAKE YOU CONSUME TOO MUCH—AND HOW TO EAT BETTER, LIVE LONGER, AND SPEND SMARTER* xxii (2013).

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ANTHROPOGENIC NOISE AND THE ENDANGERED SPECIES ACT

Carolyn D. Larcom*

In 2016—with the help of the U.S. Coast Guard—the National Oceanic and Atmospheric Administration (NOAA) and Oregon State University sent a titanium encased hydrophone to a depth of more than 36,000 feet.¹ The hydrophone's mission was simple—to listen.² During its three-week commission, at the deepest point in the Mariana Trench,³ the hydrophone heard ship propellers,⁴ the moans of baleen whales, a magnitude five earthquake, and a category four typhoon.⁵ Anthropogenic, or human-caused, noise contributes to this underwater symphony in a myriad of ways and poses unique challenges in the marine environment to cetaceans.⁶ This feature examines the continued rise of anthropogenic noise and its harmful effects on whale species. It also advocates for the use of the Endangered Species Act (ESA) in litigation as an instrument to quiet anthropogenic noise. The North Atlantic right whale is used as a case study because of its status as a critically endangered species and its close proximity to noise pollution along the Atlantic coast and in the Gulf of Mexico.

Increasing human activity along coastlines is leading to rising levels of anthropogenic underwater noise.⁷ This coastal activity overlaps with critical habitat for species like the North Atlantic right whale.⁸ In 2010, NOAA created "CetSound," a working group to guide the agency to a more comprehensive management of ocean noise impacts.⁹ Christopher Clark of Cornell University, a marine bioacoustics expert, refers to anthropogenic noise as "acoustical bleaching" of the oceans.¹⁰

The two major forms of anthropogenic noise are chronic and acute.¹¹ Chronic noise pollution is the low frequency sound made by ship traffic.¹² The hydrophone sent by NOAA managed to pick up the constant humming of container ships passing overhead some 36,000 feet above.¹³ Acute noise pollution is created mostly by ocean exploration for oil and gas and is doubling every decade.¹⁴ The energy from these explosions "fill the oceans with noise."¹⁵

Anthropogenic noise disrupts marine life, especially whales, by interfering with their acoustic senses.¹⁶ This interference disrupts their social networks, thus affecting their survival and reproductive success.¹⁷ For the North Atlantic right whale, the reduction of noise pollution is considered essential to ensure their long-term recovery.¹⁸ Whales are acoustically oriented and "see" the ocean through sound.¹⁹ The effects of noise pollution on whale populations have been recognized for over forty years.²⁰ The exclusive statutory protections for endangered species may provide the best opportunity for stalling detrimental anthropogenic noise in the marine environment.

The ESA makes it unlawful for any person to "take" endangered or threatened species.²¹ "Take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.²² The term "take" has been broadly defined to include significant habitat modification or degradation that results in actual injury or death to members of an endangered species.²³ North Atlantic right whales²⁴ have been observed increasing their call amplitude with the rise of background noise.²⁵ An increase in stress related fecal hormone metabolites²⁶ has been correlated with noise pollution.²⁷ Whales rely on sound to breed, navigate coastlines, and find food.²⁸ Anthropogenic noise interferes with their ability to eat, mate, and navigate; therefore, it is essential to their survival that these sounds travel the ocean undisturbed.²⁹ Given this interference, noise pollution should qualify as a "taking" under the ESA as it significantly degrades their habitat.

To satisfy the "injury in fact" test, members of an organization must demonstrate that they are significantly affected by the actions of the noise polluter.³⁰ Standing is not confined to economic harm.³¹ First, a member would need to be personally affected by the decline in the North Atlantic right whale population to qualify for standing. Second, a causal connection between the actions of the noise polluter and the plaintiff's injury must be established.³² The effects of noise pollution on whale populations are well understood.³³ A plaintiff would need to associate a specific oil and gas exploration project or ocean freight carrier with the harms suffered by the North Atlantic right whale population. Third, it must be likely that the injury can be redressed by a favorable ruling.³⁴ The technology to reduce noise pollution exists³⁵ and implementing these technologies to reduce underwater noise would improve the viability of North Atlantic right whale populations.³⁶ A favorable ruling that, at a minimum, demands the implementation of these technologies will remedy the injury to North Atlantic right whale populations.³⁷

The Trump administration has sought to lift a five-year ban on drilling along the Atlantic coastline, which is critical habitat for North Atlantic right whale.³⁸ Despite these unfortunate developments that seek to increase the rising rates of anthropogenic noise, litigation has been successful in combatting noise pollution.³⁹ Litigation has successfully targeted navy sonar, seismic surveys, and offshore oil and gas exploration as a means to combat noise pollution.⁴⁰

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The North Atlantic right whale is a critically endangered species that will undoubtedly be detrimentally harmed by a continued increase in anthropogenic noise.⁴¹ Further litigation is needed to protect threatened whale species, like the North

Atlantic right whale, from total elimination. Litigation that qualifies anthropogenic noise as a “taking” under the ESA will prove to be a significant instrument in combatting this silent killer.



ENDNOTES

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² *Id.*

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¹² *Id.*

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¹⁶ *Id.*

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¹⁸ *North Atlantic Right Whale 5-Year Review*, NOAA FISHERIES SERV. NE. REG'L OFFICE 11-12 (Aug. 2012), http://www.nmfs.noaa.gov/pr/pdfs/species/narightwhale_5yearreview.pdf [hereinafter *5-Year Review*].

¹⁹ Schiffman, *supra* note 10.

²⁰ Gedamke et al., *supra* note 6, at 64.

²¹ Endangered Species Act of 1973, 16 U.S.C. § 1538(a)(1)-(2) (1988).

²² *Id.* § 1532.

²³ *Babbitt v. Sweet Home Chapter of Cmty. for a Great Or.*, 515 U.S. 687, 697 (1995).

²⁴ *Right Whales*, *supra* note 8 (explaining that the “northern right whale” is listed as two separate species, the North Pacific right whale and North Atlantic right whale — the North Atlantic right whale is critically endangered with its western population estimated at about 465 individuals and the eastern population “nearly extinct”).

²⁵ *5-Year Review*, *supra* note 18, at 11-12.

²⁶ *Id.* at 12 (noting elevations of stress related fecal hormones negatively affect growth, immune system response, and reproduction).

²⁷ *Id.*

²⁸ Schiffman, *supra* note 10.

²⁹ *Id.*

³⁰ *See Sierra Club v. Morton*, 405 U.S. 727, 734-35 (1972) (noting that the injury suffered by a plaintiff must be cognizable and individually experienced).

³¹ *Id.* at 734-35 (holding that aesthetics and environmental well-being are not excluded from the “injury in fact” test).

³² *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560 (1992) (holding that the injury has to be “fairly traceable” to the action of the defendant).

³³ Gedamke et al., *supra* note 6, at 64.

³⁴ *Lujan*, 504 U.S. at 561 (holding that it must be likely, as opposed to speculative, that a favorable ruling will nullify the harm).

³⁵ Schiffman, *supra* note 10 (describing a new technology that “uses a sweep of sound that is orders of magnitude quieter” for oil and gas exploration).

³⁶ *Right Whales*, *supra* note 8, at 11-12 (explaining that the continued viability of the North Atlantic right whale in part depends on the reduction of anthropogenic noise).

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³⁸ Oliver Milman, *Trump Called ‘Threat to Every Coastline’*, THE GUARDIAN (June 30, 2017, 12:04 AM), <https://www.theguardian.com/environment/2017/jun/30/donald-trump-environment-ocean-drilling-atlantic-arctic>; *Right Whales*, *supra* note 8.

³⁹ *Ocean Noise*, CTR. FOR BIOLOGICAL DIVERSITY, http://www.biologicaldiversity.org/campaigns/ocean_noise/ (last visited Dec. 20, 2017).

⁴⁰ *Id.*

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LEGISLATIVE EFFORTS TO INCREASE STATE MANAGEMENT FOR IMPERILED SPECIES SHOULD BE REJECTED

By Stephanie Kurose*

The Federal Endangered Species Act (ESA or “Act”)¹ is our nation’s most successful conservation law. Its purpose is to prevent the extinction of our most at-risk plants and animals, increase their numbers, and effect their full recovery—and eventually their removal from the endangered list. Since its enactment in 1973, the Act has been more than 99% effective at saving species under its protection from extinction, and it has put hundreds more on the road to recovery.² Scientists estimate that at least 227 species would have likely gone extinct without the ESA’s passage.³

Despite this success, legislative efforts by some members of Congress to weaken the ESA have significantly increased recently. Since 2011, 300 attacks have been launched against endangered species and the ESA.⁴ These attacks continue despite the fact that nine out of ten Americans support the Act and want it either strengthened or left unchanged by Congress.⁵

Common among these attacks are calls for increasing state authority to manage threatened and endangered species. The ESA is known as a “law of last resort,” in that it is only triggered *after* a state’s efforts to conserve habitat and protect species has fallen short. It is a necessary backstop that provides species with federal protections, typically after decades of decline and after state management has proven insufficient. Since a majority of states lack legal authority and resources to fill the conservation role played by federal wildlife agencies, legislation that seeks to shift back this authority to the states could spell disaster for species.

Introduced by Sen. Dean Heller (R-Nev.), the “Endangered Species Management Self-Determination Act” would allow governors to take over management of species found only in one state with no requirement that such management be equivalent to ESA protections.⁶ This legislation would severely undermine protections for as many as 1,100 species,⁷ including nearly 500 species in Hawaii alone and at least one species in most states across the country. States would be able to take over management of species perceived to conflict with powerful special interests, provide little to no protection, and the U.S. Fish and Wildlife Service (FWS)—one of the wildlife agencies in charge of implementing the ESA—would be powerless to intercede.

Another disturbing bill is the “State, Tribal, and Local Species Transparency and Recovery Act,”⁸ which seeks to undermine the Act’s “best available science” standard by automatically deeming any and all information submitted by a state, tribal, or county government as the best available science—even if that information is outdated, incorrect,

contradictory, or not supported by peer review. This legislation is completely unnecessary because the ESA already requires the FWS to utilize any data that is considered “best available” in its decision-making.⁹

Currently, the majority of state conservation laws are severely inadequate to achieve the ESA’s conservation and recovery goals.¹⁰ Only eighteen states have laws that protect all animals and plants covered by the federal ESA, with thirty-two states providing less coverage than the federal statute.¹¹ West Virginia and Wyoming do not have any endangered species laws, and seventeen states offer no protections for imperiled plants.¹² And perhaps most concerning is the fact that forty-five states provide very limited or no authority for species recovery planning.¹³ Given that a primary goal of the federal ESA is to recover species to the point that they no longer require the Act’s protection, and the fact that almost every single state currently has no authority for such recovery planning is a clear sign that management for imperiled species should not yet be handed back to those states.

In addition to inadequate state laws, many states do not have, or in some instances are unwilling to provide, the funding needed to manage their threatened and endangered species. Hawaii—a state that has over 500 listed species—will spend only \$3.5 million in 2017 on endangered species, out of the total budget of \$138 million allocated to the Department of Land and Natural Resources.¹⁴ That averages out to less than \$7,000 spent on endangered species. By contrast, each of Hawaii’s twenty-two game species will receive around \$250,000. Funding for Hawaii’s endangered plants and animals mostly comes from the Federal Government via grants under Section 6 of the Endangered Species Act.¹⁵ Thus, the state itself spends almost none of its own funding on listed species.

Oil-producing states, like Wyoming, are often very hostile towards the ESA because they falsely argue it is a threat to economic development. As a result, they do not prioritize the recovery of endangered species. However, a 2015 paper analyzed over 88,000 ESA consultations since 2008 and found that no projects were stopped because of endangered species.¹⁶ Nonetheless, in FY 2016 Wyoming allocated only \$3.2 million—or 5%—of its wildlife budget to the state’s twelve threatened and endangered species. Out of that \$3.2 million, 37% was federally-funded, 4% came from the State General Fund, 57% came from Game

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and Fish license revenues, and 1% came from nongovernmental grants. Thus, Wyoming only spent \$128,000 of its own funding on managing its imperiled species. By contrast, the state spent \$54.8 million on its game species.¹⁷

Without significant reforms to state wildlife conservation laws and a substantial increase in funding for imperiled wildlife, legislation proposals to cede federal authority over imperiled species back to the states will likely undermine conservation and recovery efforts, lead to a greater number

of species declining, and result in fewer species recovered. If states manage their species properly from the onset, it is highly unlikely that the federal government would ever have to step in. The federal ESA is only triggered once a species is at such a critically low level that it would otherwise go extinct if not for the federal protection. Thus, legislation that would cede federal authority to manage threatened and endangered species back to the states should be rejected.



ENDNOTES

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³ See generally D. GOBLE, ET AL., *THE ENDANGERED SPECIES ACT AT THIRTY: RENEWING THE CONSERVATION PROMISE* (2005).

⁴ See *Legislative Attacks on the Endangered Species Act During the Trump Administration*, CTR. FOR BIOLOGICAL DIVERSITY, http://www.biologicaldiversity.org/campaigns/esa_attacks/trumptable.html (last updated Sept. 8, 2017).

⁵ See B. Tulchin et al., *Poll Finds Overwhelming, Broad-Based Support for the Endangered Species Act Among Voters Nationwide*, TULCHIN RESEARCH (July 6, 2015), <https://www.defenders.org/publications/Defenders-of-Wildlife-National-ESA-Survey.pdf>.

⁶ S. 935, *Endangered Species Management Self-Determination Act*, 115th Congress (introduced Apr. 25, 2017); H.R. 2134, *Endangered Species Management Self-Determination Act*, 115th Congress (introduced Apr. 25, 2017).

⁷ See *Endangered Species Found Only Within One State (Intrastate species)*, CTR. FOR BIOLOGICAL DIVERSITY, https://www.biologicaldiversity.org/programs/biodiversity/pdfs/Endangered_species_only_found_in_one_state.pdf (last visited Nov. 8, 2017).

⁸ S. 735, *State, Tribal, and Local Species Transparency and Recovery Act*, 115th Congress (introduced Mar. 27, 2017); H.R. 1724, *State, Tribal, and Local*

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⁹ 16 U.S.C. §1533(b)(1)(A) (2012).

¹⁰ See generally, Alejandro E. Camacho, *Conservation Limited: Assessing the Limitations of State Laws and Resources for Endangered Species Protection*, U.C. IRVINE SCH. OF L. CTR. FOR LAND, ENV'T, & NAT. RES. (CLEANR) (Aug. 2017), <http://www.law.uci.edu/academics/centers/cleanr/news-pdfs/cleanr-esa-report-final.pdf>.

¹¹ See *id.* at 3.

¹² *Id.*

¹³ See *id.* at 13.

¹⁴ *Department of Land and Natural Resources Report*, STATE OF HAW. 949 (2017), <https://budget.hawaii.gov/wp-content/uploads/2015/12/23.-Department-of-Land-and-Natural-Resources-FY-17-SUPP.pdf>.

¹⁵ 16 U.S.C. § 1535 (2012).

¹⁶ See generally Jacob W. Malcom & Ya-Wei Li, *Data contradict common perceptions about a controversial provision of the US Endangered Species Act*, 112 PNAS 15844 (2015).

¹⁷ See Wyoming 2016 Statewide Hunting Season Forecast, WYO. GAME & FISH DEP'T, <https://wgfd.wyo.gov/Hunting/Wyoming-Hunting-Forecast#elk> (last visited Nov. 8, 2017).

THE “FOWL” PRACTICE OF HUMANE LABELING: PROPOSED AMENDMENTS TO FEDERAL STANDARDS GOVERNING CHICKEN WELFARE AND POULTRY LABELING PRACTICES

By LaTravia Smith*

ABSTRACT

Chickens raised specifically for meat production are the world’s most intensively farmed land animals. Yet, the existing legal frameworks that regulate the production and labeling of poultry products in the United States allow poultry producers to mistreat chickens, falsely distinguish poultry products, and defraud conscious consumers. This article proposes unique opportunities to improve poultry welfare in the United States’ agricultural industry and offers methods to ensure the accurate labeling of poultry products.

I. INTRODUCTION

*“Chickens, whether intelligent or stupid, individual or identical, are sentient beings. They feel pain and experience fear. This, in itself, is enough to make it wrong to cause them pain and suffering.”*¹

Called “broilers” in the poultry industry, chickens raised specifically for meat production are the world’s most intensively farmed land animals.² Around 9 billion broilers are raised for slaughter yearly.³ Broilers are “fed for abnormally fast growth without consideration for their well-being.”⁴ For instance, a broiler weighing 5.7 pounds can be produced in just forty-seven days.⁵

Studies have shown that chickens possess significant cognitive skills parallel to the abilities of some mammals.⁶ Contrary to popular belief, chickens are intelligent, brave, and sentient beings⁷—capable of emotion,⁸ numeracy, and self-control.⁹ Chickens possess more than twenty vocalizations to communicate, including: predator alerts; mother/baby calls; mating calls; and even calls to communicate the discovery of food.¹⁰

In the past fifty years, farming operations in the United States have shifted away from small family farms and individualized production to mass production, commonly known as factory farming.¹¹ These massive, mechanized “megafarms,” also referred to as concentrated animal feeding operations (CAFOs), are more concerned with profit and efficiency to the detriment of an animal’s welfare.¹² Living conditions for chickens in CAFOs are unnatural and inhumane.¹³ The minimum size threshold for broiler chickens in a large CAFO consists of “125,000 or more” chickens.¹⁴ According to the Council for

Agricultural Science and Technology (CAST), the minimum space required for a broiler is one-half square-foot per bird.¹⁵ The National Chicken Council (NCC) requires a mere eight-tenths of a square-foot of space per bird.¹⁶ NCC’s guidelines are indeed in excess of the minimum requirement by CAST, which requires one-half of a square-foot to maneuver, however, confined chickens under either requirement spend their lives packed wing-to-wing on floors covered in waste.¹⁷ With little room to spread their wings, it is difficult for chickens to engage in natural behaviors, resulting in physical and mental distress, including crippling bodily injuries.¹⁸

The conditions in CAFOs have significant impacts on animal welfare and human health.¹⁹ As consumers become aware of the modern husbandry practices of *some* of today’s farmers, there has been an increase in demand for improved animal welfare.²⁰ To help lessen the impact of the inhumane practices of the animal agricultural industry,²¹ some consumers are willing to pay premium prices for “humane” meats.²² Some consumers feel that if they pay just a little more they can “have their meat and eat it too.”²³ The leading animal welfare regulations (i.e., Animal Welfare Act, Humane Slaughter Act, and Twenty-Eight Hour Law) do not provide legal definitions for terms like “welfare” or “humane.”²⁴ There is no specific set of animal welfare standards to substantiate welfare-related labeling claims.²⁵ Furthermore, the Animal Welfare Act definition of “animal” does not include animals raised for food.²⁶

Some companies have exploited the increase in consumer demand for the humane treatment of animals to increase their profits.²⁷ By simply labeling their products as “humanely raised,”²⁸ *some* companies are able to falsely distinguish their products and charge consumers premium prices.²⁹ There have been instances when “humanely raised” chickens have endured

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the same deplorable treatment as the average factory farmed chicken.³⁰ Meanwhile, purchasers of these so-called “humanely raised” chickens are being deceived by packaging labels and led to believe “all is well in the mythical world of humane animal agriculture.”³¹ False labeling is not only a problem for the poultry industry, but also for consumers and organizations that buy and sell organic products.³²

Food labels are of great importance to consumers and producers because the information on food labels helps consumers make educated and informed decisions.³³ Labels allow companies to advertise the benefits of their products to their target market. For some companies, food labels are the sole method to connect and engage with consumers.³⁴ The use of value-added animal welfare claims on products produced from animals raised under conventional factory farming animal welfare standards exploits the time, money, and resources of companies that *actually* exercise humane care for their animals and properly label their products.³⁵ Dishonest companies profit at the expense of the animals, consumers, and to the detriment of the humane farming industry.³⁶

Class action lawsuits have been filed on behalf of consumers against poultry producers for deceptively advertising their poultry products as “humanely raised.”³⁷ However, instead of implementing humane reforms, some producers simply agreed to remove the deceptive labeling from their product packaging.³⁸ Consumers prevailed in the sense that they are no longer being deceived by *some* companies, yet the paramount problems at the heart of the “humanely raised” movement still exist.³⁹ Farm animals continue to live and die in deplorable conditions. The United States Department of Agriculture (USDA) has yet to promulgate laws protecting poultry from inhumane treatment, and the labeling laws governing poultry products remain inadequate.⁴⁰ In order to truly resolve this issue, there must be federal regulatory reform regarding animal welfare, specifically the implementation of poultry labeling laws and independent oversight.

Section I of this article provides a glimpse into the inhumane life and death of a Perdue Farms’ broiler chicken. It also offers evidence of a company’s willingness to remove misleading labeling without resolving the underlying problem of its inhumane factory farming practices.⁴¹ Although this article focuses solely on one chicken producer, Perdue Farms, Perdue’s poultry husbandry practices are common throughout the broiler chicken industry.⁴² Section II addresses the lack of poultry protection under existing federal legislation. It also examines the loopholes in the current regulation of labels on poultry products.⁴³ Section III of this article examines the deficiencies of the early years of the “organic movement” in relation to the “humane movement.” Next, it *briefly* discusses how the organic industry regulated industry-wide organic standards resulting in a more accurate and unified certification process. Additionally, it explores the benefits derived from being “certified” organic.

Section IV proposes three potential solutions to improve poultry welfare in the agricultural industry: first, amending existing federal animal welfare laws to include poultry; second, establishing methods to ensure the accurate labeling of poultry products including specific guidelines and third-party

verification of animal welfare related labeling claims; and third, encouraging voluntary compliance with poultry welfare and labeling laws through incentives.

II. “HUMANELY RAISED” LABELS CAN DECEIVE CONSUMERS

This section explores the unveiled truth behind Perdue Farms’ misleading “humane” labeling. The need for increased poultry welfare standards is demonstrated through an examination of the life and death of Perdue chickens advertised as “humanely raised.” Although this discusses Perdue’s agreement to remove “humanely raised” from its poultry products, it also shows the company’s petition to replace the phrase with another deceptive phrase—indicating the need for a more stringent poultry labeling process. Finally, this section unveils Perdue’s upcoming proposal to improve their animal welfare practices and briefly examines the effectiveness of their voluntary pledge.

A. THE TRUTH ABOUT PERDUE’S “HUMANELY RAISED” CHICKENS EXPOSED

Perdue Farms is a top international food and agricultural producer, providing products and services in over seventy countries.⁴⁴ With annual sales in excess of \$6 billion,⁴⁵ Perdue ranks third in poultry industry sales.⁴⁶ Perdue advertised its Harvestland brand of chicken as “humanely raised” and “USDA process verified” when it charged consumers premium prices for the purportedly humane meat.⁴⁷ Perdue Farms’ “humanely raised” claims were based on The National Chicken Council’s guidelines, a trade group for the chicken industry,⁴⁸ whose members consist of chicken producers and processors, fowl processors, distributors, and allied industry firms.⁴⁹ According to the NCC, proper treatment of animals is an ethical obligation.⁵⁰

Poultry packaging stamped with the USDA’s approval and enhanced with phrases such as “humanely raised”⁵¹ would lead a reasonable consumer to believe that a Perdue Farms’ Harvestland “humanely raised” chickens lived a “comfortable avian middle-class” lifestyle.⁵² “Doing the right thing is things like treating your chickens humanely,” says Jim Perdue, the Chairman of Perdue Farms, in a promotional video for the company.⁵³ In the promotion, Jim Perdue is featured taking a stroll through an immaculate chicken farm.⁵⁴ The advertisement displayed healthy-looking, active, unsoiled chickens, walking around, eating and drinking in a spacious facility with lots of room to move about.⁵⁵

After almost twenty-two years of raising broiler flocks for Perdue, Craig Watts—a former farmer for Perdue Farms—became frustrated at Perdue’s lack of interest in the welfare of the chickens.⁵⁶ He decided to expose the truth behind Perdue’s “humane” labeling claims by allowing Compassion in World Farming, a farm animal advocacy group, to film inside his North Carolina farm, where he raised approximately 720,000 chickens for Perdue every year.⁵⁷ Perdue claimed that the farmer was negligent in caring for his flocks; however, the director of Compassion in World Farming performed an independent analysis and determined Watts was following Perdue’s guidelines “to the letter.”⁵⁸

1. THE INHUMANE LIFE OF “HUMANELY RAISED” CHICKENS

Watts’ farm contained over 30,000 chickens crammed wing-to-wing on the floor of a dark, windowless grow-out house.⁵⁹ According to Watts, sometimes years will pass before the barn floor is cleaned for a new flock.⁶⁰ Processed at only eight to ten weeks of age,⁶¹ broilers are genetically manipulated to rapidly produce large pieces of meat,⁶² which results in numerous health and welfare problems.⁶³ Fast growth has been referred to “in both magnitude and severity, the single most severe, systematic example of man’s inhumanity to another sentient animal.”⁶⁴

At the time of hatch, a broiler chicken weighs an average of forty grams, and can weigh about 4,000 grams by the time they are only eight weeks old.⁶⁵ “If humans grew at a similar rate, a 3 [kilogram] (6.6 [pounds]) newborn baby would weigh 300 [kilograms] (660 [pounds]) after 2 [months].”⁶⁶ Unfortunately, the skeletal structure of a broiler is unable to support this hasty growth.⁶⁷ Many suffer from skeletal abnormalities, including leg deformities, which cause lameness and make it difficult to stand and walk, thereby making it often impossible for these creatures to access food and water.⁶⁸ They spend an inordinate amount of time squatting to alleviate the strain on their debilitated legs.⁶⁹ As a result, the bellies and chests of almost all the chickens on Watts’ farm feature raw, featherless flesh resembling bedsores, presumably due to ammonia burns from continuous squatting in their own waste.⁷⁰

In addition to skeletal abnormalities, accelerated growth contributes largely to a vast number of health conditions including: cardiovascular disease, respiratory disease,⁷¹ and big liver spleen disease.⁷² Acute death syndrome is also common in fast-growing broiler chickens.⁷³ Broilers frequently die suddenly of heart attacks or collapsed lungs due to ascites, a condition in which the heart and lungs cannot sufficiently support an overgrown body.⁷⁴ The poultry industry casually refers to this condition as “flip over disease,”⁷⁵ because after wing-flapping convulsions, chickens “flip over” and die.⁷⁶ These health conditions are rarely experienced by chickens living in a natural environment.⁷⁷ Based on a study by the University of Georgia, poultry farmers typically experience a 3% death rate per flock.⁷⁸ Thus, a farm that has 30,000 chickens per flock will experience a death rate of about 900 chickens per flock.⁷⁹

The pain and discomfort chickens endure because of their genetic makeup is compounded by the inhumane living conditions in which Watts’ broilers were raised.⁸⁰ When crammed together, chickens relentlessly peck each other out of boredom and frustration, resulting in loss of feathers, injuries, and even death.⁸¹ Dead chicken carcasses are often left among the living, adding to the stressful and unsanitary living conditions.⁸² The high ammonia levels from the waste irritate and burn their eyes, skin, and throat.⁸³ To reduce the effects of confinement, chickens are often forced to undergo a series of mutilations, including the partial removal of beaks and toes.⁸⁴ These painful procedures are typically performed without anesthesia.⁸⁵

2. DEATH OF A BROILER

In the United States, approximately nine billion chickens and other poultry are slaughtered for consumption each year.⁸⁶ The journey from the chicken farm to the slaughterhouse can be hundreds of miles long.⁸⁷ The Twenty-Eight Hour Law Regulating the Interstate Transportation of Livestock prohibits the confinement of animals in vehicles or vessels for more than twenty-eight consecutive hours without food, water, and rest when being transported across state lines for slaughter.⁸⁸ However, the Twenty-Eight Hour Law excludes poultry.⁸⁹ Thus, chickens on their way to slaughter could remain cramped in their crates through extreme temperatures without food, water, or rest.⁹⁰

Upon arrival at the slaughterhouse, the broilers are often stunned to incapacitate them in an Electric Immobilization System, a low electricity water bath.⁹¹ Sadly, many birds remain conscious due to inadequate stunning.⁹² After being dipped in the stunning tank, the birds’ throats are cut by a mechanical blade.⁹³ Finally, broilers are dipped into scalding-hot water to remove their feathers.⁹⁴ These birds often defecate in the scalding tanks, contaminating the birds that follow, which are then condemned due to adulteration and cannot be sold.⁹⁵ As previously mentioned, Perdue based its “humanely raised” claims based on the animal welfare guidelines established by the NCC.⁹⁶ However, as evidenced by Watts’ farm, these conditions are not quite what the reasonable consumers would consider to be humane.⁹⁷

B. DECEPTIVE ADVERTISEMENT SUITS LEADS TO REMOVAL OF LABELS

In response to Perdue falsely advertising its chickens as “humanely raised,” two class action lawsuits were filed by The Humane Society of the United States (HSUS) on behalf of New Jersey and Florida customers who purchased Perdue Farms’ Harvestland chicken.⁹⁸ The plaintiffs alleged that Perdue preyed on consumers’ increasing sensitivity to animal cruelty and charged premium prices for so-called “humanely raised” chickens that were in reality subjected to extreme pain and harsh living conditions.⁹⁹ Perdue rejected the allegations and insisted its labels were not misleading.¹⁰⁰ Nevertheless, Perdue agreed to remove the labels from its packaging.¹⁰¹ In exchange, the HSUS agreed to dismiss with prejudice the Complaint alleging misleading labeling claims.¹⁰²

In a similar class action lawsuit, consumers alleged Kroger, one of the world’s largest supermarket chains, misled consumers and violated California consumer protection laws by ironically falsely labeling it Simple Truth brand chicken.¹⁰³ Kroger labeled its Simple Truth chicken as cage-free, insinuating their chickens were superior to competitors even though broiler chickens raised for meat are not raised in cages.¹⁰⁴ Perdue Farms is the chicken supplier for Kroger.¹⁰⁵

After much unfavorable media coverage, Perdue unveiled it will begin overhauling its animal welfare practices.¹⁰⁶ Accordingly, Perdue plans to improve the conditions on its broiler farms to allow their chickens to live higher quality lives.¹⁰⁷ Perdue will install windows in their grow-out houses,

provide more space in their barns, and put their chickens to sleep before slaughter.¹⁰⁸ In addition, Perdue “may tinker with breeding to decrease the speed at which birds grow or to reduce their breast size, steps that could decrease the number and severity of leg injuries.”¹⁰⁹ Unfortunately, there are no regulations to guide the poultry producer, thus they are left to regulate themselves in accordance with their own volition.¹¹⁰

III. THE LACK OF EXISTING LEGAL PROTECTION FOR POULTRY

In the United States, chickens are raised and slaughtered for food more than all other farm animals combined,¹¹¹ yet they lack protection under federal and state laws.¹¹² For instance, a veterinarian from the USDA allowed the owners of Ward Egg Range, an egg farm in San Diego County, California, to dispose of over 30,000 live spent egg-laying hens by tossing them into a wood-chipper.¹¹³ The District Attorney referred to the use of a wood-chipper to dispose of live spent hens as “following professional advice” and refused to prosecute the owners.¹¹⁴ Tossing live chickens into a wood chipper did not violate any federal or state laws; therefore, no crime was committed.¹¹⁵

This section examines the lack of coverage for poultry under existing federal animal welfare legislation and poultry labeling laws. It then discusses the relevant regulatory agencies and the roles they play in the regulation of poultry products. Finally, it examines federal initiatives that have been taken to improve poultry production and labeling practices.

A. LACK OF COVERAGE UNDER THE ANIMAL WELFARE ACT

The Animal Welfare Act (AWA) provides that “minimum standards of care and treatment be provided for certain animals bred for commercial sale, used in research, transported commercially, or exhibited to the public.”¹¹⁶ It authorizes the Secretary of Agriculture to regulate “transport, sale, and handling” of specific covered animals.¹¹⁷ The AWA’s definition of “animal” was amended in 1970 to “include warm-blooded animals generally used for research, testing, experimentation or exhibition, or as pets”¹¹⁸ However, despite being warm-blooded,¹¹⁹ chickens and other animals farmed for food and fiber lack protection under this law.¹²⁰

B. THE USDA’S FAILURE TO REQUIRE THE HUMANE SLAUGHTER OF POULTRY

The Humane Slaughter Act of 1958 (HMSA or “Act”) was designed to decrease the suffering of livestock during slaughter.¹²¹ In drafting the HMSA of 1958, Congress declared:

[T]he use of humane methods in the slaughter of livestock prevents needless suffering; results in safer and better working conditions for persons engaged in the slaughtering industry; brings about improvement of products and economies in slaughtering operations; and produces other benefits for producers, processors, and consumers which tend to expedite an orderly flow of

livestock and livestock products in interstate and foreign commerce.¹²²

The HMSA of 1958 contains three principal provisions. First, the Act specifies that “cattle, calves, horses, mules, sheep, swine, and other livestock . . . are rendered insensible to pain by a single blow or gunshot or an electrical, chemical or other means that is rapid and effective, before being shackled, hoisted, thrown, cast, or cut.”¹²³ The HMSA of 1958 did not define the phrase “other livestock.”¹²⁴ Second, the HMSA authorized the Secretary of Agriculture “to designate methods of slaughter and of handling . . . with respect to each species of livestock.”¹²⁵ Third, in an enforcement provision that was later repealed and replaced in 1978, the HMSA of 1958 prohibited the federal government from purchasing inhumanely slaughtered livestock.¹²⁶ Congress amended the HMSA of 1958 with a more general, yet stronger enforcement mechanism, the HMSA of 1978.¹²⁷ The amendment, a separate and distinct law from the HMSA of 1958,¹²⁸ required “that meat inspected and approved be produced only from livestock slaughtered in accordance with [the Act].”¹²⁹

In 1978, provisions of the HMSA of 1958 were incorporated into the Federal Meat Inspection Act (FMIA) making humane slaughter of livestock mandatory for all federally inspected slaughterhouses engaged in interstate commerce.¹³⁰ The HMSA of 1978 eliminated the reference to “other livestock” and instead provided a list of animals to which the humane standards applied.¹³¹ The list was limited to “cattle, sheep, swine, goats, horses, mules, and other equines,” explicitly excluding poultry.¹³² The incorporation of the HMSA of 1958 provisions into the FMIA made FMIA’s criminal penalties applicable to facilities that failed to comply with humane slaughter requirements.¹³³

In 2005, the Food Safety and Inspection Service (FSIS), the public health agency within USDA, issued a Federal Register Notice titled “Treatment of Live Poultry Before Slaughter.”¹³⁴ In the Notice, the FSIS acknowledged that employing humane methods of handling and slaughtering poultry decreases the likelihood of adulteration.¹³⁵ Nevertheless, the FSIS announced, “there is no specific federal humane handling and slaughter statute for poultry” thus declaring that the HMSA did not require the humane handling and slaughtering of poultry.¹³⁶ It simply recommended that poultry be treated humanely to avoid “adulteration.”¹³⁷

In response to the Notice issuance, the HSUS filed suit against the USDA.¹³⁸ The HSUS alleged that the Notice was erroneous because the 1958 HMSA, as applied to “other livestock,” was valid and included poultry.¹³⁹ The HSUS alleged, as a result of the Notice, the majority of animals slaughtered for consumption in USDA-inspected slaughterhouses lacked federal protection. Consequently, poultry processors were granted permission to slaughter poultry inhumanely without violating federal law.¹⁴⁰ The USDA denied having the legal authority to protect poultry under the HMSA.¹⁴¹ The agency asserted that the meaning of “other livestock,” was ambiguous as to both the statutory text and the legislative history.¹⁴² In vacating the

district court's decision due to lack of standing, the Ninth Circuit noted that "[c]ongressional debate revealed views favoring both interpretations . . . one that would include chickens, turkeys, and other domestic fowl within its expanse and one that would preclude such inclusiveness."¹⁴³ This language indicates the USDA may indeed have the authority to include poultry under the HMSA.¹⁴⁴

C. LEGAL LOOPHOLES IN POULTRY LABELING LAWS

The USDA is responsible for ensuring that "poultry products distributed to them are wholesome, not adulterated, and properly marked, labeled, and packaged."¹⁴⁵ The FSIS is charged with inspecting poultry products capable for human consumption,¹⁴⁶ and establishing the poultry product labeling policy to ensure that products are not mislabeled.¹⁴⁷ The FSIS derives its authority to regulate poultry product labeling under the Poultry Products Inspection Act (PPIA), implemented by the Secretary of Agriculture.¹⁴⁸

Congress enacted the PPIA of 1957 in response to the significant growth in the poultry industry.¹⁴⁹ Modeled after the FMIA, the PPIA expressly recognized that as a fundamental source of the nation's food supply, it is necessary to the health and welfare of consumers to ensure poultry products that enter or substantially affect commerce are "wholesome, not adulterated, and properly marked, labeled, and packaged."¹⁵⁰ Congress acknowledged the effects that mislabeled poultry products have on the market; the potential to undermine the regulation of interstate commerce; and the resulting harm to consumers and public welfare alike.¹⁵¹ As a result, poultry product labels must be approved before being applied to poultry products and offered for sale.¹⁵² Like the FMIA, violators of the PPIA face suspension of mandatory inspection, imprisonment of up to one year, or a fine of up to \$1,000.¹⁵³ The PPIA also allows for imprisonment up to three years, and/or a fine of up to \$10,000 if there is "intent to defraud" or adulterated products are involved.¹⁵⁴

One of the key provisions of the statute states, "no person shall . . . sell, transport, offer for sale . . . in commerce . . . any poultry products which are capable of use as human food and are adulterated or misbranded"¹⁵⁵ According to the PPIA, a poultry product is considered adulterated:

if it consists in whole or in part of any filthy, putrid, or decomposed substance or is for any other reason unsound, unhealthful, unwholesome, or otherwise unfit for human food; if it has been prepared, packed, or held under insanitary conditions whereby it may have become contaminated with filth, or whereby it may have been rendered injurious to health; if it is, in whole or in part, the product of any poultry which has died otherwise than by slaughter.¹⁵⁶

For example, poultry that arrives at the slaughterhouse post-mortem would be considered adulterated and thus condemned.¹⁵⁷ Bruising may also result in condemnation.¹⁵⁸ According to the FSIS, bruises are more likely to occur when birds are treated inhumanely.¹⁵⁹

The causal connection between inhumane treatment and adulterated poultry led the FSIS to develop a directive instructing Public Health Veterinarians (PHVs) and inspection program personnel on "how to perform ante-mortem and post-mortem inspection of poultry and of the conditions under which the birds are processed," to assist in preventing adulterated poultry products from entering commerce.¹⁶⁰ The directive outlines the operating procedures that federal poultry plants (FPP) must follow to "ensure sanitary processing, proper inspection, and the production of poultry products that are not adulterated."¹⁶¹

Per the directive, processors are required to handle all live birds humanely, in accordance with good commercial practices (GCP).¹⁶² However, the FSIS neglected to develop GCP guidelines for producers to follow and failed to implement adequate oversight to ensure compliance.¹⁶³ Relying instead upon standard poultry industry practices,¹⁶⁴ the FSIS simply addressed the verification process as it related to GCP for processing poultry based on the company's GCP records.¹⁶⁵

Compliance with these requirements is supposed to ensure that poultry are treated humanely.¹⁶⁶ However, per the directive, establishments are not required to keep or maintain GCP records.¹⁶⁷ If an establishment does not keep or maintain GCP records, or the records lack sufficient information to determine whether the establishment is following GCP, inspection personnel are to observe the FPP's poultry line process.¹⁶⁸ If inspection personnel determine that the establishment is not following GCP—for instance, they observe mistreatment or birds dying by means other than by slaughter—they merely document the violation on a Noncompliance Record (NCR) and meet with the FPP to discuss remedial plans on behalf of the establishment.¹⁶⁹ Between the aforementioned shortcomings of this seemingly comprehensive existing legal framework and the minimal disincentives for violators, FPPs have little reason to abide by the GCP.¹⁷⁰

Oversight of GCP in FPPs is "infrequent and uneven among USDA field offices."¹⁷¹ Even though the USDA's policy is to audit all the FPP's over an eighteen-month period, "only 21% of federal poultry plants received a formal GCP review."¹⁷² Furthermore, "there was no documentation regarding GCP activities of any kind at approximately half of all federal poultry plants during the 18-month period."¹⁷³ This verification system exemplifies inconsistent oversight and ineffective use of resources resulting in the continued abuse of poultry and labeling laws.¹⁷⁴

According to the PPIA, poultry products are considered to be misbranded "if [their] labeling is false or misleading."¹⁷⁵ If a product is determined to be misbranded under the PPIA, the FSIS can impose a range of penalties including: rescinding or withholding the approval of misleading labels; prohibiting shipment of the product through seizure; prohibiting sale through detention; requesting a recall of the product; issuing press releases and/or fines; and criminal prosecution.¹⁷⁶

The FSIS developed the *Animal Production Claims Outline of Current Process* ("The Guidance"), which is a labeling guidance designed to protect consumers from false animal welfare claims as they pertain to meat, poultry, and egg products.¹⁷⁷ Correspondingly,

the *FSIS Statement of Interim Labeling Guidance Documentation Needed to Substantiate Animal Production Claims for Label Submission* (“The Interim Guidance”) elaborates on the labeling approval process.¹⁷⁸ In accordance with The Interim Guidance, the FSIS requires a producer to show:

- (1) [a] detailed written protocol explaining controls for assuring the production claim from birth to harvest. If purchased, include protocol information from the supplier;
- (2) [a] signed affidavit declaring the specifics of the animal production claim(s) and that the claims are not false or misleading;
- (3) [p]roducts tracing and segregation mechanism from time of slaughter through further processing for wholesale or retail distribution;
- and (4) [a] protocol for the identification, control, and segregation of non-conforming animals/products.¹⁷⁹

When a producer submits an application to use the phrase “humanely raised” (or a derivative term), the FSIS determines whether the description of the producer’s conditions on its farm qualify as humane.¹⁸⁰ Again, there are no set guidelines to verify whether a producer’s declarations constitute a “humane” claim.¹⁸¹ The Guidance merely states, “[t]he documentation must support the claims.”¹⁸² The Interim Guidance allows the company or producer to define animal welfare claims according to guidelines established by the NCC.¹⁸³ FSIS agents do not visit farms to ensure that humane labeling claims are aligned with on-farm practices.¹⁸⁴ The approval is based solely on the documentation provided by the producer.¹⁸⁵ The lack of oversight contributes to inhumane on-farm conditions.

IV. LESSONS FROM THE ORGANIC INDUSTRY

This section explores how the humane farming industry can learn from the organic farming industry. It discusses the similarities between the early years of the “organic movement” and the deficiencies of the current “humane movement.” Next, it will briefly discuss how the organic industry unified the standards among producers, handlers, and state and private certification organizations. Additionally, it explores the benefits derived from being “certified organic.”

Much like the “humane movement,” the “organic movement” was a response to industrialized farming practices.¹⁸⁶ As consumers became aware of environmental and health concerns associated with modern agriculture, the demand for safer and more natural foods increased.¹⁸⁷ Initially, each state or certifying agency established its own “organic” standards.¹⁸⁸ Similar to the chicken industry, this decentralized self-regulating approach caused a lack of clarity and inconsistency among organic products.¹⁸⁹ The organic industry petitioned Congress—requesting a definitive definition for the term “organic.”¹⁹⁰ After evaluating the problems associated with organic food regulation, Congress acknowledged that the inconsistencies caused consumer confusion and recognized the need for federal action.¹⁹¹ Congress further recognized that the premium prices producers could charge for organic products provided an incentive for false or misleading labeling.¹⁹²

As a result, Congress passed the Organic Foods Production Act (OFPA), which mandated the USDA to develop and write regulations that unified the differing standards among producers, handlers, and state and private certification organizations.¹⁹³ The USDA implemented the National Organic Program (NOP), a verification process responsible for overseeing organic farmers and businesses to assure consumers that organically certified products meet a consistent standard.¹⁹⁴ NOP established the requirements for how organic products are grown, processed, handled, and also labeled.¹⁹⁵

Unlike “humane care standards,” the USDA organic standards describe in detail the means by which organic farmers may grow crops and raise livestock.¹⁹⁶ To become certified, organic farmers, ranchers, and food processors must adopt and adhere to a specific set of guidelines.¹⁹⁷ These standards cover the product from farm to table, including soil and water quality, pest control, livestock practices, and rules for food additives.¹⁹⁸ To become “certified organic,” the operation submits an application, which is then reviewed by certifying agents, consisting of state, private, or foreign entities accredited by the USDA.¹⁹⁹ The application must include: “(1) a detailed description of operation to be certified; (2) a history of substances applied to the land in the previous three years; (3) the organic products grown, raised, or processed; and (4) a written organic plan describing the practices and substances to be used.”²⁰⁰

The costs for organic certification vary depending on the type, size, and complexity of the organic operation and the cost for the certifying agent.²⁰¹ For example, California Certified Organic Farmers (CCOF), an organic certifying agency, collects fees for first-time certification.²⁰² The fees are derived from three main areas: (1) a one-time application fee; (2) an annual inspection fee; (3) and an annual certification fee based on the “Gross Organic Production Value (GOPV)” of the operation.²⁰³ Organic operations can recover the cost of organic certification in several ways. First, the Agricultural Marketing Service Organic Certification Cost Share Programs such as the National Organic Certification Cost Share Program (NOCCSP) help defray the costs associated with organic certification.²⁰⁴ Once certified, eligible organic operations can be reimbursed up to 75% of the cost of certification.²⁰⁵ Organic operations are also able to factor in the costs of production, enhanced environmental protection, and animal welfare standards into organic price premiums to supplement the cost of production.²⁰⁶

V. PROPOSAL TO ENHANCE POULTRY WELFARE AND LABELING LAWS

The inhumane treatment of poultry in the agricultural industry is facilitated by the lack of protection under federal legislation. To ensure comprehensive results that will protect the farmers who follow humane husbandry practices, consumers who purchase humane products, and the birds—there needs to be reform of animal welfare laws, poultry labeling laws, and also an implementation of third party verification programs.

This section proposes three potential remedies to improve poultry welfare in the agricultural industry. First, amending

existing federal animal welfare laws to include poultry; second, adopting methods to ensure the accurate labeling of poultry products including establishing specific guidelines and third-party verification of animal welfare related labeling claims; and third, developing incentives to promote voluntary compliance with poultry welfare and labeling laws.

A. AMEND EXISTING ANIMAL WELFARE LAWS TO INCLUDE POULTRY

In 2014, broiler sales in the U.S. rose 6% from the previous year with sales totaling \$32.7 billion,²⁰⁷ and a per capita consumption of 83.48 pounds.²⁰⁸ These figures reflect the substantial effect poultry has on interstate commerce. Based on the vast quantities of chickens used for food, chickens arguably suffer more abuse than any other animal.²⁰⁹ Yet, chickens are not deemed to be animals under the definition of the AWA.²¹⁰ The abuse endured by these innocent birds as well as the substantial effect that poultry and other warm-blooded farm animals have on interstate commerce warrant, at the very least, the minimum protections provided by the AWA.

Expanding the definition of “animal” under the AWA to include poultry and animals raised for food is imperative to the improvement of poultry and animal welfare. To officially declare a chicken as an “animal” deserving of respect and protection under the AWA would help mitigate the abuse of broilers in the farming industry.²¹¹ As it stands, continued omission of poultry (and other animals raised for food) under the AWA permits farmers to continue to abuse chickens without consequence.²¹²

Additionally, requiring GCP compliance to reduce product adulteration is an inadequate attempt to improve poultry welfare standards without amending the HMSA.²¹³ To ensure poultry receive sufficient coverage under federal legislation, the USDA must use its statutory authority to promulgate regulations to amend the HMSA to include poultry under “other livestock.” Further, requiring poultry be rendered unconscious prior to slaughter would reduce the unnecessary suffering of broilers during the slaughtering process, decrease the likelihood of adulteration associated with inhumane handling, improve working conditions for slaughterhouse employees as well as increase the overall finished product.²¹⁴ Considering the HMSA was designed in part to protect animals used for food from inhumane slaughter, improve worker health and safety, and enhance products and economies in slaughtering—omitting poultry from its coverage is inherently contradictory and undermines its very purpose.²¹⁵

Focusing solely on the regulation of poultry through an advertisement-based approach to improve poultry welfare will not help to enhance the treatment of chickens used for food production.²¹⁶ Advertisement-based challenges can be applied against producers who falsely market their poultry products or mislead consumers by failing to disclose information.²¹⁷ Meanwhile, producers who make no such welfare related claims remain free to treat their chickens cruelly.²¹⁸

An animal welfare-based approach protects the animals through established federal welfare standards.²¹⁹ This is not

to say that an advertisement-based regulatory approach will not prove beneficial in the improvement of poultry welfare.²²⁰ When used in conjunction with a welfare-based approach, advertisement-based regulations can serve as a supplemental safeguard to protect consumers and discourage companies from deceptive labeling.²²¹

B. PROMULGATE POULTRY WELFARE STANDARDS UNDER PROVISIONS OF THE POULTRY PRODUCTS INSPECTION ACT

Though the USDA’s authority to include poultry under the HMSA has yet to be determined, the USDA nevertheless, possesses the authority to regulate inhumane handling and the slaughter of poultry under provisions of the PPIA.²²² The PPIA grants the USDA the authority to promulgate regulations not only to improve the way chickens are raised and slaughtered, but also to improve poultry product labeling.²²³ To assist in preventing future poultry abuses, there are a few areas in the validation process where if precautionary measures are taken, the purposes of the PPIA would be fulfilled, and poultry welfare would be enhanced. Pursuant to the PPIA, “no person shall . . . sell, transport, offer for sale . . . in commerce . . . any poultry products which are capable of use as human food and are adulterated or misbranded.”²²⁴ The USDA has expressly acknowledged, through issuances of official notices and directives, the causal connection between inhumane handling of poultry and adulterated poultry products.²²⁵ The conventional electric immobilization system has proven to be inadequate in rendering broilers unconscious prior to slaughter, thus resulting in the unnecessary condemnation of millions of birds.²²⁶ To reduce the probability of adulteration and the needless suffering of broiler chickens, the USDA, through its regulatory authority granted by the PPIA, should require a more humane slaughter method rather than allow for the continued use of the conventional immobilization system.

One alternative USDA-approved method of slaughter is “controlled-atmosphere killing” (CAK).²²⁷ CAK can diminish numerous animal welfare problems such as adulteration and work-related injuries and health risks associated with the handling and processing of live birds.²²⁸ With CAK, birds remain in their transport crates while oxygen is slowly eliminated from the atmosphere and replaced with a nonpoisonous gas.²²⁹ Birds are dead prior to being removed from their crate; therefore, the birds are already dead when handled by workers.²³⁰ CAK can improve the quality of the meat because there is less bruising and hemorrhaging, thus lowering the chance of adulteration.²³¹

One objection to using CAK is the cost associated with its implementation.²³² However, return on investment (ROI) can be reached and surpassed within a few years.²³³ Accordingly, considering the minimization of the animal suffering, the reduction of the probability of adulteration, and minimal ROI, the USDA should require the use of CAK or comparable methods to be used in substitution of conventional immobilization slaughter methods.

According to the PPIA, poultry products are considered to be misbranded “if its labeling is false or misleading.”²³⁴ Based on the conditions of J. Craig Watts’ farm, consumers felt Perdue

Farms' Harvestland "humanely raised" chicken labeling was clearly false and misleading.²³⁵ Despite the factory farm's conditions, the USDA gave it the "USDA Process Verified Label."²³⁶

Animal welfare-related labels are routinely approved by the FSIS, even though terms such as "humane" or "welfare" remain undefined.²³⁷ As demonstrated, the lack of definitive legal definitions have sometimes resulted in deceptive labeling practices, varying industry standards, and inconsistencies among third-party certification programs.²³⁸ It is imperative that the USDA provide producers and consumers with a legal definition for the term "humane." In considering legally defining terms such as humane and welfare, the USDA should take into consideration the various means of measuring animal welfare.²³⁹ According to The World Organization for Animal Health (OIE), "[a]n animal is in a good state of welfare if (as indicated by scientific evidence) it is healthy, comfortable, well nourished, safe, able to express innate behaviour, and if it is not suffering from unpleasant states such as pain, fear, and distress."²⁴⁰ The definition of "humane" should reinforce the improvement of health and welfare of the animal; require methods that involve the least degree of pain associated with living conditions and slaughtering practices; address disease prevention and veterinary treatment; and provide for a more natural life with living conditions conducive to the species' natural environment, access to adequate food, water, shelter, rest, and sanitation.²⁴¹

The FSIS must establish specific guidelines to be used by producers, handlers, federal, state, and private certification organizations. The guidelines must serve as a universal minimum standard as to what farming practices are considered not only humane, but also inhumane. In addition, the USDA should disallow not only the term "humane," but all similar humane labeling claims from CAFOs, as conditions in CAFOs have been proven to be inhumane to say the least.

The implementation of the NOP helped ensure organic products met a consistent standard.²⁴² To help ensure consistency among humane products, the USDA needs to implement a similar program, possibly the National "Humane" Program (NHP). The NHP would formally establish the conditions that qualify as humane as well as establish the requirements for how humane products are handled, processed, and labeled.

Developing national uniformity for humane farming and labeling would prove beneficial to consumers and producers alike.²⁴³ As demonstrated with the USDA's "Certified Organic" label, requiring definitive definitions for animal welfare claims would minimize inconsistencies between what producers, FSIS, and consumers believe the terms *actually* mean.²⁴⁴ Establishing legal definitions for poultry producers to adhere to will assist in substantiating labeling claims, eliminating conflicting industry standards, and helping to restore consumer confidence in purchasing "humane" products.²⁴⁵

Moreover, the USDA needs to develop an animal welfare rating system that classifies welfare related claims based on farming conditions. For example, The Global Animal Partnership (GAP) developed a five-step animal welfare-rating program that

informs consumers about the "animal farming systems they choose to support."²⁴⁶ Each step classifies animal welfare standards based on varying levels of animal welfare. For instance, Step One prohibits cages, crates and crowding; while Step Five, the highest level of welfare standards, requires that the animal's entire life is spent on one farm and prohibits physical alterations of the animal.²⁴⁷ Application of these criteria would help discourage misleading labeling terminology because it would not matter what ambiguous terms poultry producers elected to use; instead, the welfare rating would inform consumers precisely how humane their on-farm conditions *actually* are.

C. IMPLEMENT THIRD-PARTY CERTIFICATION AND VERIFICATION

Animal welfare labeling claims continue to deceive consumers—primarily because of the FSIS's inadequate certification and verification process.²⁴⁸ The USDA's endorsement of Perdue's chickens demonstrated a lack of oversight in the verification process and exposed weaknesses within the agency—causing hesitation in some consumers to trust the USDA's stamp of approval.²⁴⁹ The current certification system is based on varying standards, and the verification system is based on an honor code of producers attesting to the truth of their claims.²⁵⁰ The absence of oversight permits for the use of deceptive labels that can ultimately result in not only misleading consumers, but also to harming farmers who have earned the right to label their packages with "humane" labels.²⁵¹ The key to restoring consumer confidence and trust in USDA's process verified label is proper oversight of the certification and verification process to ensure farms are following a unified humane standard and that they remain in compliance through ongoing verification of animal welfare labeling claims. The USDA should require proof in the form of random and unannounced on-farm visits to determine the truth of the producer's affidavit. Since the USDA does not have the resources or the manpower to authenticate each welfare claim,²⁵² independent third-party verification of animal welfare claims is imperative.²⁵³

Third-party certification and verification for the approval of animal welfare claims are necessary to provide: "(1) meaningful, verifiable standards; (2) consistency of meaning and of the verification process; (3) transparency, including the public availability of standards; (4) independence from users of the label; (5) opportunity for public comment."²⁵⁴ Unlike the self-regulating standards imposed by the NCC, true third-party programs are independent of the companies they are certifying, which produce less biased results.²⁵⁵

An example of successful third-party verification is the Marine Stewardship Council (MSC).²⁵⁶ Illegal fishing and unsustainable harvesting has resulted in concealing the reality of overfishing and distorting the true retail availability of certain species from consumers.²⁵⁷ This phenomenon results in the mislabeling of fish and seafood products.²⁵⁸ MSC, an international third-party certification and verification organization, collaborates with scientists, fisheries, seafood producers, and brands to promote sustainable fishing and safeguard seafood supplies

for the future.²⁵⁹ The MSC has made significant progress in their attempts to address the problem of unsustainable fishing to ensure the proper labeling of fish and seafood products.²⁶⁰ Through sustainable fishery management techniques that emphasize oversight, control, surveillance, and enforcement—the MSC has been able to significantly reduce the amount of falsely labeled seafood, while promoting the sustainability of wildlife fisheries.²⁶¹

To be MSC certified, companies must meet the MSC Standard, which consists of three core principles: (1) sustainable fish stocks; (2) minimizing environmental impact; and (3) effective management.²⁶² Fisheries must be managed to maintain the structure, productivity, and diversity of the ecosystem.²⁶³ Fisheries must also have a system in place to ensure they can respond to declining fish populations.²⁶⁴ The MSC manages a second standard called the Chain of Custody for traceability.²⁶⁵ A certification body independent of both the fishery and the MSC performs a traceability audit for each business along every link in the supply chain to ensure they meet the MSC Chain of Custody standard.²⁶⁶ The Chain of Custody team performs various trace back exercises to make sure that a product sold as certified can be demonstrated to come from a certified source.²⁶⁷ They follow a product through the supply chain from point of sale to the consumer and then back to the fishery.²⁶⁸ To ensure businesses remain in compliance with MSC standards, a certification body conducts random, unannounced, and short-notice audits.²⁶⁹ In addition, third-party consultants perform DNA testing which has shown that less than 1% of MSC eco-labeled product samples have been found to be incorrectly labeled.²⁷⁰ By comparison, a survey of 1,200 seafood products throughout the United States showed that 33% were mislabeled.²⁷¹ Seafood products can only display the blue MSC eco-label if the product can be traced back through the supply chain to a fishery that has been certified under the MSC standard.²⁷²

The FSIS can develop a model similar to that of the MSC's model of certification and verification to ensure that products that are labeled as "humanely raised" are independently certified and continuously verified to ensure they live up to their animal welfare claims. The USDA must improve oversight by requiring unannounced, random audits at farms and processing plants. This would minimize inconsistencies, fraud, and discourage retailers from falsely labeling poultry products. In addition, the FSIS should perform unannounced audits on independent third-party certifiers by accompanying certifiers onsite and monitoring the certification and verification process as well as reviewing certification applications to ensure third-party certifiers are enforcing federal standards.

The FSIS's current process for approving animal welfare and environmental label claims lacks transparency—both in the manner that information travels from producers to the FSIS and how information travels from the FSIS to consumers.²⁷³ Transparency would promote accountability within the poultry farming industry.²⁷⁴ However, ag-gag laws (laws that criminalize whistleblowers by prohibiting the making of undercover

videos),²⁷⁵ can make it difficult to establish liability and trust within the industry.²⁷⁶ Third-party verification can facilitate transparency between interested parties and poultry producers asserting animal welfare claims on their label. For example, consumers can evaluate the details of The Global Animal Partnership's five-step animal welfare rating program on their website or that of any partnering third-party certifier.²⁷⁷

D. DEVELOP INCENTIVES AND ENFORCE PENALTIES TO ENCOURAGE COMPLIANCE

Compliance can be promoted when companies are evaluated on and rewarded for their positive compliance performances.²⁷⁸ When coupled with strict governmental enforcement of penalties, compliance incentives would further reinforce the USDA's effort to require the humane handling of live birds.²⁷⁹ Corporate Social Responsibility (CSR) based on sound ethics and core values can be a valuable tool in helping companies gain a competitive advantage.²⁸⁰ Food companies are prime targets for public concern over perceived CSR deficiencies,²⁸¹ particularly regarding animal welfare, health, safety, and labor. As demonstrated by the substantial growth in the humane farming industry, the social behavior of companies influences consumer purchasing decisions, which can directly affect a company's bottom-line.²⁸² Consumers often exercise their economic vote by refusing to purchase items from companies that have a poor reputation.²⁸³ Whereas conscious companies that have a reputation for being socially responsible attract conscious consumers.²⁸⁴

Poultry producers are essentially agents of trust. Trust reassures consumers that the premium prices paid for "humanely" labeled poultry products reflect the cost of operating a humane farm and contribute to the improved welfare of animals. Consumers expect that labels are truthful and reliable. A breach of trust often results in lawsuits, consumer protests, and product boycotts. CSR helps establish, or in some cases re-establish, trust in a company and their products.²⁸⁵

Poultry farmers are able to revamp their reputations through reforming farming practices that result in the humane treatment of birds. This beneficial measure is capable of increasing a company's popularity while establishing a positive relationship with the public. For example, Tyson Foods, Inc., a world leading poultry producer, received an "A" from the Global Reporting Initiative, a world-recognized organization that promotes economic, environmental, and social sustainability.²⁸⁶ As a result, there has been a positive correlation between the company's CSR efforts and the public's perception of the company.²⁸⁷ The company has since experienced an increase in profits and an improvement in the company's reputation.²⁸⁸

Implementing a Cost Share Program similar to the National Organic Certification Cost Share Program (NOCCSP) and the Agricultural Management Assistance (AMA) to reimburse farmers for the cost to become "Certified Humane" is a great way to encourage poultry producers to implement more humane farming practices. Many producers are not "Certified Humane" because of the associated cost with becoming certified, which consists of: an application fee, the cost to make the necessary changes to

enhance the farm to qualify as humane, and the cost of annual inspections.²⁸⁹ Once certified, eligible humane operations can be reimbursed a percentage of the certification cost.²⁹⁰ Since there are costs associated with operating a certified humane farm, certified humane producers, like certified organic producers, are justified in charging premium prices to recuperate the cost of enhanced animal welfare standards.²⁹¹ For example, conventional chicken can cost around \$2.48 per pound, while the cost of organic chicken can range around \$4.42, a 78% price increase.²⁹²

The existing procedure for evaluating and penalizing companies for GCP violations does not effectively deter inhumane handling of poultry during processing.²⁹³ Although the FSIS's policy is to review all processing plants, "oversight of GCP in plants that handle birds is infrequent and uneven among [the] USDA field offices."²⁹⁴ The USDA must take major enforcement actions demanding that food companies comply with GCP or otherwise, be penalized for noncompliance.

One of the key problems in determining whether a facility is following GCP results from the lack of clear and precise GCP guidelines.²⁹⁵ The FSIS never officially recognized a set of clear-cut guidelines to assess whether a producer's GCP records or actions throughout the predetermined areas of the plant coincide with GCP standards.²⁹⁶ Per the directive, processors are required to handle all live birds humanely.²⁹⁷ The directive requires that poultry slaughter be done in accordance with good commercial practices (GCP).²⁹⁸ Because of this deficiency, producers are left to simply comply with discretionary industry standards set by the NCC.²⁹⁹ The FSIS simply addressed the verification process.³⁰⁰ Moreover, not requiring establishments to keep or maintain accurate GCP records is detrimental to the verification process and indicative of the insignificance of poultry welfare in the food industry.³⁰¹ Establishing clear criteria specifying precisely what GCP entails will not only aid in accurately verifying a producer's claims, it will also formally establish a minimum standard for the humane handling of live birds throughout the agricultural process.³⁰²

In recognition of the causal connection between humane handling and adulterated products, the FSIS must use its regulatory authority to revise the directive to first specify what GCP entails and then require establishments to keep and accurately

maintain GCP records for proper verification. In addition, inspectors should also be required to observe the predetermined areas of the plant to reinforce compliance.³⁰³ The PPIA reinforces the purpose behind enacting GCP, which is to eliminate adulterated poultry products from entering interstate commerce.³⁰⁴

The directive requires poultry processors to handle chickens humanely, suggesting that even if the FSIS did not have the authority to include chickens under the term "other livestock," it nonetheless had the authority to require the humane handling of chickens during processing derived from the authority granted by the PPIA.³⁰⁵

Based on the conditions of J. Craig Watts' farm, Perdue Farms' Harvestland chickens were not "humanely raised."³⁰⁶ This label was false, deceiving, and misleading, yet the FSIS has not imposed any of PPIA's penalties against Perdue Farms.³⁰⁷ In order to effectively deter the use of misleading labels, the FSIS must utilize the enforcement provisions of the PPIA to deter the use of misleading labels and protect consumers from misbranded poultry products.

VI. CONCLUSION

The lack of existing legal protections for poultry under current animal welfare legislation facilitates the abuse of birds used in food production. Loopholes in existing poultry labeling laws along with inadequate oversight of the certification and verification of "humane" labeling allows companies to mislead consumers with little consequence. It is necessary to first define an animal welfare standard and then implement specific guidelines for producers to abide by.

The USDA must exercise its authority to prevent adulterated poultry products from entering interstate commerce by establishing clear animal welfare standards for poultry. The establishment of separate and distinct laws specifically designed to enhance poultry welfare would be ideal. However, the USDA could utilize existing federal laws to advance the treatment of poultry while protecting consumers. By reforming the AWA and the HMSA, along with the application of the PPIA, the USDA can improve the welfare of chickens used in agriculture and also protect consumers from companies that choose to falsely advertise their products as humane.



ENDNOTES

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² See Joseph B. Miller, The Regulation of Animal Welfare In Food Production 7 (Apr. 25, 2005) (unpublished Third-Year Paper, Harvard Law School) (available at <http://nrs.harvard.edu/urn-3:HUL.InstRepos:8889490>) (noting that broilers are bred for their meat and are the most consumed animals in the United States).

³ *Big Chicken: Pollution and Industrial Poultry Production in America*, PEW CHARITABLE TRUSTS (July 26, 2011), <http://www.pewtrusts.org/en/research-and-analysis/reports/2011/07/26/big-chicken-pollution-and-industrial-poultry-production-in-america>; *Poultry Slaughter 2016 Summary*, U.S. DEP'T OF AGRIC. NAT'L AGRIC. STATISTICS SERV. 4-5 (Feb. 2017), <http://usda.mannlib.cornell.edu/usda/current/PoulSlauSu/PoulSlauSu-02-24-2017.pdf> [hereinafter *Poultry Slaughter 2016*].

⁴ *Chicken Production on Factory Farms*, FARM SANCTUARY, <https://www.farmsanctuary.org/learn/factory-farming/chickens> (last visited Dec. 13, 2017) [hereinafter *Chicken Production*]; see SONIA FARUQI, PROJECT ANIMAL FARM: AN ACCIDENTAL JOURNEY INTO THE SECRET WORLD OF FARMING AND THE TRUTH ABOUT OUR FOOD 100 (2015) ("Chickens and turkeys today are, in a sense, like balloons, except that they expand not with air but light. If they enlarge too fast, they explode—or, rather, implode, collapsing on painful, broken legs. Extreme genetic selection, accelerated by artificial insemination, has created farm animal breeds today that yield far more meat, milk, and eggs—while eating

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THIS IS NOT THE BEE'S KNEES: A CRITICAL VIEW OF THE GOVERNMENT'S LACK OF POLICY TO CONSERVE THE POLLINATORS

*By Savannah Pugh**

Fifteen billion dollars of the food industry comes from plants pollinated by honeybees—that's about one-third of the food industry.¹ Though unwelcome visitors at picnics, bees are vital to the ecosystem.² Honeybees act as predictors to the health of the planet. More bees mean more pollination, greater crop yields, and a healthier ecosystem; whereas, a decline in bee populations is a sign of a sick earth. There has been a 90% decline in bee populations in the last twenty years.³ Ninety percent of the plants on our planet require pollinators to transfer pollen and help them reproduce.⁴ Some flora even require a certain bee species for pollination,⁵ and with the common honeybee entering the list of endangered species in 2016,⁶ the outlook is grim. Bees are dying at an alarming rate due to pesticides, mites, global warming, and a plethora of other issues.⁷ To correct the plight of the bees, legal solutions must be considered. The protections created by Article Seven, Chapter Eleven of the United States Code—which make the importation of sick bees or at-risk bees illegal—and the Environmental Protection Agency's (EPA) Actions to Protect Pollinators report, are insufficient.⁸

Forty-two percent of beekeepers report that their bees have been affected by mites.⁹ The Varroa mite came from China, and bees in the United States have no immunity to it.¹⁰ The mite is an apex predator to the pollinators. The mite sucks the blood from adult bees, and when it comes into contact with larvae, the mite sucks the nutrients from the larvae and causes the baby bees to be born without wings or legs.¹¹ The mites spread from colony to colony by attaching to worker bees, who lose their way due to the interference of pesticides, and end up at different colonies than their home.¹² While colonies were once able to fight off infestation of the mites, the addition of insecticides weaken the bees to the point that they cannot keep the mites at bay.¹³

Thirteen percent of beekeepers noted that their bees were being threatened by pesticides causing bee die-offs to reach up to 50% of the colony per year in 2015.¹⁴ These pesticides are hard for bees to detect, and once exposed to them, the bees develop physiological effects that make their survival far more difficult.¹⁵ These chemicals cause the pollinators to suffer from slow development rates to the extent that they do not reach maturity at their regular rate, and the pesticides further interfere with feeding behavior. Additionally, the chemicals perturb the bees' foraging patterns—the bees who have come in contact with the insecticides cannot remember their normal pollination routes, and never make it back to their hive.¹⁶ Neonicotinoids have been

outlawed in Europe, and European bees seem to be faring better than U.S. bees in 2017.¹⁷ While the pesticides do not directly kill the bees, they are sub-lethal stressors that make their lives almost impossible.¹⁸

Temperature changes throughout the globe have caused and will continue to cause a myriad of problems. Global warming increases the temperature, changes rainfall patterns, and increases extreme weather patterns. These changes are major stressors for honeybees, which are susceptible to climatic changes.¹⁹ With cold weather coming at different times in the year than centuries before, hibernation patterns have been disrupted, in some cases causing bees to miss out on valuable spring time pollination.²⁰ Climate change has also disrupted the flight patterns of many bee species.²¹ The combination of climate change with industrial agriculture has led to the destruction of many habitats and species of flora.²² Bee diversity has dropped 23%—even the common honeybee is endangered today.²³

On June 20, 2014, President Barack Obama published a memorandum calling for the creation of a federal strategy to promote the health of pollinators.²⁴ The plan called into action a task force to be co-chaired by the Secretary of Agriculture and the Administrator of the Environmental Protection Agency, that was charged with developing a strategy with explicit goals to measure progress.²⁵ However, the plan reduced the honeybee problem to a seven-page document with no real goals. It states that the government will work in-house to solve the problem and will allow the Agricultural Research Service to convert four laboratories into specialized bee labs.²⁶ These labs may enter into formal agreements with non-Federal entities for grants and agreements for bee research.²⁷ The main goal of these research facilities will be to develop new miticides to interrupt the life-cycle of the Varroa mite.²⁸

The Health of the Honeybee plan does not create any new laws or standards; rather, it calls on honeybee keepers to voluntarily send tracked losses of their hives to the EPA.²⁹ It also implores each state to create a pollinator plan, but gives no deadline or incentive for the states to do so.³⁰ The only legal solution for honeybees to date is Title Seven of the United States Code, which merely restricts the importation of foreign honeybees into the states in an effort to halt the spread of Varroa mites.³¹ Rather than calling for a ban on the neonicotinoid pesticides that are known to make bees sick, the plan instead requires companies to

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label pesticides with a warning to consumers that the pesticide has been proven to be dangerous to pollinators.³² The government's legal involvement has done nothing to hold any state or federal entity responsible, and instead pleads that private citizens volunteer and make choices for their community. Instead of creating a comprehensive plan to combat the problem, the document reads as a petition to the public to act. This implies that the government is not going to do more to protect the honeybee or other pollinators.

The problem of bee die-off is catastrophic. Bees pollinate most of our planet—they are a keystone species, and they are what hold most ecosystems together. The United States needs to ban the pesticides known to cause bee illness—only then will the honeybees be able to fight off the mites that are decimating their population. The Federal Government must draft a

comprehensive plan to combat the problem with serious consequences for offenders and manufacturers of dangerous pesticides. With human development accelerating at an exponential rate, international trade and industrial farming pose some of the biggest risks to bees via the spread of invasive predatory species and overuse of pesticides. Every beekeeper should be entitled to relief; therefore, farmers should not have to volunteer their information to the government research facilities to be eligible for help. Additionally, manufacturers should be held responsible for the consequences of their actions, or their products should be outlawed entirely. To save the bees we cannot sit back and hope that the problem will solve itself—we must act aggressively and with purpose because their lives, and ours, depend on it.



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THE FARTS HEARD ‘ROUND THE WORLD: WHERE COW-TAPPING FALLS ON THE INTERNATIONAL AGENDA OF SUSTAINABLE DEVELOPMENT

Alexandra C. Nolan*

To meet sustainable development goals, countries have developed innovative technologies to create a cleaner environment. One technology developed in Argentina for cleaner methane extraction entails the *entrails* of cows. A cow's diet and biological disposition is made up of “rumens,” which creates the perfect chemical birthplace for methane gas.¹ The methane emissions from one cow's burps and farts are harmless.² However, cows' collective methane emissions can be lethal.³ Recently, a barn housing ninety cows exploded in Germany because of the cows' collective methane emissions, suggesting that methane can be inherently dangerous.⁴

Methane also has long-term consequences for the environment, as it is expected to negatively affect the environment twenty to twenty-three times more than carbon dioxide in the next 100 years.⁵ Methane emissions from cows account for a quarter of the world's total methane emissions.⁶ With these statistics in mind, it is evident that cow burps and farts significantly contribute to the deterioration of our environment.

To address the methane challenge posed by cows, Argentina's National Institute of Agricultural Technology (INTA) developed the cow “fart-pack.”⁷ The process of using the “fart-pack” is called “cow-tapping.”⁸ The “fart-pack” extracts methane through a tube inserted into the cow's stomach, stores the methane in containers, and uses it as an alternative fuel source.⁹ By utilizing “fart-packs,” 300 milliliters of methane a day can be extracted from the cow to power a 100 milliliter refrigerator for one day.¹⁰ While INTA perfected the “fart-packs,” they are not unique to Argentina—England also uses “fart-packs.”¹¹

Despite the “successes” of “fart-packs,” they raise imperative ethical questions regarding animal welfare.¹² Is there international law that adequately addresses animal welfare? Are the values of clean energy prioritized over values of animal protection?

Cow-tapping exemplifies the compromise of animal welfare for a scientific procedure of innovation. As to date, there is only one ratified international agreement adequately addressing the use of animals in scientific procedures of innovation, and it pertains only to Europe. It is called the *European Convention for the Protection of Vertebrate Animals Used for Experimental and Scientific Purposes* (“Convention”).¹³ Does the Convention approve cow-tapping?

Article One of the Convention calls for the main purpose of a procedure to be for the protection of the environment.¹⁴ The main purpose of cow-tapping is trapping methane gas, and thus can be seen as environmentally beneficial.¹⁵ Another purpose for such procedures under Article One is research.¹⁶ Another purpose of cow-tapping is to research how methane can be used as an alternative energy producer.¹⁷ A third acceptable purpose for such a procedure under Article One is forensic inquiry.¹⁸ Cow-tapping is a process of forensic inquiry because it reveals the natural process of methane production. Therefore, cow-tapping is a justified procedure under the Convention.

The Convention outlines requirements to ensure animals experience the least amount of pain possible.¹⁹ Such requirements include the animal's freedom of movement and that the animal be given food, water, proper healthcare, and proper supervision.²⁰ Cow-tappers *may* meet these requirements.²¹

The Convention also calls for the use of animals in scientific procedures as a last resort.²² Article Four expressly states the Convention cannot inhibit liberties of signatories to adopt stricter animal welfare measure involved in the procedures.²³ The Convention further states in Article Six, “[a] procedure shall not be performed for any of the purposes . . . if another . . . method, not entailing the use of an animal, is reasonably . . . available” and calls for active research into alternative methods.²⁴

Under Article Six, cow-tapping is legal in Europe. While alternative methods for methane extraction, not including the use of cows, are reasonably available, there is not currently an alternative method to extract methane *from cows*. The challenge faced is not how to extract methane, but how to specifically reduce cows' methane emissions. Currently, the only way to address this threat is to cow-tap.

Multiple international agreements governing animal welfare are awaiting ratification.²⁵ For now, only the Convention adequately approves cow-tapping in Europe.²⁶ The lack of international law governing cow-tapping indicates the international community values clean energy over animal welfare. While there are several international agreements governing clean energy, animal welfare agreements have taken a back seat.²⁷ One thing is clear: the time for international consensus on animal welfare is long overdue.



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CRUELTY TO HUMAN AND NONHUMAN ANIMALS IN THE WILD-CAUGHT FISHING INDUSTRY

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I. INTRODUCTION

The welfare of animals killed for our consumption, and the treatment of agricultural workers involved in this industry, are pressing ethical issues not sufficiently discussed in the context of the fishing industry. While concerns about the welfare of terrestrial farmed animals gain some prominence in discussions about sustainability and food policy, concern for the welfare of fish killed for food lags far behind. This lack of concern for their welfare is in spite of considerable scientific evidence showing that fish experience pain, fear, and suffering. The fishing industry also has grave impacts on humans, which include health and safety issues, labor law violations, and even human rights abuses such as human trafficking, child labor, and slavery. Incorporating these less publicized concerns into our conversations about fishing is necessary in order to improve law, policy, and consumer awareness in this area.

II. BACKGROUND

A. TYPES OF ANIMALS INVOLVED

When we talk about the types of aquatic animals used in capture and farmed fishing, it is important to note that the list is very broad. It includes: finfish, crustaceans (e.g., shrimp, crab, lobster, oyster, crayfish); mollusks (e.g., snails, clams); pinnipeds (i.e., seals and sea lions); cephalopods (e.g., octopuses, squid, cuttlefish) and cetaceans (i.e., whales and dolphins).¹ Each of these categories of animals may be treated somewhat differently according to the laws or customs of different nations, and as a result, are more or less involved in the fishing industry.²

The narrowness of our conception of “fishing” needs to be broadened in order to make conscious and reasoned policy decisions. For example, although most people do not think of whaling when they think of fishing, perhaps because they are mammals,³ it is a part of the fishing industry.⁴ Whales are still killed for food (and for scientific purposes) in a number of countries.⁵ The killing of whales has been the source of significant controversy as it pertains to treaty rights, national sovereignty, culture and tradition, sustainability and ecosystem protection as well as the welfare of the animals themselves.⁶ Whaling is more widespread than is generally known.⁷ Notably, Japan, Norway, and Iceland argue for increased whaling quotas, relaxed regulation, and an end to the 1982 whaling ban imposed by the International Whaling Commission (IWC)—suggesting the need to protect fishing stocks by reducing the numbers of whales.⁸ But other countries are also involved. Indonesia continues whaling on a small scale using non-industrial methods,⁹

and in 2012, South Korea said it would undertake scientific whaling in its own waters.¹⁰ Russians in Chukotka Autonomous Okrug and natives of Bequia (Saint Vincent and the Grenadines) are permitted by the IWC to take certain numbers and types of whales each year.¹¹ Under an exception for indigenous populations, the United States,¹² Canada, and Greenland allow whaling for species covered by the IWC.¹³ The Faroe Islands is a semi-autonomous country and not a party to the international whaling ban; as such, it conducts hunts not covered by the IWC.¹⁴ Some think the Filipino whaling industry continues underground operations even after it became illegal in 1991.¹⁵ Between the 1985 ban and 2014, 1,355 whales were killed *legally* in the United States, not accounting for illegal killings.¹⁶ The conversations we have about whaling—with its cultural, environmental, and animal welfare concerns—also apply to other forms of fishing.¹⁷

B. USES OF AQUATIC ANIMALS

Aquatic animals are fished or farmed for multiple purposes. These uses include pet food, livestock and fish food, fertilizer, glue, oil, and by-products (oil and by-products are also sometimes used in human food).¹⁸ Indications are that all of these uses are increasing.¹⁹ Between 2010 and 2021, the anticipated growth of world aquaculture is 33%.²⁰ By 2025, the estimated growth of global fisheries and aquaculture production is 17%.²¹ Total fishery production is also expected to rise from 167 million tons in 2013-2015 to 196 million tons by 2025, with aquaculture moving from 44% of that total in 2013-2015 to 52% in 2025.²²

Putting aside the non-food reasons these animals are killed, and any conversation about the value, necessity, or utility of those actions, it is clear that even the nutrient-based uses of aquatic animals, particularly finfish, has changed significantly.²³ In 1960, agricultural use of fish meal²⁴ was predominantly, and almost evenly used for pig and chicken feed.²⁵ But by 2010, 73% of fish meal was used for aquaculture, 20% for pigs, 5% for chickens, and 20% for other uses.²⁶ A similar change has occurred in the use of fish oil. In 1960, 80% of fish oil was used for hardened edible use, and 20% was for industrial use.²⁷ By 2010, 71% was used for aquafeed, 24% was used for refined edible use, and only a small percent was used for hardened edible and industrial uses.²⁸

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C. TYPES OF FISHING

Different methodologies of fishing present different concerns. Wild-caught fishing is often called capture, and “farmed” fishing is often called aquaculture.²⁹ Operations conducted entirely on land are sometimes called on-shore facilities.³⁰ Hatcheries are on-shore facilities that breed fish or aquatic animals in tanks for households or to release into streams and lakes.³¹ Aquaculture operations can be both close to a shore³² or in the deep ocean.³³ Each jurisdiction has its own rules and regulations regarding these operations.³⁴ Large scale and industrial operations have the potential to create the most harm to oceans,³⁵ animals,³⁶ and workers.³⁷ Oversight and enforcement of the existing laws are often lacking due to political will, limited resources, or the challenges of policing either the open sea or private property.³⁸ While this article will focus specifically on the wild-caught fishing industry, it is important to note that the aquaculture industry also presents significant concerns, and in recent years it has eclipsed the scale of the wild-caught fish industry because of human consumption.³⁹ In 1974, aquaculture accounted for only 7% of fish consumed by humans, but by 2004 it had increased to 39%.⁴⁰ A 2016 Food and Agriculture Organization of the United Nations (FAO) report estimates that by 2020 over 50% of all (human and non-human) food fish will come from aquaculture, and by 2030 that number will be 62%.⁴¹

D. SCALE OF FISHING OPERATIONS

The 2016 FAO report also indicated that in 2014, 49.8 million tons of finfish and 30.3 million tons of other aquatic species were produced globally via aquaculture,⁴² and the FAO forecasts the 2017 total to reach 82.5 million tons.⁴³ For 2014, wild-caught fishing accounted for an additional 93.4 million tons of animals,⁴⁴ and it is projected to reach 91.2 million tons in 2017.⁴⁵ This compares with 311.6 million tons of meat and poultry produced globally in 2014,⁴⁶ which reached 322 million tons in 2017.⁴⁷ Official statistics on the amount of fish caught each year are not available because the FAO statistics are in tonnages, not individual animals.⁴⁸ A 2010 Fish Count Report estimated that humans catch and kill 0.97 to 2.74 trillion finfish every year.⁴⁹ This estimate may be too low since the FAO fisheries calculate the amount of fish captured via tonnage.⁵⁰ This estimate does not include fish who escape from fishing gear and die, fish caught illegally (i.e., poaching), animals caught unintentionally in nets or gear as by-catch, animals who are injured or killed by discarded fishing gear (i.e., ghostfishing), or any other unreported capture.⁵¹ Removal of this many animals has a significant impact on the ecosystem and can result in food chain imbalances and the impairment of a species’ ability to reproduce.⁵²

The FAO reports suggest that the global fish trade in 2017 is worth \$141 billion dollars annually with 152.5 million tons used for food, 14.7 million tons used for feed, and 5 million tons used for other purposes.⁵³ The FAO also notes that in 2014, 56.6 million people globally were directly employed in capture or aquaculture, with 84% of these workers in Asia, and 94% of the fish farming occurring in Asia.⁵⁴ Recent estimates for the United States suggest that the wild-caught fishing industry takes about

5 million tons of aquatic animals, with another half a million coming from aquaculture.⁵⁵

E. SCIENTIFIC UNDERSTANDINGS OF THE CAPACITIES OF AQUATIC SPECIES

Scientists now know far more about the capacities of aquatic animals, which include their capacity to feel pain and suffer.⁵⁶ Studies have shown that certain aquatic species have the following capacities: (1) sentience—fish, and other aquatic animals;⁵⁷ (2) physical feeling and pain and adrenal systems;⁵⁸ (3) consciousness;⁵⁹ (4) self-awareness;⁶⁰ (5) awareness of time and long and short-term memory;⁶¹ (6) emotional responses;⁶² (7) complex cognition;⁶³ (8) recognize human faces;⁶⁴ and (8) tool use.⁶⁵ Additional science addresses the ability of some aquatic species to cooperate across species, protect their young and each other, and engage in social learning and deception.⁶⁶

These new scientific understandings require a shift in our approach to fish and other aquatic species as well as a reassessment not just of our uses of them, but also of the laws that affect and fail to protect them.⁶⁷ *We* recognize that not many people want to forgo traditional practices in order to protect fish and other aquatic animals, but *we* suggest that better animal welfare practices results in better human welfare practices. Therefore, calls for improvements should be considered.

III. THE WELFARE OF WILD-CAUGHT FISH

Humans catch and kill trillions of fish every year.⁶⁸ Because of this staggering number, their suffering is a major ethical concern.⁶⁹ As noted above, physiological and behavioral studies show that fish have the capacity to feel pain.⁷⁰ Fish welfare is harmed when they are in pain.⁷¹ Fish are capable of learning and remembering complex information, which suggests they are capable of suffering.⁷² Being caught on a hook, being crushed under other fish, and being gutted while alive are all instances where fishing practices produce painful situations; therefore, the suffering of fish must be considered.⁷³ Like other sentient animals that humans exploit and kill, humans are morally obligated to protect fish from unnecessary pain and suffering.

A. FISHING METHODS

The major fish capture methods are: trawling; purse seining; gill, tangle, and trammel nets; rod and line fishing; trolling; pole and line fishing; and longline fishing.⁷⁴ Many fish are injured in the process of being captured.⁷⁵ By-catch—the capture of non-target animals, who are usually thrown back into the sea as dead or dying back—is also a concern with most fishing methods.⁷⁶

1. TRAWLING

In trawling, a large net is dragged through the water or along the ocean floor to catch fish.⁷⁷ Fish caught by trawling are chased to exhaustion (the time varies considerably depending on species), panic, and are scraped and injured by the net.⁷⁸ Some suffocate or are crushed to death under the weight of other fish.⁷⁹ One study showed a 29% to 61% mortality rate for fish caught when trawling.⁸⁰ One study showed a 30% to 72% mortality rate (usually from injuries or exhaustion) of fish who escape

trawling.⁸¹ Additionally, when pulling fish up from deep water, they suffer decompression injuries—that is, parts of their gut are forced out through their mouths and anuses, their swim bladders burst, and their eyes bulge out of their sockets.⁸²

2. PURSE SEINING

In purse seining, a large net slowly surrounds fish and is closed at the top like a drawstring bag.⁸³ Fish panic and violently try to escape as the net gets smaller.⁸⁴ During capture, fish may be attacked by predators, and they may experience severe exhaustion and injury from other fish, the net, and when brought on board.⁸⁵ If the net is lifted out of the water to bring the fish on board, many are crushed to death.⁸⁶ Fish that are deliberately let out of the net experience high death rates up to 90%.⁸⁷ Fish caught through purse seining may also experience decompression injuries.⁸⁸

3. GILLNETTING

A gillnet hangs in the ocean and ensnares fish who swim into it by their gills.⁸⁹ Fish caught in gillnets panic and feel afraid.⁹⁰ They experience severe exhaustion during a long duration of capture spanning hours or even days (it is more stressful the longer it takes), and considerable injury is done to their skin and scales, thus interfering with their ability to breathe properly, and causing them to suffocate.⁹¹ Some fish are attacked by predators when ensnared in the net.⁹² When the net is brought onboard and the fish are taken out of it—they can suffer further injury.⁹³ Escapees are impaled on a gaff (i.e., iron hook).⁹⁴

4. TANGLE AND TRAMMEL NETTING

Tangle and trammel nets catch fish by entangling them instead of snaring their gills.⁹⁵ Fish caught by these methods likely suffer similarly to those caught by gillnets, except that with tangle and trammel nets, fish can breathe normally and suffer less severe physical injury.⁹⁶ One study showed that 28% of fish died in trammel nets, and this increases with the duration of capture process.⁹⁷

5. ROD AND LINE FISHING & TROLLING

In rod and line fishing, fish are caught individually on a hook and line.⁹⁸ In trolling, baited lines are towed through the water.⁹⁹ Fish caught on hooks experience fear, panic, stress, and pain (most fish are hooked in or around their mouths or through their eyes).¹⁰⁰ The fear and pain that fish experience increases when the line that they are hooked to is pulled.¹⁰¹ Fish caught by trolling experience severe exhaustion.¹⁰² Fish may be impaled on a gaff to bring them onboard.¹⁰³

6. POLE AND LINE FISHING & LONGLINE FISHING

In pole and line fishing, bait (i.e., live fish) is used to stir up a feeding frenzy.¹⁰⁴ Fish are then caught on hooks, swung aboard, and slammed onto the deck, which disengages them from the hook.¹⁰⁵ In longline fishing, hundreds to thousands of baited hooks (sometimes with impaled live fish) are on one line to catch fish.¹⁰⁶ There is a long duration of capture, ranging from hours to days.¹⁰⁷ Fish caught on hooks may be attacked by predators.¹⁰⁸ Baited cages are also used to capture fish.¹⁰⁹

Fish do not experience much physical injury from this method of fishing, but they may be stressed from confinement or may be attacked by predators during the process.¹¹⁰

Live bait fish are sometimes used when catching fish.¹¹¹ Bait fish suffer fear and distress from capture, confinement (it may be for days or weeks), hook impalement, being dropped into the water (an unfamiliar environment), and being unable to escape predators.¹¹²

B. THE SLAUGHTER OF WILD-CAUGHT FISH

The majority of wild finfish who are caught die by suffocation or live gutting.¹¹³ These are prolonged ways to die. How quickly fish lose consciousness depends on their species, how well they are adapted to tolerate low levels of oxygen, their escape response (activity burns up their oxygen reserves), and the air temperature.¹¹⁴ One study showed that fish who are suffocated and eviscerated (disemboweled) become unconscious in 25 to 65 minutes, and fish who are suffocated lose consciousness in 65 to 250 minutes.¹¹⁵ Another study found that it took 2.6 to 9.6 minutes for fish who are suffocated to lose consciousness, and it took 4.5 minutes for fish who are exsanguinated (have their gills cut) to lose consciousness.¹¹⁶ Fish are also sometimes put on ice as they suffocate, which prolongs the time to lose consciousness in some species, but decreases it in other species.¹¹⁷

Additional slaughter methods include, stunning (i.e., percussive and electrical); CO₂ suffocation; baths (i.e., salt, ammonia, or ice); decapitation; asphyxiation; live chilling; gutting while alive; pithing; shooting; use of dynamite to stun or kill. Methodologies and legal restrictions vary by jurisdiction. No humane slaughter laws apply to fish or aquatic animals in the United States.¹¹⁸

C. REDUCING SUFFERING CAUSED BY FISHING

The suffering of fish can be reduced in many ways. First, the use of live bait fish should be banned, as it is unnecessary, and they suffer greatly.¹¹⁹ Second, the duration of capture should be reduced by requiring lines and nets to be checked more often, as fish suffer more the longer they are caught on a line or in a net.¹²⁰ Gillnets, which ensnare fish, should be checked every thirty minutes, as fishes' stress levels are higher the longer they are ensnared in the net.¹²¹ Third, the use of gear and equipment that causes less injury to fish should be required (e.g., circle hooks instead of traditional j-shaped hooks should be used), and the better handling of fish and the careful removal of the hook from the fish should also be required.¹²² Fourth, gillnets should be banned, and tangle nets should be used instead. Tangle nets cause less suffering because they only entangle fish, and they do not ensnare their gills.¹²³ Fifth, fishers should be required to catch fish from shallower depths (under twenty to thirty meters) to reduce decompression injuries.¹²⁴ Sixth, methods of handling and landing fish that are less painful than gaffing, and that minimize their time outside of water should be developed and required, so that they are not suffocating in air—for instance, fish pumping systems can be used.¹²⁵

To reduce fishes' suffering during slaughter, it should be required that fish are rendered unconscious before they are killed.¹²⁶ This would require that fish be rendered unconscious soon after being taken out of water, so they do not experience the (minutes to hours of) pain of being suffocated or gutted alive.¹²⁷ Methods that cause immediate loss of consciousness that lasts until death (so they do not feel themselves being killed) should be used—such examples include percussive stunning (i.e., a blow to the head), spiking (i.e., inserting a spike into the brain), and electrical stunning.¹²⁸ Immediately after stunning, fish should be bled out or killed with an electrical current.¹²⁹ Additionally, the wild-caught fishing industry should adopt automatic percussive and electrical stunning, which are devices sometimes used on boats for farmed fishing.¹³⁰ Lastly, a system for using food grade anesthetics in water, like AQUI-S, to anesthetize fish before stunning and killing should be developed so as to further reduce the pain and trauma associated with being taken out of the water (if the stunning method requires this) and stunned.¹³¹

D. MAKING LEGAL CHANGES

Globally, 93.4 million tons of fish were captured in 2014.¹³² The countries with the highest captures were China, Indonesia, the United States, and the Russian Federation.¹³³ Most fish were captured in the Northwest Pacific, Western Central Pacific, Northeast Atlantic, and Eastern Indian Ocean.¹³⁴ Many countries need to adopt new laws to provide meaningful protection for wild-caught finfish. For instance, fish welfare laws could be adopted by adding protection of their welfare to: (1) the 2030 Agenda for Sustainable Development,¹³⁵ and (2) the Code of Conduct for Responsible Fisheries.¹³⁶

1. THE 2030 AGENDA FOR SUSTAINABLE DEVELOPMENT

In September 2015, United Nations' Member States adopted the 2030 Agenda for Sustainable Development.¹³⁷ The Agenda's goal is to end poverty and hunger while sustainably managing natural resources (which includes wild animals killed for consumption).¹³⁸ The Agenda includes seventeen Sustainable Development Goals (SDGs), a set of "aspirational objectives with 169 targets expected to guide actions of governments, international agencies . . . and other institutions over the next 15 years (2016–2030)."¹³⁹ The SDGs set out specific objectives for countries to meet within a given time frame, with periodic monitoring to measure progress towards the objectives and ensure that no country is lagging behind.¹⁴⁰ The FAO is working with countries to ensure SDGs are integrated in national and regional policy.¹⁴¹

Many of the SDGs focus on justice. They include ending inequality, poverty, and hunger, ensuring inclusive quality education, gender equality, and access to food, water, and sustainable energy.¹⁴² One goal, SDG 14, expressly focuses on the oceans: to "conserve and sustainably use the oceans, seas and marine resources."¹⁴³ Justice for all, not just humans, should be included in these goals. In the context of our food system, justice for animals should mean, at the very least, not causing them unnecessary suffering.¹⁴⁴ Therefore, SDG 14

should be expanded with this suggested text to include the objective of protecting animals: "to protect the welfare of fish and other sentient aquatic animals who are used and killed for consumption."

The FAO helps countries meet the SDGs through the creation of targets and indicators, and provides advice on how to meet these in the United Nations Development Programme (UNDP) Support to the Implementation of the SDGs.¹⁴⁵ The FAO could create a target for reducing the suffering of fish, and an indicator to measure progress toward that goal, such as the number of countries that have adopted more humane fishing and slaughter methods. The concrete suggestions to reduce the suffering of wild-caught finfish could be included in the UNDP Support to the Implementation of SDG 14 and would make a meaningful impact in helping countries regulate their fisheries in ways that could reduce the suffering of sentient aquatic animals, like fish.¹⁴⁶

2. THE CODE OF CONDUCT FOR RESPONSIBLE FISHERIES

In 1995, more than 170 Members of the FAO adopted the Code of Conduct for Responsible Fisheries.¹⁴⁷ The Code includes goals, principles, and practical steps that Members can take to implement the principles in its national policies, such as in industry codes of good practice or legislation.¹⁴⁸ It represents a global consensus on a wide range of issues and was created by many different stakeholders in the aquaculture and fishing industries, including governmental and non-governmental organizations, fishers, aquaculturists, and the FAO.¹⁴⁹

The Code establishes principles and standards for conservation, management, and development for all fisheries, in accordance with relevant international laws.¹⁵⁰ It provides guidance to Members on how to establish or improve their legal framework regarding fisheries and guidance in creating and implementing new international agreements.¹⁵¹ One objective of the Code is to "promote protection of living aquatic resources"¹⁵² The protection of "aquatic resources" who are sentient animals,¹⁵³ like fish, should include protecting their welfare. The Code states as a general principle that, "[t]he right to fish carries with it the obligation to do so in a responsible manner."¹⁵⁴ Responsible fishing should mean giving consideration to fishes' welfare and reducing their suffering. The Code also states that "management decisions for fisheries should be based on the best scientific evidence available."¹⁵⁵ This should require Members to take into account the scientific consensus that finfish can feel pain and suffer in deciding how to manage their fisheries. The management of fisheries includes where to fish, what animals to target and kill, and what equipment and methods to use.¹⁵⁶

The Code also states that, "fisheries management organizations should apply a precautionary approach widely to conservation, management and exploitation of living aquatic resources in order to protect them . . . taking account of the best scientific evidence available."¹⁵⁷ This may mean that even if Members disagree on the strength of the evidence for pain in finfish (which many scientists believe is strong), they should apply a

precautionary approach to protecting fish welfare, and take steps to reduce unnecessary suffering.

The Code should also adopt, as a general principle, the protection of fish welfare. *We* suggest adding the following language to Article 6: “The right to fish carries with it the obligation to do so in a humane manner. Fishing methods and equipment should not cause unnecessary suffering to fish and other sentient animals. Fish caught for consumption should be given a swift and a humane (as possible) death, by rendering them unconscious before they are killed.” This language should be expanded, using the recommendations for decreasing the suffering of fish through the regulation of methods and equipment, in Article 7, Fisheries Management, and Article 8, Fishing Operations.

IV. AN OVERVIEW LABOR & HUMAN RIGHTS ISSUES IN THE GLOBAL FISHING INDUSTRY

The current state of wild fish stocks around the world is a hotly discussed topic in both popular media and academic writing.¹⁵⁸ As was discussed above, the welfare of the individual animals caught up in this system often gets overlooked. Similarly, in comparison to the environmental impacts, the welfare of the people working in this industry has received little attention until recently.¹⁵⁹ This section will provide a brief overview of some of the most pressing issues facing fishers around the world.

Despite the existence of general international labor conventions, and even conventions specific to fishing, such as the 2007 “Work in Fishing Convention,”¹⁶⁰ commercial fishing remains one of the most dangerous professions in the United States (and the world) today. Due to the fact that approximately 80% of seafood eaten in the United States today is imported, we must pay close attention to the labor and human rights issues associated with our imported seafood.¹⁶¹ To complicate matters further, both practically and legally, a significant portion of the United States’ imported seafood is caught in the United States, exported overseas for processing, and then reimported into the United States.¹⁶² This creates a very complex supply chain because it involves multiple legal jurisdictions, and it makes traceability and enforcement difficult.¹⁶³ Currently, most imported seafood in the United States comes from China, Thailand, Canada, Indonesia, Vietnam, and Ecuador.¹⁶⁴ As discussed below, many of these top exporting countries have well documented issues with general occupational hazards and working conditions as well as other more egregious human rights abuses.

A. OCCUPATIONAL HAZARDS & POOR CONDITIONS

The International Labor Organization (ILO) identifies fishing as a highly hazardous sector.¹⁶⁵ Working conditions aboard fishing vessels are amongst the worst working conditions in any industry in the world.¹⁶⁶ At sea, vessels can often operate without scrutiny depending on the flag they carry, and whether they operate in areas with limited monitoring, control, surveillance, and enforcement (MSCE)—such as the high seas.¹⁶⁷ While the

subsequent sections will discuss some of the more egregious labor and human rights issues in the global fishing industry, it is important to note that the general conditions aboard fishing vessels across the world are often substandard.¹⁶⁸ Well documented issues aboard vessels, especially in “developing” countries, include insufficient building standards, small unsuitable boats venturing far out to sea, a lack of safety equipment and training, infrequent inspections, and much more.¹⁶⁹

B. HUMAN TRAFFICKING & SLAVERY

According to the ILO, while the transatlantic slave trade has been abolished for two centuries, at least 21 million people continue to work under coercion.¹⁷⁰ Today it is estimated that approximately 90% of the world’s forced labor is extracted by private agents in labor-intensive industries like fishing.¹⁷¹ Human trafficking in the fishing sector is extremely prevalent.¹⁷² In 2014, the United States Department of State Trafficking in Persons Report found indications of human trafficking in both the wild-caught and aquaculture sectors in the following countries around the world: Angola, Bangladesh, Belize, Burma, Burundi, Cambodia, Comoros, Costa Rica, Democratic Republic of the Congo, Fiji, Ghana, Indonesia, Israel, Jamaica, Kenya, Madagascar, Malawi, Mauritius, Mongolia, Namibia, Federated States of Micronesia, Sierra Leone, Singapore, Solomon Islands, Sri Lanka, Taiwan, Tanzania, Thailand, Timor-Leste, United Kingdom, and Vietnam.¹⁷³ In 2016, a single Associated Press investigation in South East Asia led to the release of more than 2,000 slaves.¹⁷⁴ This is one isolated instance, but it may help to give perspective as to the scale of this issue globally.

C. EXPLOITATION OF MIGRANT WORKERS

Sadly, many people who fall victim to human trafficking and slavery in the fishing industry are migrant workers.¹⁷⁵ Lack of documentation, debt from trafficking fees, and language barriers make migrants particularly vulnerable to coercion and slavery. Thailand is one of the countries that has received the most media attention in relation to this particular issue.¹⁷⁶ While it is inherently difficult to find records of how many people are enslaved on Thai fishing vessels, the Thai government itself estimates that up to 300,000 people work within its fishing industry—90% of whom are migrants.¹⁷⁷ Lured by Thailand’s more prosperous economy and large pool of unskilled jobs, the vast majority of these migrants come from neighboring countries such as Cambodia and Burma.¹⁷⁸ Often times, these migrants pay brokers to help traffic them over the border and find them work in factories, on plantations, or at construction sites—but many of them will be sold onto boats instead to fill a massive labor shortage in Thailand’s fishing sector.¹⁷⁹

D. CONCLUSIONS & RECOMMENDATIONS REGARDING INTERNATIONAL LABOR & HUMAN RIGHTS

Labor and human rights abuses in the fishing industry continues to be a huge problem around the world. There are many reasons why this problem persists. First, there are the practical

concerns such as the difficulty of monitoring seafood imports to determine their origin, which is something the illegal fishing industry benefits from.¹⁸⁰ Second, global climate change and fish stock depletion are forcing vessels to go further out to sea, thus spending longer periods away from the shore.¹⁸¹ This can negatively impact the welfare of employees while simultaneously making policing these vessels more difficult.¹⁸² Third, the abuse of migrant workers is prevalent in this industry. A current example of this issue is the mass exodus of the Rohingya people from Myanmar.¹⁸³ It is estimated that at least 400,000 of this minority Muslim group have fled Myanmar in 2017 alone.¹⁸⁴ These refugees, and others in different parts of the world that heavily depend on fishing, are often stateless or working without documentation.¹⁸⁵ Increased pressure from climate change and fish stock depletion, along with a high demand for cheap seafood makes migrant workers with a fragile financial and legal status vulnerable to coercion into human trafficking and slave labor—thus creating a market for cheap or free labor in an already under-policed industry.¹⁸⁶

Labor and human rights issues in this sector are a complex international problem. Addressing this problem successfully will be difficult without cooperation from national level governments, the international community, and the private sector.¹⁸⁷ This complex and multifaceted issue requires a multipronged approach including: (1) integrating human rights and labor concerns into the broader fight against illegal, unregulated and underreported (IUU) fisheries; (2) combatting human trafficking; and (3) combatting the global refugee crisis and exploitation of migrant workers.

Tackling IUU fishing more broadly requires increased funding from the international community and the increased use of technology to facilitate greater tracking and transparency in the seafood supply chain.¹⁸⁸ Specifically, the Environmental Justice Foundation has recommended that the FAO proceed with the development of a comprehensive Global Record of shipping vessels that will assign each industrial vessel a Unique Vessel Identifier (UVI) and contain information on vessel ownership and fishing activities.¹⁸⁹ This could also be used as a method of monitoring working conditions on vessels and compliance with fisheries law.¹⁹⁰

The current international legal structure gives the United States, European Union, and other major seafood importers room to tackle human trafficking more seriously via trade law. For example, the U.S. Department of State can move countries with evidence of human trafficking to a lower tier in their annual Trafficking in Human Persons Report—so that they bear the consequences of poor human rights enforcement.¹⁹¹ The European Union has a similar program.¹⁹² This means that it is not just the responsibility of the exporting countries to combat this problem, but also the countries importing the products of, and benefiting from, this abuse.¹⁹³ These mechanisms need to be used robustly, i.e., by introducing a complete boycott of countries using slave labor in their fishing industry. As outlined above, because so many countries violate labor laws in this context, some would argue that adding enforcement

mechanisms are not practicable if people in the United States and Europe wish to continue eating seafood at the current rates.¹⁹⁴

Unfortunately, many of the reasons underlying the labor issues in fishing are hugely complex and multifaceted.¹⁹⁵ One such underlying issue is the global refugee crisis, which often results in the exploitation of migrant workers.¹⁹⁶ While many of these refugee crises issues remain outside of the scope of this paper, it may be worthwhile to consider the very current Rohingya example to help us understand this problem. As mentioned above, Rohingya people have been fleeing Myanmar for many years.¹⁹⁷ Other South East Asian countries along with the international community have been grappling with this crisis for some time.¹⁹⁸ One suggestion, which has been raised by commentators, is the possibility of adopting a European Union type approach to this migration issue.¹⁹⁹ Europe is also dealing with a migration crisis, though it not an identical situation by any means.²⁰⁰ The European Commission devised a plan for resettling refugees that would divide migrants up based on an European Union member country's economic prosperity, number of refugees already taken in, unemployment rate, and other factors.²⁰¹ Southeast Asian countries could establish a similar formula, based on gross domestic product (GDP), unemployment rates, and other factors to determine how many refugees should be resettled and where. A commentator writing for *The National* also suggested that international powers could make promises to resettle a certain number of the Rohingya each year for the next decade.²⁰² "Washington [State] has taken in large numbers of migrants from vastly different cultures before – the Hmong in the 1970s and 1980s, or the Bhutanese in the past 10 years."²⁰³ During these types of refugee crises, it is difficult to focus on other human rights violations that are occurring in the fishing industry, or even to notice the overlap in issues. But it is important to look at the local and global factors in human rights violations affecting the fishing industry in order to tackle them directly and broadly.

In an increasingly interconnected international trade community, marketplaces benefiting from trade relationships and labor from the countries mentioned above should take responsibility to support these countries' efforts to address human rights issues in the fishing industry.²⁰⁴ The nature of this industry is internationally interdependent; therefore, any solutions to this problem will need to be addressed at the national and international level as well as by the public and private sectors. In the context of overfishing, the international community has made some progress on collaborating for internationally beneficial solutions. Now we need to take a closer look at this industry and its impacts on human and non-human animals.

V. AN OVERVIEW OF LABOR ISSUES IN THE DOMESTIC FISHING & AQUACULTURE INDUSTRY

In addition to human rights concerns, workers in the fishing industry face many health and safety issues.²⁰⁵ Some of these problems are the same as their terrestrial animal agricultural worker counterparts, and some are unique.²⁰⁶ The focus here

will be on the capture segment of the fishing industry, with a brief mention of related problems in the aquaculture segment.

A. HEALTH AND SAFETY ISSUES

Discussions of fishing tend to conjure placid images of a small boat and a few friends fishing comfortably for pleasure or business.²⁰⁷ In reality, the hazards facing workers in this industry are some of the worst of any industrial sector in the United States.²⁰⁸ They include: noise; chemical exposure; fishing gear and mechanical accidents; boating accidents; musculoskeletal injuries; respiratory and immune issues; injuries cause by extreme weather; sleep deprivation; physical and psychological injuries from stress and challenges of the work, and; the lack or malfunctioning of protective equipment.²⁰⁹ Some of these injuries result in death or permanent disability.²¹⁰

In other industries, especially in the United States, accidents on the job can be responded to quickly by emergency personnel.²¹¹ Even on remote farms, medical assistance may not be terribly far away.²¹² However, for a worker injured at sea, or even on a large lake or remote river, getting attention for emergency medical conditions can be a significant hurdle.²¹³

Additional hurdles to safety include the age of fishers in this labor market. In the United States and elsewhere, some are very young,²¹⁴ and some are considerably older individuals.²¹⁵ These factors lead to additional health and safety concerns.²¹⁶ There are further hurdles to maintaining a safe working environment for those workers who do not speak English well because employers may not translate safety information, or there may be delays or confusion around communicating injuries.²¹⁷

Some of the work of the fishing industry takes place in production facilities that are prone to their own set of harms, including: repetitive motion injuries; physical injuries; psychological injuries from working long hours or days at a time, especially for those whose work focuses on killing rather than capturing animals; and zoonotic or other disease transfers.²¹⁸ Though not often calculated in industrial harm, low wages, contract work and job insecurity,²¹⁹ especially when coupled with immigration status insecurity,²²⁰ are also significant forms of harm that need to be addressed and remedied.

Agriculture and fishing are two of the deadliest jobs in the United States.²²¹ In 2014, fishing was the second worst industry in terms of health and safety, behind only logging, with a fatality rate of 110.9 per 100,000 workers.²²² The fishing industry is also poor at dealing with the economic cost of lost work and health costs because laborers in this industry had an average annual salary of only \$37,640.²²³ By comparison, terrestrial agriculture was listed as the sixth worst industry with a death rate of 26.7 per 100,000 workers (though they were somewhat better off economically with an average annual salary of \$69,880).²²⁴ In 2015, data for the agricultural, fishing, hunting, and forestry industries were merged and had the third highest *count and rate* of fatal work injuries.²²⁵

In addition to dangerous working conditions and low pay, laborers in the fishing industry also face incidences of unpaid

wages with no clarity about who to make complaints to.²²⁶ They face layoffs and interruptions to work based on weather conditions and overfishing.²²⁷ They also have to work harder, longer, and further from home to catch the same numbers of fish because stocks have been depleted and competition has increased.²²⁸ Some workers report additional problems on the job, such as harassment and concerns for their safety that stem from their gender or cultural backgrounds.²²⁹

Because some laborers in the fishing industry are independent contractors rather than employees, they face additional problems.²³⁰ They do not receive health or unemployment insurance, nor do they receive sick-leave or vacation days from their employers.²³¹ They do not always know whether they will be employed through the season, and they do not know how much work they will have from season to season.²³²

Though we are not focusing on the aquaculture segment of the fishing industry, it is useful to note some of the particular safety concerns those workers face. These include heavy metal toxins, such as lead and mercury and acute toxicity that may result from copper sulfite used as algicide, net or wood preservatives, or copper pipes.²³³ Additional concerns include closed-loop, indoor, water-recirculating production systems; harmful algal blooms in marine environments, which can cause paralytic, neurologic, amnesic, and diarrhetic shellfish poisonings and ciguatera fish poisoning; bacteria (such as *Mycobacterium marinum* and *Streptococcus iniae*) and nematode, cestode, trematode, and protozoan parasites found in fish that cause human infections; and infections, such as the shellfish origin of Norwalk virus infection.²³⁴

B. LEGAL PROTECTIONS

Policy and regulatory approaches can address dangerous working conditions to ensure the protection of the workers who are not in positions to protect themselves. However, the fishing industry has fewer health and safety regulations than most might assume along with a tangled web of oversight that leaves significant room for confusion and lack of enforcement.²³⁵

Some legal protections do exist. These include state or federal Occupational Safety and Health Administration (OSHA) regulations;²³⁶ Labor Department rules (including the Fair Labor Standards Act of 1938, as Amended);²³⁷ and the Merchant Marine Act of 1920, (the Jones Act), which allows injured people to make claims.²³⁸ For certain problems, state criminal laws or regulatory protections might apply, and in some cases, transportation rules could also be helpful.

Agencies with enforcement authority for issues relating to workers in the fishing industry include: OSHA, through the Department of Labor; the Coast Guard via the U.S. Armed Forces; U.S. Department of Homeland Security in peacetime; U.S. Department of Navy in wartime; and the local police when state or local criminal offenses are involved. Other agencies have oversight of non-worker related aspects of the fishing industry, such as the National Oceanic and Atmospheric Administration (NOAA) via the Department of Commerce; the U.S. Fish and Wildlife Service (FWS) via the Department of Interior; and the

U.S. Department of Agriculture (USDA) via the Department of Commerce. There may be additional regulations from these agencies that workers can rely on if their employers fail to follow applicable rules.

Health and safety standards for workers are set by OSHA or delegated to state authority when plans have been approved by OSHA.²³⁹ Twenty-two states, Puerto Rico, and the Virgin Islands have OSHA-approved state plans.²⁴⁰ These plans are required to be at least as effective as federal OSHA standards and may go further than the federal guidelines.²⁴¹ States may adopt their own standards and enforcement policies, though most have adopted standards that are identical to the federal OSHA standards.²⁴² OSHA has foreign language guidance that mandates safety instructions be offered in different languages where applicable—some states have created versions of these as well.²⁴³

OSHA does not address fishing in a separate sub-part of the regulations, so it is only covered by the general duty clause,²⁴⁴ the general industry,²⁴⁵ and the agricultural sections (which may potentially apply to aquaculture operations).²⁴⁶ There are shipyard and marine terminal standards as well.²⁴⁷ These sections that include specific standards need to apply the general duty clause where those specific standards are silent.

OSHA generally addresses some of the issues fishers may face including: noise; ventilation; air quality; equipment and protective gear; emergency action plans; work surfaces; ladders; stairways; workplace hazards; and medical and first aid.²⁴⁸ However, some of the guidelines are not helpful for workers on fishing boats where surfaces are routinely slippery, and air quality cannot be improved by proper ventilation or temperature regulation. The commercial diving and logging industries have their own sub-parts to address industry specific concerns.²⁴⁹ The fishing industry does not, and it should. The Coast Guard also implements some safety regulations through the Department of Homeland Security.²⁵⁰ The Coast Guard published a notice of rulemaking in 2016 to align its work with recent legislation.²⁵¹

Congress passed the Fishermen's Protective Act of 1967 (enacted in 1971),²⁵² which sounds like it should protect the safety of fishers, but it focuses on vessel rights, compensation for seizure, and other economic aspects of the trade.²⁵³ The largest work of Congress is the Magnuson-Stevens Fishery Conservation and Management Act, which relates to and regulates the health and use of fisheries, but not the health of the workers.²⁵⁴ Congress is currently working on the Honest Fishermen Act of 2017 for consumer protection and product traceability.²⁵⁵ Even when there are stories in the news about safety issues facing fishers, they often neglect U.S. workers.²⁵⁶ Reports about the fishing industry from those tasked with protecting it give short shrift to worker safety issues.²⁵⁷ The Center for Disease Control (CDC) developed a manual called, *Safety Training for Fishermen*.²⁵⁸ They have also, through the National Institute for Occupational Safety and Health (NIOSH), made recommendations in order to reduce risks.²⁵⁹ But it is unclear how many fishers have access to this material from their employers or how many employers are in compliance with the recommendations

and requirements.²⁶⁰ NOAA has a specific safety program for its observers, who are increasingly at risk when doing their jobs.²⁶¹

C. POTENTIAL REFORMS

Some relatively simple regulatory reform is possible. OSHA could adopt a specific set of guidelines that apply to the fishing industry. Given the differences between fishing for trout, salmon, lobster, crabs, shrimp—to name a few—this would be a significant undertaking. But it would be worth the effort to protect workers from the poor conditions they have in common, and it could leave room for some additional regulatory requirements that relate to specific segments of the industry. In addition to looking at other industry specific models for this type of regulation, OSHA could also look to the United Kingdom and the European Union for examples of their regulations in place to protect workers.²⁶²

In addition to new regulations, attention must be paid to enforcement of the regulations that currently exist and to removing barriers facing workers who wish to exercise their rights. More resources need to be spent in enforcement and more clarity is required in informing workers of their rights and assisting them in exercising those rights. Legal and health services should be more readily available for workers in terms of affordability and numbers of service providers.

Consumer awareness campaigns could be effective tools to educate workers about harms, ways to protect themselves from harm, and remedies available after harm occurs. One driver of change is information, which is greatly needed in this sector to understand and assess current realities and to inform efforts to improve the industry. The FAO has made this one of its focal points.²⁶³ It has also produced reports that are helpful to understand the problems faced by fishers in developing countries.²⁶⁴

VI. ADDITIONAL ISSUES BEYOND THE SCOPE OF THIS ARTICLE

There are of course significant environmental concerns related to both capture and aquaculture fisheries with regard to their impacts and their inputs.²⁶⁵ Though addressing environmental and environmental justice impacts is beyond the scope of this article, it is important to note, and to indicate that there are differing approaches to the conversation as well as some important controversies to consider.²⁶⁶

Tribal issues also complicate and inform conversations about fishing.²⁶⁷ Tribal treaty rights need to be recognized and supported because they are relevant in terms of competition for scarce resources.²⁶⁸ Tribal fishing also tends to offer alternative methodologies and concepts of sustainability that may offer more protection for fishers, the ecosystem, and the fish themselves.²⁶⁹ Another issue that is very important but beyond the scope of this paper is the impact of poverty on food security and the impact of related decision-making on the use of fisheries—both capture and aquaculture.²⁷⁰ It is also crucial to be mindful of how these conversations and policymaking decisions both impact and exclude native people, foreign workers,

and gender issues so that these problems can be alleviated. Doing so, *we believe*, will inure to the benefit of people, animals, and the environment.

VII. CONCLUSION

Much work needs to be done to protect workers and aquatic animals from the harms resulting from the fishing industry. Legal, health, and social education as well as increased legal regulation will help alleviate the problems discussed in this article. More far-reaching solutions are also

possible. Alternatives to the use of aquatic animals as food for humans or feed for other animals, or for industrial uses are possible. Increased venture capital funding would spur and hasten development of these alternatives, which would protect humans, animals, and the environment. In the meantime, outdated capture and aquaculture methods can be replaced by new technologies that are safer for people and less harmful to aquatic animals. The law plays an important role in responding to and preventing harms. The fishing industry is an area that is in dire need of the attention of legal reformers.



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HOW FAST IS TOO FAST? OSHA'S REGULATION OF THE MEAT INDUSTRY'S LINE SPEED AND THE PRICE PAID BY HUMANS AND ANIMALS

By Israel Cook*

In 2016, the United States employed more than 491,000 workers in the meat industry,¹ thereby feeding more than 318 million Americans,² and processing over 9 billion animals per year.³ The growth of the meat industry has placed pressure on slaughterhouses to increase the pace of their line speeds in order to produce more meat and satisfy consumer demand.⁴ Due to the faster pace of production, workers are suffering high rates of injury,⁵ and animals are being mistreated while still alive.⁶ The fast pace of line speeds in slaughterhouses adversely affects worker safety and animal welfare; therefore, the Occupational Safety and Health Administration (OSHA) should regulate line speed in meatpacking plants.

Dangerously fast slaughter line speeds are the leading cause of worker injuries due to the pressure to kill more animals in less time.⁷ It is estimated that every year, almost 25% of all meatpacking employees are injured or ill, and the high speed of production lines has increased the industry's already abundant amount of injuries.⁸ The pace of the line affects the employee's ability to perform tasks safely,⁹ making the speed of production an important factor in the health and safety of workers.¹⁰ The physical efforts required for sawing, cutting, slicing, lifting thousands of animals each day is the major source of musculoskeletal disorders (MSDs), which is endemic in the meat and poultry industry.¹¹ Workers in the meatpacking industry "have the highest rate of MSDs, seven times the average incidence rate in manufacturing,"¹² yet the government is not required to track the growing number of MSDs diagnosed in slaughterhouses.¹³ The meat industry claims that the rise of injuries related to fast-moving line speeds is untrue, stating that workers' injuries have declined over the years.¹⁴ However, inspectors, often employed by the meat industry have little incentives to investigate injuries because the injuries could halt the line and affect production margins.¹⁵ OSHA argues that it does not have authority over production speeds and that MSDs cannot solely be attributed to the fast-moving line speeds.¹⁶

Not only does the line speed affect the safety of the meat industry employees, it significantly contributes to discrimination of individual employees and violates workers' rights. The majority of laborers in the meatpacking industry are at-will employees and are less likely to report a workplace hazard out of fear of losing their jobs. A number of laborers in the meatpacking industry are undocumented or do not speak English, making

them more vulnerable and fearful of reporting workplace hazards.¹⁷ Despite the growth of meat production, slaughterhouse workers' wages have been rapidly declining.¹⁸ The salary of meatpacking employees barely keeps workers above the poverty line, thus affecting their access to health services as they cannot afford proper transportation to and from doctors, much less healthcare.¹⁹ Furthermore, many slaughterhouses *operate twenty-four hours a day and seven days a week*, requiring employees to work grueling hours—often without approved time off.²⁰ Additionally, laborers are not allowed to unionize, thus facing barriers to exercise their freedom of association.²¹

*Consumption of animal products results in the unnecessary suffering and death of billions of animals.*²² Despite having some regulation, like the Humane Slaughter Act, animals are still subjected to inhumane acts of cruelty during processing.²³ While some states have anti-cruelty statutes that work to prevent this conduct, they focus on the individual violations rather than the overall industry violations.²⁴ *The Washington Post* reports that "nearly 1 million chickens and turkeys are unintentionally boiled alive each year in U.S. slaughterhouses" due to the increasing pace of product lines.²⁵

Currently, line speed is regulated by the USDA based on Food Safety standards,²⁶ and it is only limited by federal sanitation laws.²⁷ That is, the only time the speed of the line is slowed down is when a USDA Food Safety and Inspection Service (FSIS) inspector halts the line because she or he identifies an animal carcass that appears contaminated (e.g., fecally, bruised, and hemorrhaged).²⁸ Otherwise, line speed can increase without any concern for a worker's safety.²⁹ Under the Poultry Products Inspection Act (PPIA) and the Federal Meat Inspection Act (FMIA), the regulation of line speed by the USDA for sanitation concerns does not preclude OSHA from regulating line speed for worker health and safety concerns.³⁰ Though previous attempts by OSHA to regulate line speeds have been blocked by Congress,³¹ OSHA must regulate line speed to not only ensure a safe and healthy working condition for workers but to also curb animal cruelty in the meatpacking industry.



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SERVING PETS IN POVERTY: A NEW FRONTIER FOR THE ANIMAL WELFARE MOVEMENT

By Amanda Arrington and Michael Markarian*

This article is dedicated to JC Ramos who meant so much to the Pets for Life (PFL) program. He not only inspired PFL to do more in the fight against injustice and discrimination, but he served his community with extreme dedication and compassion. There will never be another person like JC, and the PFL team was lucky to call him family.

Most people are aware of how poverty and structural inequality create challenges and barriers to accessing healthy food, education, jobs, health care, and housing. There is less awareness of how limited affordable veterinary and pet wellness services create similar obstacles and how that lack of access disadvantages millions of people and their pets across the United States.¹ Currently there are at least 19 million pets living with U.S. families whose income level is below the poverty line, which is triple the number of dogs and cats who enter animal shelters each year, and there are millions more in working poor and middle-class families struggling with the cost of caring for their pets.²

With 78 million dogs and 86 million cats in 80 million American households, pet ownership transcends geographical, racial, religious, and socio-economic boundaries demonstrating that love for pets is a consistent societal value.³ However, lack of access to information, advice, and direct animal care services produces hardships and heartaches for many pet owners in underserved communities.⁴ This denial of access to knowledge, counsel, and support generates a social justice issue in its own right.

Perpetuated by a lack of access to fundamental resources, race and income-based segregation is a centuries old problem.⁵ For example, food deserts are impoverished parts of the country with little or no access to fresh produce or full-fledged grocery stores.⁶ While they lack fresh fruit, vegetables, and whole foods, they are overrun with fast food chains and processed foods heavy in fat and sugar that contribute to the nation's obesity and disease epidemic—causing people in underserved communities to suffer at disproportionate rates.⁷

Similarly, there are animal resource deserts—entire neighborhoods with no veterinarians, no pet supply stores, no groomers, and no animal welfare infrastructure.⁸ When there are no veterinarians in a community, standard wellness care is not the norm—and familiarity, experience, and knowledge concerning common pet health concerns do not exist. When there are no pet supply stores or big box retailers, simple items like pet food or a collar and leash are out of reach. Pet owners end up spending more, thus experiencing disproportionate financial burdens because prices are higher and selections fewer at small corner stores, and many must wait until situations are dire to address a pet's medical needs.⁹

Additionally, the majority of people who live in poverty have to work extremely hard to provide even the most basic pet

care, yet are frequently accused of being irresponsible with their pets or even punished with fines and criminal charges because of access issues that are largely out of their control.¹⁰ Many people in low-income neighborhoods rely on public transportation, and they cannot take their pets across town on the bus or subway.¹¹ An animal may be unaltered because there are too many barriers to having the surgery done.¹² A dog may live outside because a landlord does not allow indoor pets, and affordable housing with pet-friendly options is hard to come by.¹³

In some cases, animal welfare professionals have formed negative opinions about people based on the location of their residence or perceived economic status with misperceptions and stereotypes of being cruel toward animals.¹⁴ Too often, these opinions exist without much understanding of the impact of poverty and systematic bias, which frequently isolate certain demographic populations and diminish or completely remove options and choices when it comes to pet care.

This physical divide creates negative assumptions and little to no positive engagement on the part of animal care agencies and service providers. Stereotyping entire communities of pet owners is not uncommon, both within and outside of the animal welfare movement, and it creates an “us versus them” mindset that furthers the trust gap between service providers and the community.¹⁵ Fear and judgment lead to continued lack of engagement, which creates further segregation and inaccessibility to resources. This in turn spreads more misconceptions among people outside of the affected groups.

In a lasting insight gained in the aftermath of Hurricane Katrina, The Humane Society of the United States (HSUS) saw that the poorest communities of Louisiana and Mississippi were places where people loved their pets but simply did not have access to basic services.¹⁶ Nationwide, about 86% of dogs and 90% of cats are spayed and neutered.¹⁷ The HSUS vowed to rebuild and strengthen the animal welfare capacity of the Gulf Coast and brought these critical spay and neuter and wellness care services to underserved pet owners.¹⁸

Using these same insights, The HSUS launched its Pets for Life (PFL) program in 2011.¹⁹ PFL embraces the human in humane, extends compassion and respect to all audiences of pet

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owners, and promotes the understanding within the larger animal protection movement that a lack of financial means does not equate to lack of love for a pet.²⁰ The program not only delivers direct care to thousands of pets in underserved communities each year, but it also works to promote greater recognition within the animal welfare movement of how institutions produce and perpetuate unjust systems and policies.²¹ Today, The HSUS operates PFL programs in underserved areas of Los Angeles and Philadelphia, and partners with and trains local animal welfare groups, shelters, and animal control agencies in thirty-two other communities—from major metropolitan cities to extremely rural regions—to share these ideas around the country.²² Nationwide, the Pets for Life program has served more than 130,000 pets in underserved areas, and of those, 88% were unaltered—showing the much lower prevalence of spaying and neutering in underserved communities compared to the national rate of only about 10% of owned pets being unaltered.²³

The program has also helped to overcome a long-held misconception that people in low-income communities or communities of color are opposed to spaying and neutering—thus the reason for low sterilization rates.²⁴ Free spaying and neutering services combined with transportation to and from veterinary appointments and positive engagement has resulted in almost 90% of these pets sterilized through the program.²⁵ This proves that high percentages of unaltered pets is due to lack of access and not because of differing belief systems or how much people care for their pets. Race and ethnicity are not primary determinants in utilizing veterinary services.²⁶ In fact, decision-making by pet owners who are Latino and African-American is consistent with that of the behavior of non-Hispanic white pet owners around spay and neuter.²⁷

A large majority of people in underserved areas do not know animal welfare agencies exist as a potential resource because information is simply not being shared by service providers in an effective way or with the community's perspective in mind.²⁸ Also, some people are apprehensive to reach out to service providers for fear of unfavorable outcomes, such as having their pets taken away from them or being punished for not having the resources to provide medical care.²⁹

Additionally, 84% of pet owners served by PFL had never reached out to the local shelter or animal control agency.³⁰ However, 89% of pets came from sources within the pet owner's immediate area.³¹ There are many reasons for this connection deficiency. For instance, many in the animal welfare field have discussed and treated the issue of companion animal cruelty and neglect the same way for decades, resulting all too often in underserved neighborhoods being stigmatized as places where cruelty is prevalent.³² Therefore, the experience that many of these pet owners have is negative either because they are insulted and belittled by service providers, or at times even punished with fines or criminal charges for neglect or cruelty.³³ There is an immense need to repair distrust and show that animal welfare extends compassion beyond animals, to include treating people with dignity, respect, and understanding.

The story of Kevin and Boss Lady illustrates how people and pets suffer the injurious consequences of complex societal issues and then see their difficulties compounded by the animal welfare system.³⁴ Kevin was walking his dog, Boss Lady, down the street one day when a police officer, in a case of mistaken identity, shocked him with a stun gun.³⁵ Kevin was taken to a hospital and Boss Lady was taken to the local animal control agency.³⁶ When authorities realized their error and released Kevin, he went to retrieve Boss Lady only to find there were expensive fees that he had to pay to get her back.³⁷ The police department and shelter denied Kevin's requests for help even in light of the police department's error.³⁸

On his own, Kevin would not have been able to pay the fees to take his dog home, and the two would have been unfairly separated.³⁹ Kevin would have lost his companion and Boss Lady would have entered the shelter system with her fate unknown.⁴⁰ The sad circumstances involving Kevin and Boss Lady are not rare or extraordinary, but rather are representative of discriminating processes and policies that some people must face on a regular basis, and that ultimately tear families apart.

Keeping people and pets together is a much better outcome than adding to the intake of overburdened shelters that are already working hard to increase adoptions and reduce euthanasia rates. Strengthening the options for animals can also be a pathway to connect people with other social benefits and services. In one example, caseworkers with a needle exchange program had been trying to provide services to a group of drug users squatting in an abandoned building, but the inhabitants rebuffed them at every turn.⁴¹ The drug users were taking care of a colony of cats nearby, and PFL staff members were able to gain their trust by providing services to the cats.⁴² This relationship in turn made the clients more open to being introduced to the needle exchange program.

Recognizing the barriers to services that exist for many pet owners and taking a deeper look at the system's imbalances is not only the right thing for animal welfare but also the way to achieve long-term, sustainable change in countless communities. The driving force behind the PFL program is to provide services that people want and need for their pets and to be a catalyst for widespread availability to veterinary care, supplies, and information. There is a cumulative effect from long-standing practices and prejudices that requires patient, consistent, proactive outreach, and careful listening to all perspectives. However, no short cut will instill faith in the system and build bridges to underserved communities. Nothing will replace face-to-face, positive connection, and empathy in the effort to create sustainable, long-term access to resources, and to guarantee their effective use. The social, psychological, and medical benefits of having a pet should not be available or viable only for select groups or classes of households.

Even when backgrounds and current circumstances are diverse, there is an ease in building relationships and finding commonalities around pets. *Animals provide a very natural way for people of different backgrounds to connect and they serve as a critical reminder that all people are more alike than*

different. Because of this, animal welfare outreach presents a special opportunity in underserved communities and can provide a bridge to other social issues. A fundamental shift in industry philosophy and policy will position animal welfare as a thought leader and actor in social justice and will distinguish it as a more just and inclusive movement.

For decades, the animal welfare movement as a whole has been making progress on companion animal issues, specifically the reduction in euthanasia of healthy, adoptable animals.⁴³ In the 1970's, about 15 million healthy and treatable dogs and cats were euthanized in shelters each year, but today that number has declined to 2.4 million.⁴⁴ Popularizing pet adoption, aggressive spay and neuter programs, community partnerships with rescue and foster groups, retention programs to keep pets and families together, and other innovative efforts have driven down euthanasia rates.⁴⁵

*With an average of 6.5 million dogs and cats entering animal shelters every year, our movement still needs to provide vital services for the homeless and stray populations, but the time has come to shift resources to focus more attention on pets living in poverty outside the shelter.*⁴⁶ There is more work to be done, and

we need to open up new fronts of activity to help companion animals, including the 19 million pets currently living in poverty.⁴⁷ Celebrating the human-animal bond and eliminating the barriers that hamper the broadest possible promotion of companion animal welfare can ensure a future that takes into account all pets in a community, not just those who end up at a shelter.

The Pets for Life program has demonstrated that a deep care and respect for animals transcends social and economic boundaries and is a tie that binds us all. Everyone who wants to provide a loving home to animals deserves access to the resources that make pet keeping possible. The animal welfare movement's efforts to address lack of access to animal services in underserved communities should be strengthened as a critical priority nationwide. As this happens, entrenched social prejudices will diminish, with tangible benefits for humans, animals, and the larger society. Pets enhance the lives of humans and everyone who so chooses should have the opportunity to experience the unconditional love and meaningful relationship a pet brings.⁴⁸ The bond people have with their pets should not depend on income, which ZIP code someone lives in, or the language they speak.



ENDNOTES

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⁷ See *id.*

⁸ See *Lifeline Animal Project Takes Over HSUS' Pets for Life Program in Atlanta*, LIFELINE ANIMAL PROJECT (Aug. 2, 2017), <https://lifelineanimal.org/news/253-lifeline-animal-project-takes-over-hsus-pets-for-life-program-in-atlanta> (discussing the critical lack of accessible and affordable animal welfare services, resources, and information for people and pets in underserved communities); Keith Seinfeld, *The real reason no one buys produce in low-income areas*, KNKX (Jan. 30, 2013), <http://knkx.org/post/real-reason-no-one-buys-produce-low-income-areas> (analogizing food deserts to areas that also lack basic animal-care services).

⁹ See *Nutrition Digest*, *supra* note 6; Phillip Kaufman et al., *Do the Poor Pay More for Food? Item Selection and Price Differences Affect Low-Income Household Food Costs*, U.S. DEP'T OF AGRIC. ECON. RESEARCH SERV. (Dec. 1, 1997), <https://www.ers.usda.gov/publications/pub-details/?pubid=40817>; DeNeen L. Brown, *The High Cost of Poverty: Why the Poor Pay More*, WASH. POST (May 18, 2009), <http://www.washingtonpost.com/wp-dyn/content/article/2009/05/17/AR2009051702053.html>.

¹⁰ See Jon Silman, *Pasco woman who couldn't afford vet is convicted of animal cruelty*, TAMPA BAY TIMES (Apr. 25, 2013, 2:43 PM), <http://www.tampabay.com/news/courts/pasco-woman-who-couldnt-afford-vet-is-convicted-of-animal-cruelty/2117238>; Tommie Clark, *Woman charged after performing surgery on her dog, killing it*, KCCI DES MOINES (June 24, 2017, 3:22 PM), <http://www.kcci.com/article/police-woman-performed-dogs-surgery-with-knife-tongs-in-living-room/10213287>.

¹¹ See Gillian B. White, *Stranded: How America's Failing Public Transportation Increases Inequality*, THE ATLANTIC (May 16, 2015), <https://www.theatlantic.com/business/archive/2015/05/stranded-how-americas-failing-public-transportation-increases-inequality/393419/>; Jenny Hyde, *Transportation: The Overlooked Poverty Problem*, SHARED JUSTICE (Mar. 10, 2016), <http://www.sharedjustice.org/domestic-justice/2016/3/10/transportation-the-overlooked-poverty-problem> (drawing on fact that that people from low-income neighborhoods rely on public transportation, and if they have pets, they are unable to travel with them).

¹² See *id.* (pointing out that having to rely on public transportation is a barrier to access health services for your pet because you cannot take your pet with you on public transportation).

¹³ See Josh Leopold et al., *The Housing Affordability Gap for Extremely Low-Income Renters in 2013*, URBAN INST. (June 15, 2015), <https://www.urban.org>.

org/research/publication/housing-affordability-gap-extremely-low-income-renters-2013/view/full_report; *The State of the Nation's Housing 2014 Executive Summary*, JOINT CTR. FOR HOUS. STUDIES OF HARV. U. 6 (2014), <http://www.jchs.harvard.edu/sites/jchs.harvard.edu/files/sonhr14-color-ch1.pdf>; *America's Housing Affordability Challenges*, EQUITABLE HOUS. INST. (Nov. 2016), <https://www.equitablehousing.org/affordable-housing-challenges.html>; *Increasing Pet Friendly Housing*, ANIMAL SHELTERING, <https://www.animalsheltering.org/programs/pets-are-welcome> (last visited Dec. 20, 2017).

¹⁴ See David Vognar, *Animal Welfare, Human Welfare Linked*, HUFFINGTON POST (June 1, 2012, 11:22 AM), http://www.huffingtonpost.com/david-vognar/animal-welfare-poverty-_b_1560440.html; *Poor People Should Be Able to Have Dogs Too*, OUT THE FRONT DOOR (Nov. 22, 2016, 1:09 PM), <http://outthefrontdoor.com/2016/11/22/poor-people-should-be-able-to-have-dogs-too/>.

¹⁵ See Vognar, *supra* note 14.

¹⁶ See M. Carrie Allan, *10 Years After Katrina, the Storm That Changed Us*, MEDIUM (Aug. 17, 2015), <https://medium.com/@HumaneSociety/reflections-10-years-after-katrina-c970882366d6>; Julia Kamysz Lane, *Treading Water* (Nov. 2008), <https://thebark.com/node/152/3196>.

¹⁷ See *Pets by the Numbers*, THE HUMANE SOC'Y OF THE U. S., http://www.humanesociety.org/issues/pet_overpopulation/facts/pet_ownership_statistics.html?referrer=https://www.google.com/.

¹⁸ See Wayne Pacelle, *Pets for Life: Keeping Animals in Loving Homes and Out of Shelters*, A HUMANE NATION (Nov. 24, 2014), <https://blog.humanesociety.org/wayne/2014/11/pets-for-life-mentorship-cities.html>.

¹⁹ See *id.*

²⁰ See Kate Hodgson, *Pets' Impact on Your Patients' Health: Leveraging Benefits and Mitigating Risk*, 28 J. OF THE AM. BOARD OF FAM. MED. 526 (2015), <http://www.jabfm.org/content/28/4/526.full>.

²¹ See *Pets for Life: 2017 Program Report*, THE HUMANE SOC'Y OF THE U.S. 4-10 (2017), https://www.animalsheltering.org/sites/default/files/content/2017%20Data%20Report_0.pdf [hereinafter *PFL 2017 Program Report*]; Adia Harvey Wingfield, *The Failure of Race-Blind Economic Policy*, THE ATLANTIC (Feb. 16, 2017), <https://www.theatlantic.com/business/archive/2017/02/race-economic-policy/516966/>; Adrian Florido, *Black, Latino Two-Parent Families Have Half The Wealth of White Single Parents*, NPR (Feb. 8, 2017, 1:06 PM), <http://www.npr.org/sections/codeswitch/2017/02/08/514105689/black-latino-two-parent-families-have-half-the-wealth-of-white-single-parents>.

²² See *PFL 2017 Program Report*, *supra* note 21, at 2-4.

²³ See *id.* at 2, 12.

²⁴ See Jessica L. Decker Sparks et al., *Race and ethnicity are not primary determinants in utilizing veterinary services in underserved communities in the United States*, J. OF APPLIED ANIMAL SCIENCE, 1-2 (2017), <http://dx.doi.org/10.180/10888705.2017.1378578>.

²⁵ See *PFL 2017 Program Report*, *supra* note 21, at 13.

²⁶ See Decker Sparks et al., *supra* note 24, at 1.

²⁷ See *id.* at 2.

²⁸ See Julia Thiel, *Welcome to the Cook County animal maze*, CHI. READER (Mar. 25, 2015), <https://www.chicagoreader.com/chicago/cook-county-animal-rabies-control-lost-dogs-john-fritchey/Content?oid=16997036>.

²⁹ See *PFL 2017 Program Report*, *supra* note 21, at 12, 16.

³⁰ See *id.*

³¹ See *id.* at 16.

³² See *id.* at 12.

³³ See *id.* at 8-9.

³⁴ See Daniel Burke, *Return-to-Owner: How will you re-evaluate your shelter's RTO policy to tell a different story?*, THE HUMANE SOC'Y OF THE U.S. (Mar. 28, 2017), <https://www.animalsheltering.org/blog/return-owner>.

³⁵ See *id.*

³⁶ See *id.*

³⁷ See *id.*

³⁸ See *id.*

³⁹ See *id.*

⁴⁰ See *id.* (noting that the Pets for Life team stepped in and paid the fees, giving Kevin and Boss Lady a happier ending to this situation).

⁴¹ Telephone Interview with Amanda Arrington, Director, Pets for Life at The Humane Society of the United States (Sept. 12, 2017).

⁴² See *id.*

⁴³ See *Statement on Euthanasia*, THE HUMANE SOC'Y OF THE U.S., http://www.humanesociety.org/about/policy_statements/statement_euthanasia.html.

⁴⁴ See *id.*

⁴⁵ See *id.*

⁴⁶ See *ASPCA*, *supra* note 2 (noting that approximately 6.5 million companion animals enter U.S. animal shelters nationwide every year).

⁴⁷ See INCOME AND POVERTY, *supra* note 2, at 12 (pointing out that in 2016 there were 40.6 million people in poverty); HOUSEHOLDS AND FAMILIES, *supra* note 2, at 5 (estimating that there is an average of 2.58 people per household which means that there are 15.7 million households in poverty); PET OWNERS SURVEY, *supra* note 2, at 6 (demonstrating that each household own on average 1.8 pets (1.49 dogs and 2.0 cats) which is approximately 19 million pets living in poverty).

⁴⁸ See generally Leslie Burke, *Animals as Lifechangers and Lifesavers: Pets in the Redemption Narratives of Homeless People*, THE HUMANE SOC'Y INST. FOR SCI. & POLICY ANIMAL STUDIES REPOSITORY (2013), http://animalstudiesrepository.org/cgi/viewcontent.cgi?article=1007&context=acwp_habr (discussing instances of how pets transformed people's lives).

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¹¹ See *USDA Agricultural Projections to 2026*, USDA 39 (Feb. 2017), <https://www.ers.usda.gov/webdocs/publications/82539/occe-2017-1.pdf?v=42788> (reporting that in 2014, Americans consumed 199 pounds per person of beef, pork, and chicken and projecting that this number will rise to 214 pounds per person by 2026).

¹² See SIMON, *supra* note 10, at xxii ("This development is driven partly by subsidies, partly by efficient methods of factory farming, and partly by the industry's practice of offloading its costs onto others").

¹³ While the suffering of the animals who are exploited and tortured by the billions in CAFOs and slaughterhouses is not the primary focus of this Article, it would be unconscionable to proceed without acknowledging their reality. See, e.g., *Farm Animal Welfare: A Closer Look At Animals on Factory Farms*, ASPCA, <http://www.aspc.org/animal-cruelty/farm-animal-welfare/animals-factory-farms> (last visited Dec. 20, 2017) (describing how female breeding pigs spend their lives in gestation crates barely larger than their bodies, how their piglets are taken from them at two to three weeks of age and confined to enormous (but overcrowded) sheds with no access to fresh air, sunlight, earth, or even windows, and how they are finally slaughtered after several years of constant pregnancy and birth); The Editorial Board, *No More Exposés in North Carolina*, N.Y. TIMES (Feb. 1, 2016), <https://www.nytimes.com/2016/02/01/>

opinion/no-more-exposes-in-north-carolina.html (describing how pigs have been stabbed, beaten with sledgehammers, and boiled alive at slaughterhouses).

¹⁴ See SIMON, *supra* note 10, at xxi ("[M]om-and-pop farms are mostly gone—either acquired by large corporate operations or plowed under for new housing subdivisions. For instance, between 1954 and 2007, even as demand for dairy increased by 40 percent, the number of US dairy farms plummeted from 2.9 million to 65,000."); see also Aaron M. McKown, Note, *Hog Farms and Nuisance Law in Parker v. Barefoot: Has North Carolina Become a Hog Heaven and Waste Lagoon?*, 77 N.C. L. REV. 2355, 2355 (1999) (stating that in North Carolina, "corporate-run hog facilities have forced many independent hog farms out of business").

¹⁵ See *Factory Farm Workers*, FOOD EMPOWERMENT PROJECT, <http://www.foodpower.org/factory-farm-workers/> (last visited Dec. 20, 2017) (explaining that CAFO workers are subjected to many health and safety hazards, including but not limited to exposure to inhalable particulate matter and harmful gases such as ammonia and hydrogen sulfide); *id.* (explaining that many workers are undocumented individuals, who CAFO owners seek out "because they are less likely to complain about low wages and hazardous working conditions."); see also *Blood, Sweat, and Fear: Workers' Rights in U.S. Meat and Poultry Plants*, HUMAN RIGHTS WATCH 52-53 (2004), <https://www.hrw.org/report/2005/01/24/>

blood-sweat-and-fear/workers-rights-us-meat-and-poultry-plants (discussing the dire conditions of slaughterhouse work).

¹⁶ See *infra* Part V(B).

¹⁷ See *infra* Section II.

¹⁸ See *infra* Section II.

¹⁹ See *infra* Section III.

²⁰ See Michael L. Cook & Fabio R. Chaddad, *Agroindustrialization of the Global Agrifood Economy: Bridging Development Economics and Agribusiness Research*, 23 AGRIC. ECON. 207, 209 (2000) (defining “agribusiness” as “the sum total of all operations involved in the production and distribution of food and fiber”); *Hidden Costs of Industrial Agriculture*, UNION OF CONCERNED SCIENTISTS, http://www.ucsusa.org/food_and_agriculture/our-failing-food-system/industrial-agriculture/hidden-costs-of-industrial.html#_WhsTB4Zrzs (last visited Dec. 20, 2017) (“Industrial agriculture is currently the dominant food production system in the United States. It’s characterized by large-scale monoculture, heavy use of chemical fertilizers and pesticides, and meat production in CAFOs (confined animal feeding operations). The industrial approach to farming is also defined by its heavy emphasis on a few crops that overwhelmingly end up as animal feed, biofuels, and processed junk food ingredients.”).

²¹ Mark Koba, *Meet the “4%”: Small Number of Farms Dominates US*, CNBC (May 6, 2014, 2:45 PM), <https://www.cnbc.com/2014/05/06/state-of-american-farming-big-producers-dominate-food-production.html> (noting that “[l]arge farms with over \$1 million in sales account for only 4 percent of all farms, but 66 percent of sales”).

²² See *infra* Section V.

²³ Wendee Nicole, *CAFOs and Environmental Justice: The Case of North Carolina*, 121 ENVTL. HEALTH PERSP. A182, A183 (June 1, 2013), <https://ehp.niehs.nih.gov/121-a182/> (citing *Focus on Black Belt Counties: Life Conditions and Opportunities*, PROCEEDINGS OF A PRECONFERENCE OF THE PROFESSIONAL AGRICULTURAL WORKERS CONFERENCE (Ntam Baharanyi et al. eds., 1993), <http://srdc.msstate.edu/publications/archive/176.pdf>); see also Dale W. Wimberley, *Quality of Life Trends In the Southern Black Belt, 1980–2005: A Research Note*, 25 J. RURAL SOC. SCI. 103, 105 (2010).

²⁴ Libby v. Morris et al., *Current Conditions and Trends In the Southern Black Belt*, in *FOCUS ON BLACK BELT COUNTIES: LIFE CONDITIONS AND OPPORTUNITIES* 5, 5 (Ntam Baharanyi et al., eds., 1993), <http://srdc.msstate.edu/publications/archive/176.pdf>; see BOOKER T. WASHINGTON, *UP FROM SLAVERY: AN AUTOBIOGRAPHY* 108 (1901) (“So far as I can learn, the term [“Black Belt”] was first used to designate a part of the country which was distinguished by the color of the soil. The part of the country possessing this thick, dark, and naturally rich soil was, of course, the part of the South where the slaves were most profitable, and consequently they were taken there in the largest numbers. Later, and especially since the war, the term seems to be used wholly in a political sense — that is, to designate the counties where the black people outnumber the white.”).

²⁵ Nicole, *supra* note 23, at A183.

²⁶ See Ejigou Demissie, *Past-Present Conditions and Future Issues In the Black Belt of the South*, in *FOCUS ON BLACK BELT COUNTIES: LIFE CONDITIONS AND OPPORTUNITIES* 25, 26 (Ntam Baharanyi et al., eds., 1993), <http://srdc.msstate.edu/publications/archive/176.pdf> (“[D]uring the period of 1964 to 1967, black farmers, who constituted about a third of all farms in the South, received only a fourth of all loans and only a seventh of the total funds from the FmHA. Furthermore, between 1966 and 1976, the percentage of FmHA farm ownership loans made to black farmers declined from 5.7 percent to 1.5 percent, suggesting discrimination on the part of FmHA. This agency is part of the local political machinery and has been the subject of many investigations by the U.S. Commission on Civil Rights.”); see also Ta-Nehisi Coates, *The Case for Reparations*, THE ATLANTIC (June 2014), <https://www.theatlantic.com/magazine/archive/2014/06/the-case-for-reparations/361631/> (discussing Associated Press’s series revealing the theft of African American land since antebellum period); see generally Thomas W. Mitchell, *Destabilizing the Normalization of Rural Black Land Loss: A Critical Role for Legal Empiricism*, 2005 WIS. L. REV. 557, 561 (2005) (examining legal methods by which African American landowners were dispossessed of their land in the twentieth century).

²⁷ Nicole, *supra* note 23, at A183.

²⁸ See *id.* (“North Carolina went from fifteenth to second in hog production between the mid-1980s and mid-1990s.”).

²⁹ See *id.* (“[P]eople of color and the poor living in rural communities lacking the political capacity to resist are said to shoulder the adverse socio-economic, environmental, or health related effects of swine waste externality without sharing in the economic benefits brought by industrialized pork production.”).

³⁰ See STEVE WING & JILL JOHNSTON, *INDUSTRIAL HOG OPERATIONS IN NORTH CAROLINA DISPROPORTIONATELY IMPACT AFRICAN-AMERICANS, HISPANICS AND AMERICAN INDIANS* 1 (Aug. 29, 2014), https://www.facingsouth.org/sites/default/files/wing_hogs_ej_paper.pdf (unpublished manuscript).

³¹ *Id.* at 6.

³² See Cordon M. Smart, Comment, *The “Right to Commit Nuisance” in North Carolina: A Historical Analysis of the Right-to-Farm Act*, 94 N.C. L. REV. 2105 (2016) (citing U.S. DEP’T OF AGRIC., 2012 CENSUS HIGHLIGHTS: HOG AND PIG FARMING 1 (2014), http://www.agcensus.usda.gov/Publications/2012/Online_Resources/Highlights/Hog_and_Pig_Farming/); see Editorial Board, *supra* note 13 (detailing the cruel practices of the pork industry).

³³ CALVIN HARMIN, *FLOOD VULNERABILITY OF HOG FARMS IN EASTERN NORTH CAROLINA: AN INCONVENIENT POOP* 8 (Nov. 11, 2015), <http://thescholarship.ecu.edu/bitstream/handle/10342/5143/HARMIN-MASTERSTHESIS-2015.pdf?sequence=1> (unpublished M.A. dissertation, East Carolina University).

³⁴ *Exposing Fields of Filth: Landmark Report Maps Feces-Laden Hog and Chicken Operations in North Carolina*, ENVTL. WORKING GROUP (June 21, 2016), <http://www.ewg.org/research/exposing-fields-filth>.

³⁵ HARMIN, *supra* note 33, at 16.

³⁶ ANAND M. SAXENA, *THE VEGETARIAN IMPERATIVE* 32–33 (2011).

³⁷ ROBBIN MARKS, *CESSPOOLS OF SHAME: HOW FACTORY FARM LAGOONS AND SPRAYFIELDS THREATEN ENVIRONMENTAL AND PUBLIC HEALTH* 3 (July 2001), <https://www.nrdc.org/sites/default/files/cesspools.pdf>.

³⁸ See Elizabeth Friend, *New Maps Detail Scope of NC’s Poultry and Hog Industries*, WUNC (June 24, 2016), <http://wunc.org/post/new-maps-detail-scope-ncs-poultry-and-hog-industries>.

³⁹ MARKS, *supra* note 37, at 1.

⁴⁰ *Id.* at 4.

⁴¹ *Id.* at 12; see also Adam Skolnick, *The CAFO Industry’s Impact on the Environment and Public Health: CAFO Farming Is an Environmental and Public Health Disaster*, SIERRA CLUB (Feb. 23, 2017), <http://www.sierraclub.org/sierra/2017-2-march-april/feature/cafo-industrys-impact-environment-and-public-health>.

⁴² See *infra* notes 43–57 and accompanying text (discussing the impact of polluted water).

⁴³ Steve Wing et al., *Environmental Injustice in North Carolina’s Hog Industry*, 108 ENVTL. HEALTH PERSP. 225, 225 (2000).

⁴⁴ STEPHEN R. HUTCHINS ET AL., *CASE STUDIES ON THE IMPACT OF CONCENTRATED ANIMAL FEEDING OPERATIONS (CAFOs) ON GROUND WATER QUALITY* 7–8 (2012).

⁴⁵ CARRIE HRIBAR, *UNDERSTANDING CONCENTRATED ANIMAL FEEDING OPERATIONS AND THEIR IMPACT ON COMMUNITIES* 8–9 (Mark Shultz ed., 2010), https://www.cdc.gov/nceh/ehs/docs/understanding_cafos_nalboh.pdf (highlighting possible diseases including, but not limited to: anthrax, leptospirosis, listeriosis, salmonellosis, tetanus, histoplasmosis, ringworm, giardiasis, and cryptosporidiosis).

⁴⁶ HUTCHINS ET AL., *supra* note 44, at 9.

⁴⁷ *Id.* at 9–13. “It is estimated that estrogen loads from land application by livestock manure would account for greater than [ninety percent] of the total estrogen in the environment” *Id.* at 12.

⁴⁸ MARKS, *supra* note 37, at 36; see also Skolnick, *supra* note 41.

⁴⁹ MARKS, *supra* note 37, at 23.

⁵⁰ *Exposing Fields of Filth*, WATERKEEPER ALLIANCE (Nov. 4, 2016), <http://waterkeeper.org/exposingfieldsoffilth/>.

⁵¹ *Id.*

⁵² *Id.*

⁵³ *Id.*

⁵⁴ See MARKS, *supra* note 37, at 29 (stating that “[l]iquid waste can be over-applied or inappropriately applied to farm fields through irrigation pivots with resulting runoff into lakes, rivers, and streams or seepage into groundwater”).

⁵⁵ HRIBAR, *supra* note 45, at 4.

⁵⁶ *Id.*

⁵⁷ MARKS, *supra* note 37, at 1.

⁵⁸ HUTCHINS ET AL., *supra* note 44, at 3.

⁵⁹ See *id.* at 2.

⁶⁰ See HRIBAR, *supra* note 45, at 3 (noting that groundwater is the primary source of drinking water in the United States, accounting for drinking water in more than fifty-three percent of households).

⁶¹ Wing et al., *supra* note 43, at 225.

⁶² See *id.*

⁶³ NCEJN and Allies Respond to Latest Attack by Hog Industry, N.C. ENVTL. JUSTICE NETWORK (Jan. 6, 2017), <https://ncejn.wordpress.com/2017/01/06/ncejn-and-allies-respond-to-latest-attack-by-hog-industry/> [hereinafter NCEJN].

⁶⁴ Hribar, *supra* note 45, at 10.

⁶⁵ *Id.* at 4 (explaining that elevated nitrates in drinking water are particularly harmful to these at risk populations).

⁶⁶ *Id.* at 10.

⁶⁷ *Id.*

⁶⁸ *Id.*

⁶⁹ *Id.*; *Antibiotic Resistance Threats in the United States*, CDC 11 (2013), <https://www.cdc.gov/drugresistance/threat-report-2013/pdf/ar-threats-2013-508.pdf#page=6>; see Mary J. Gilchrist et al., *The Potential Role of Concentrated Animal Feeding Operations in Infectious Disease Epidemics and Antibiotic Resistance*, 115 ENVTL. HEALTH PERSPECTIVES 313, 313–14 (2006).

⁷⁰ Hribar, *supra* note 45, at 10. *But* see Gilchrist et al., *supra* note 69, at 313 (noting that estimates suggest up to eighty-seven percent of all antibiotic use in the United States is for livestock animals).

⁷¹ Gilchrist et al., *supra* note 69.

⁷² CDC, *supra* note 69, at 11.

⁷³ Hribar, *supra* note 45, at 10.

⁷⁴ *Id.* (citing Marc Kaufman, *Worries Rise Over Effect of Antibiotics in Animal Feed: Humans Seen Vulnerable to Drug-Resistant Germs*, WASH. POST, A01 (Mar. 17, 2000), <http://www.washingtonpost.com/wp-srv/WPcap/2000-03/17/071r-031700-idx.html> (explaining that eating the flesh of animals who have been fed antibiotics further increases one's risk of developing antibiotic resistance)).

⁷⁵ *Id.* at 7 (explaining that, in addition to carbon dioxide, the methane and nitrous oxide emitted from cow manure are significant greenhouse gasses); CAFO SUBCOMM. OF THE MICH. DEP'T OF ENVTL. QUALITY TOXICS STEERING GRP., CONCENTRATED ANIMAL FEEDLOT OPERATIONS (CAFOs) CHEMICALS ASSOCIATED WITH AIR EMISSIONS 8 (May 10, 2006) [hereinafter CAFO SUBCOMM.].

⁷⁶ Hribar, *supra* note 45, at 3.

⁷⁷ See MARKS, *supra* note 37, at 1, 17; see also Sarah C. Wilson, Comment, *Hogwash! Why Industrial Animal Agriculture is Not Beyond the Scope of Clean Air Act Regulation*, 24 PACE ENVTL. L. REV. 439, 441 (2007) (highlighting the health impacts of such emissions).

⁷⁸ *CAFOs Ordered to Report Hazardous Pollution*, WATERKEEPER ALLIANCE (Apr. 11, 2017), <http://waterkeeper.org/cafos-ordered-to-report-hazardous-pollution/>.

⁷⁹ See MARKS, *supra* note 37, at 26.

⁸⁰ NIOSH Warns: *Manure Pits Continue to Claim Lives*, CDC (July 6, 1993), <https://www.cdc.gov/niosh/updates/93-114.html> [hereinafter *Manure Pits*].

⁸¹ MARKS, *supra* note 37, at 19 (citing *Manure Pits*, *supra* note 80).

⁸² See *id.* at 26.

⁸³ Wilson, *supra* note 77, at 445 (citing SIERRA CLUB, CLEAN WATER & FACTORY FARMS: REPORTS & FACT-SHEETS: AIR POLLUTION FROM FACTORY FARMS, <http://www.sierraclub.org/factoryfarms/factsheets/air.asp> (last visited Oct. 24, 2007)).

⁸⁴ CAFO SUBCOMM., *supra* note 75, at 4.

⁸⁵ Hribar, *supra* note 45, at 6.

⁸⁶ *Id.*; CAFO SUBCOMM., *supra* note 75, at 6.

⁸⁷ *Id.*

⁸⁸ Irena Buka et al., *The Effects of Air Pollution on the Health of Children*, 11 PAEDIATR CHILD HEALTH 513, 513 (2006); see Hribar, *supra* note 45, at 5 (“While all community members are at risk from lowered air quality, children take in [twenty to fifty percent] more air than adults, making them more susceptible to lung disease and health effects.”) (citing Michael T. Kleinman, *The Health Effects of Air Pollution on Children* 1 (2000) (unpublished manuscript), <http://www.aqmd.gov/docs/default-source/students/health-effects.pdf>; Julia R. Barrett, *Hogging the Air: CAFO Emissions Reach into Schools*, 114 ENVTL. HEALTH PERSP. A241, A241 (2006)).

⁸⁹ Hribar, *supra* note 45, at 5–6.

⁹⁰ *Id.* (citing Maria. C. Mirabelli et al., *Race, Poverty, and Potential Exposure of Middle-School Students to Air Emissions from Confined Swine Feeding Operations*, 114 ENVTL. HEALTH PERSP. 591-96 (2006) (internal citations omitted)).

⁹¹ *Id.* at 11.

⁹² Nicole, *supra* note 23, at A183.

⁹³ NCEJN, *supra* note 63 (internal quotation omitted).

⁹⁴ Nicole, *supra* note 23, at A183.

⁹⁵ Hribar, *supra* note 45, at 8.

⁹⁶ *Id.* at 11.

⁹⁷ *Id.* (citing Joseph A. Herriges et al., *Living With Hogs in Iowa: The Impact of Livestock Facilities On Rural Residential Property Values*, 81 LAND ECON. 530, 541 (2005)).

⁹⁸ *Id.*

⁹⁹ *Id.*

¹⁰⁰ See *infra* note 129 and accompanying text.

¹⁰¹ Nicole, *supra* note 23, at A185 (citing Pat Stith & Joby Warrick, *Murphy's Laws: For Murphy, Good Government Means Good Business*, THE NEWS & OBSERVER (Feb. 22, 1995), <http://www.pulitzer.org/winners/news-observer-raleigh-nc-work-melanie-sill-pat-stith-and-joby-warrick>; McKown, *supra* note 14, at 2355 n.3); see Gray Jernigan, *What to do When State Regulation Stinks*, WATERKEEPER MAGAZINE 33 (2015), <http://waterkeeper.org/app/uploads/2016/01/WKMagSummer15r14-small11.pdf>.

¹⁰² Clean Air Act, 42 U.S.C. §§ 7401–7671 (2016).

¹⁰³ Federal Water Pollution Control Act, 33 U.S.C. §§ 1251–1387 (2016); *History of the Clean Water Act*, EPA, <https://www.epa.gov/laws-regulations/history-clean-water-act> (last visited Dec. 20, 2017) (noting the legislation came to be known as the Clean Water Act following the 1972 amendments to the Federal Water Pollution Control Act of 1948).

¹⁰⁴ J.B. Ruhl, *Farms, Their Environmental Harms, and Environmental Law*, 27 ECOLOGY L. Q. 265, 267 (2000) (“Congress has actively prevented [the intersection of environmental law and farming] through a nearly unbroken series of decisions to exclude farms and farming from the burdens of federal environmental law, with states mainly following suit. Congress has erected . . . a vast ‘anti-law’ of farms and the environment.”).

¹⁰⁵ 33 U.S.C. § 1251(a); see also *id.* § 1362(7) (defining “navigable waters” as “the waters of the United States, including the territorial seas”).

¹⁰⁶ DAVID M. BEARDEN ET AL., CONG. RESEARCH SERV., RL 30798, ENVTL. LAWS: SUMMARIES OF MAJOR STATUTES ADMINISTERED BY THE ENVTL. PROT. AGENCY SUMMARY (2013).

¹⁰⁷ § 1342.

¹⁰⁸ § 1311.

¹⁰⁹ See § 1362(6) (defining “pollutant” as “dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water”).

¹¹⁰ § 1362(14) (defining a “point source” as “any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged,” and exempting “agricultural stormwater discharges and return flows from irrigated agriculture” from the definition of “point source”); 40 C.F.R. § 122 (2012) (stating that nonpoint sources are governed by state water quality programs); see generally CLAUDIA COPELAND, CONG. RESEARCH SERV., RL 32947, AIR QUALITY ISSUES & ANIMAL AGRIC.: A PRIMER 8 (2014).

¹¹¹ See BEARDEN ET AL., *supra* note 106, at 29–30 (“While the CWA addresses federal enforcement, the majority of actions taken to enforce the law are undertaken by states, both because states issue the majority of permits to dischargers and because the federal government lacks the resources for day-to-day monitoring and enforcement. Like most other federal environmental laws, CWA enforcement is shared by EPA and states, with states having primary responsibility. However, EPA has oversight of state enforcement and retains the right to bring a direct action where it believes that a state has failed to take timely and appropriate action or where a state or local agency requests EPA involvement”); see generally U.S. DEP'T OF AGRIC. & NAT. RES. CONSERVATION SERV., PART 651 AGRIC. WASTE MGMT. FIELD HANDBOOK 1–4 (2009) (“Most States have been granted full NPDES permitting authority by the EPA with oversight of State operations provided by the EPA. Where States do not have permitting authority, a variety of arrangements for permitting have been made. They range from the EPA doing all permitting to the EPA issuing permits for certain categories of pollutants (or operations) and the State issuing the permits for other categories.”).

¹¹² 40 C.F.R. § 122 (2012); see National Pollutant Discharge Elimination System Permit Regulation and Effluent Limitation Guidelines and Standards for Concentrated Animal Feeding Operations (CAFOs), 68 Fed. Reg. 7176 (codified at 40 C.F.R. Pts. 9, 122, 123, 412) (“Today’s final rule revises and clarifies the Environmental Protection Agency’s (EPA) regulatory requirements for concentrated animal feeding operations (CAFOs) under the Clean Water Act. This final rule will ensure that CAFOs take appropriate actions to manage manure effectively in order to protect the nation’s water quality. Despite substantial

improvements in the nation's water quality since the inception of the Clean Water Act, nearly 40 percent of the Nation's assessed waters show impairments from a wide range of sources. Improper management of manure from CAFOs is among the many contributors to remaining water quality problems. Improperly managed manure has caused serious acute and chronic water quality problems throughout the United States. Today's action strengthens the existing regulatory program for CAFOs.”).

¹¹³ *Id.*; COPELAND, *supra* note 110, at 8.

¹¹⁴ COPELAND, *supra* note 110, at 8.

¹¹⁵ *See id.* (stating about 15,500 CAFOs are covered nationwide); *see also* NPDES CAFO PERMITTING STATUS REPORT—NATIONAL SUMMARY ENDYEAR 2016, EPA (Dec. 31, 2016), https://www.epa.gov/sites/production/files/2017-04/documents/tracksum_endyear2016_v2.pdf (stating that in North Carolina, only fourteen CAFOs out of the state's 1,222 have NPDES permits).

¹¹⁶ *See* Adam S. Carlesco, *Hiding the Ball: The Sidestepping of National Pollution Discharge Elimination System Permitting Requirements by Concentrated Animal Feeding Operations*, 5 J. ANIMAL & ENVTL. L. 43, 48 (2014) (citing 33 U.S.C. §§ 1362(14); 1342(l)(1)); *see also* Copeland, *supra* note 110, at 9 (“The rule contains a performance standard which prohibits discharges from regulated CAFOs except in the event of wastewater or manure overflows or runoff from an exceptional 25-year, 24-hour rainfall event.” (emphasis added)); Wilson, *supra* note 77, at 450 (“‘Agricultural stormwater discharges’ from farmlands are not considered discharges for purposes of the CWA. Considering that it is during storms when much of the runoff from farms occurs (including manure that is sprayed on fields), the stormwater exemption effectively forms a shield from CWA regulation for agriculture.”).

¹¹⁷ *See* Christine L. Rideout, *Where are All the Citizen Suits?: The Failure of Safe Drinking Water Enforcement in the United States*, 21 HEALTH MATRIX 655, 671 (2011) (discussing 42 U.S.C. §§ 300f–300j-26 (2016) and showing that the Safe Drinking Water Act also fails to regulate runoff).

¹¹⁸ *Waterkeeper Alliance v. EPA*, 399 F.3d 486, 524 (2d Cir. 2005) (directing the EPA to remove the requirement that all CAFOs obtain NPDES permit); *Nat'l Pork Producers Council v. EPA*, 635 F.3d 738, 745 (5th Cir. 2011) (directing the EPA to remove the requirement that CAFOs that “propose to discharge” apply for NPDES permits).

¹¹⁹ Many states, especially those with powerful CAFO industries, fail to properly administer the NPDES program and enforce the CWA. Without the states doing their part to regulate CAFOs, EPA cannot possibly achieve the goal of the CWA. Carlesco, *supra* note 116, at 22 (“EPA found that the Iowa Department of Natural Resources was not properly conducting inspections to determine whether unpermitted CAFOs needed permits, assessing adequate penalties against CAFOs, or issuing NPDES permits when appropriate.”).

¹²⁰ *See id.* at 60–61 (noting the EPA proposed a new version of the CAFO Rule in 2011 requiring “CAFOs to report facility-specific information in order to help the EPA properly implement the NPDES program and ensure CAFO compliance with CWA requirements.”); *see also id.* (discussing 76 Fed. Reg. 65,431, Oct. 21, 2011) (stating that proposal, grounded in the authority granted to EPA under section 308 of the CWA, was two-fold when it went up for public review and comment. First, the proposal would require CAFOs to provide basic identifying information to EPA, such as the name and contact information for the owner. Second, the proposal would allow EPA to use section 308 authority to get information from CAFOs that are located in areas struggling with water quality issues likely caused by CAFOs; *id.* (“[The] EPA would use existing data to point to ‘focus watersheds’ with abnormally high nitrogen and phosphorous content likely originating from animal agriculture sources”); *id.* at n.110 (citing 76 Fed. Reg. 65,431, Oct. 21, 2011) (“[A]llow the EPA to identify and permit CAFOs that discharge, conduct education and outreach on best management practices, estimate pollutant loads by facility and geographical area, and assist in allocation of resources for compliance enforcement.”); *id.* (citing *Proposed NPDES CAFO Reporting Rule Q&A*, ENVTL. PROT. AGENCY, Oct. 2011) (noting ultimately, EPA withdrew the rule on July 13, 2012).

¹²¹ EPA, INTRODUCTION TO THE CLEAN WATER ACT 2 (2011), <https://cfpub.epa.gov/watertrain/pdf/modules/introtocwa.pdf>; *see* Cmty. Ass’n for Restoration of the Env’t, Inc. v. Cow Palace, LLC, 80 F. Supp. 3d 1180 (E.D. Wash. 2015) (extending RCRA to agriculture by holding that manure can, under some circumstances, qualify as “solid waste” under RCRA); *see also* Rachel Fullmer, *A Cow Palace Coup: Expanding the Reach of RCRA to Combat Agricultural Pollution*, 28 GEO. ENVTL. L. REV. 501, 503 (2016); *see generally* BEARDEN ET AL., *supra* note 106, at 27 (noting that the 1987 CWA amendments encourage states to “pursue groundwater protection activities as part of their overall nonpoint pollution control efforts.”); Solid Waste Disposal Act, 42 U.S.C. §§

6901–6992k (2016) (known as the Resource Conservation and Recovery Act following the 1976 amendments of the Solid Waste Disposal Act).

¹²² *See* J. Nicholas Hoover, *Can't You Smell That Smell? Clean Air Act Fixes for Factor Farm Air Pollution*, 6 STAN. J. ANIMAL L. & POL’Y 1, 10 (2013) (citing 42 U.S.C. § 7409 (2012) (criteria pollutants, which are sulfur dioxide, carbon monoxide, ozone, nitrogen dioxide, lead, and PM)); *see also* § 7412 (hazardous air pollutants); § 7411 (stationary sources)).

¹²³ BEARDEN ET AL., *supra* note 106, at Summary.

¹²⁴ *Id.*

¹²⁵ *Id.* at 3.

¹²⁶ *See id.* (requiring State Implementation Plans (“SIP”) “to translate[] national ambient standards into emission limitations and other control measures that govern individual sources of air pollution; the SIP is enforceable as both state and federal law. The CAA details the basic content of SIPs: enforceable emission limitations, other control measures, monitoring requirements, and schedules for compliance”); *see also* Copeland, *supra* note 110, at 11 (“[P] ermit requirements differ for sources in attainment and non-attainment areas. In attainment areas, major emitting facilities must install the ‘best available control technology’ (BACT) for each regulated pollutant, as determined on a case-by-case basis. Facilities in non-attainment are subject to stricter measures. There, they must comply with the ‘lowest achievable emission rate’ (LAER), which requires, in addition to stringent emissions requirements, that the regulator weigh benefits of new sources against their environmental costs.”); *see also* Hoover, *supra* note 122, at 11 (citing 42 U.S.C. §§ 7475, 7503, 7475(a)(4), 7479(3)).

¹²⁷ BEARDEN ET AL., *supra* note 106, at 3.

¹²⁸ *Id.*; COPELAND, *supra* note 110, at 11.

¹²⁹ The CAA does not provide a blanket exception for agricultural activities. Hoover, *supra* note 122, at 11 (citing 67 Fed. Reg. 63, 556–57) (explaining that the EPA has stated that CAFOs “plainly fit the definition of stationary source”) (internal quotations omitted).

¹³⁰ COPELAND, *supra* note 110, at 2 (demonstrating that there is a lack of reliable data on CAFO emissions, so it is possible that more CAFOs exceed thresholds than are currently known. “Resolving questions about CAFOs’ contribution to total air pollution and corresponding ecological and possible public health effects is hindered by a lack of adequate, accurate, scientifically credible data on air emissions.”).

¹³¹ *Id.*

¹³² 74 Fed. Reg. 56,260 (Oct. 30, 2009) (codified at 40 C.F.R. Parts 86, 87, 89).

¹³³ *See* MEGAN STUBBS, CONG. RESEARCH SERV., RL 41622, ENVTL. REGULATION & AGRIC. 4–5 (2014) (highlighting Congress’ use of the appropriations process to effectively block the rule).

¹³⁴ *See* COPELAND, *supra* note 110, at 3 (describing the need for increased data).

¹³⁵ *Id.*

¹³⁶ Animal Feeding Operations Consent Agreement and Final Order, 70 Fed. Reg. 4958 (Jan. 31, 2005).

¹³⁷ *See* COPELAND, *supra* note 110, at 3 (detailing the development process of EPA’s rule).

¹³⁸ *Id.*

¹³⁹ *Id.* at 3–4 (noting that, under the agreement, CAFOs were also largely exempt from the reporting requirements of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Emergency Planning and Community Right to Know Act (EPCRA); *see* Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. §§ 9601–9675, 11001–11050 (2012) (stating EPA finalized this exemption in late 2008); *see also* 73 Fed. Reg. at 76,948 (Dec. 18, 2008). *But see* *Waterkeeper Alliance v. EPA*, 853 F.3d 527, 530 (D.C. Cir. 2017) (overturning the EPA rule). It remains to be seen whether EPA will enforce CERCLA and EPCRA against CAFO owners and operators.

¹⁴⁰ COPELAND, *supra* note 110, at 5 (“EPA has authority under CAA Section 114 to require that AFOs provide emission monitoring data, without the need to provide an industry-wide exemption.”).

¹⁴¹ *Id.* at 10.

¹⁴² *Id.* at 11 (citing ENVTL. INTEGRITY PROJECT, HAZARDOUS POLLUTION FROM FACTORY FARMS: AN ANALYSIS OF EPA’S NAT’L AIR EMISSIONS MONITORING STUDY DATA (Mar. 2011), <http://www.environmentalintegrity.org/documents/HazardousPollutantsfromFactoryFarms.pdf>).

¹⁴³ Hoover, *supra* note 122, at 15 (citing 76 Fed. Reg. 3060, 3061 (Jan. 19, 2011)).

- ¹⁴⁴ See *infra* Section IV.
- ¹⁴⁵ William Aldred's Case, 77 Eng. Rep. 816, 816 (1611).
- ¹⁴⁶ Smart, *supra* note 32, at 2098.
- ¹⁴⁷ *Id.*
- ¹⁴⁸ 1979 N.C. Sess. Laws 140, 140–41 (codified as amended at N.C. GEN. STAT. §§ 106-700 to 106-701 (2016)).
- ¹⁴⁹ Smart, *supra* note 32, at 2099.
- ¹⁵⁰ *Id.* at 2099-2100.
- ¹⁵¹ *Id.*
- ¹⁵² *Id.* at 2101.
- ¹⁵³ *Id.*
- ¹⁵⁴ See Erica Hellerstein, *The N.C. Senate Overrides Cooper's HB 467 Veto, Hog-Farm-Protection Bill is Law*, THE INDEP. WEEKLY (May 11, 2017), <https://www.indyweek.com/news/archives/2017/05/11/the-nc-senate-overrides-coopers-hb-467-veto-hog-farm-protection-bill-is-law> (“[T]he twenty-six federal lawsuits . . . were filed by a North Carolina-based law firm against a \$14 billion Chinese-owned multinational corporation on behalf of mostly low-income African-American plaintiffs.”).
- ¹⁵⁵ Smart, *supra* note 32, at 2101 (citing Complaint at 1, *McMillon et al v. Murphy-Brown, LLC*, Docket No. 7:14-cv-00181 (E.D.N.C. Aug. 21, 2014)).
- ¹⁵⁶ Hellerstein, *supra* note 154; see generally Jonathan Drew, *Legislators Significantly Change Hog Farm Liability Bill*, U.S. NEWS (Apr. 10, 2017), <https://www.usnews.com/news/best-states/north-carolina/articles/2017-04-10/legislators-significantly-change-hog-farm-liability-bill> (noting that the bill originally applied to the pending suits against Murphy-Brown, LLC, but updated version did not apply to pending suits).
- ¹⁵⁷ See Ken Fine & Erica Hellerstein, *State Representative Jimmy Dixon Collected \$115,000 from Big Pork, Then Tried to Make the Industry's Legal Troubles Go Away*, THE INDEP. WEEKLY (Apr. 5, 2017), <https://www.indyweek.com/indyweek/state-representative-jimmy-dixon-collected-115000-from-big-pork-then-tried-to-make-the-industrys-legal-troubles-go-away/> Content?oid=5799999 (“According to campaign finance records, over the course of his career Dixon has received more than \$115,000 from Big Pork, including: \$9,500 from the N.C. Pork Council; more than \$20,000 from the Maxwell family, which owns the Goldsboro Milling Company, the tenth-largest swine producer in the United States; \$9,000 from Walter Pelletier and \$3,000 from John Pike, both of whom also have ties to Goldsboro Milling; \$37,500 from Prestage Farms; and \$36,250 from donors associated with Murphy-Brown, the company facing more than two dozen federal lawsuits that this legislation would effectively negate.”).
- ¹⁵⁸ Christina Cooke, *NC GOP Protects Factory Farms' Right to Pollute*, CIVIL EATS (May 5, 2017), <http://civileats.com/2017/05/09/north-carolina-factory-farms-lose-effort-to-limit-pollution-lawsuits/>.
- ¹⁵⁹ Hellerstein, *supra* note 154.
- ¹⁶⁰ *Legislature Proposes Protecting Polluters over People*, N.C. ENVTL. JUST. NETWORK (Apr. 6, 2017), <http://www.ncejn.org> (citing N.C. GEN. STAT. § 1-539 (2016)).
- ¹⁶¹ Hellerstein, *supra* note 154.
- ¹⁶² *Id.*
- ¹⁶³ See Mark Bittman, *Who Protects the Animals?*, N.Y. TIMES (Apr. 26, 2011), <https://opinionator.blogs.nytimes.com/2011/04/26/who-protects-the-animals/> (defining the term “ag-gag” as a portmanteau of “agriculture” and “gag.”).
- ¹⁶⁴ *Factory Farms & “Ag-Gag” Laws*, ANIMAL LEGAL DEF. FUND (2014), <http://aldf.org/wp-content/uploads/2014/08/Ag-Gag-brochure-web.pdf>.
- ¹⁶⁵ Jeffrey Vizcaino, *Sinclair's Nightmare: SLAPPING Down Ag-Gag Legislation as Content-Based Restrictions Chilling Protected Free Speech*, 7 J. ANIMAL & ENVTL. L. 49, 50-51 (2015-2016) (citing Jennifer Molido, *Undercover Investigations Help Protect Farmed Animals*, ANIMAL LEGAL DEF. FUND (Mar. 31, 2015), <http://aldf.org/blog/undercover-investigations-help-protect-farmed-animals/>).
- ¹⁶⁶ See *Ag-Gag Legislation by State*, ASPCA, <https://www.aspc.org/animal-protection/public-policy/ag-gag-legislation-state> (last visited Oct. 24, 2017) (noting Kansas was the first to pass ag-gag legislation in the early 1990s. Today, ag-gag legislation has either been introduced or already passed into law in more than twenty states.); see also *Animal Legal Def. Fund v. Otter*, No. 1:14-cv-00104-BLW, 2015 U.S. Dist. LEXIS 102640, at *6-7 (D. Idaho Aug. 3, 2015) (declaring a major victory for animal advocates, an Idaho federal district court struck down that state's ag-gag law as an unconstitutional restriction on the First and Fourteenth Amendments).
- ¹⁶⁷ 2015 N.C. Sess. Laws 50 (codified at N.C. GEN. STAT. § 99A-2 (2016)).
- ¹⁶⁸ *Taking Ag-Gag to Court*, ANIMAL LEGAL DEF. FUND, <http://aldf.org/cases-campaigns/features/taking-ag-gag-to-court/> (last visited Oct. 24, 2017) (noting Governor Pat McCrory vetoed the law, but the North Carolina legislature overrode his veto).
- ¹⁶⁹ *Id.* at 2 (emphasis added).
- ¹⁷⁰ *Coalition Sues North Carolina over Constitutionality of “Anti-Sunshine” Law*, ANIMAL LEGAL DEF. FUND (Jan. 13, 2016), <http://aldf.org/press-room/press-releases/coalition-sues-north-carolina-over-constitutionality-of-anti-sunshine-law/> (noting a coalition of advocacy organizations sued North Carolina, challenging the ag-gag law on First and Fourteenth Amendment grounds); see also Complaint for Declaratory and Injunctive Relief Concerning the Constitutionality of a State Statute, *PETA v. Cooper*, No. 16-cv-25 (M.D. N.C. Jan. 13, 2016) (challenging the provision).
- ¹⁷¹ See Christina Cooke, *The Battle for Transparency on North Carolina Factory Farms*, CIVIL EATS (June 26, 2017), <https://civileats.com/2017/06/26/transparency-north-carolina-factory-farms/>.
- ¹⁷² Michele M. Merkel, *EPA and State Failures to Regulate CAFOs Under Federal Environmental Laws: Outline of Remarks Prepared for the National Commission on Industrial Farm Animal Production Meeting on September 11, 2006*, ENV'T INTEGRITY, http://environmentalintegrity.org/pdf/publications/EPA_State_Failures_Regulate_CAFO.pdf (last visited Oct. 24, 2017).
- ¹⁷³ Skolnick, *supra* note 41.
- ¹⁷⁴ *Id.*
- ¹⁷⁵ *Id.*
- ¹⁷⁶ *Id.*
- ¹⁷⁷ Sara Peach, *What to Do About Pig Poop? North Carolina Fights a Rising Tide*, NAT'L GEOGRAPHIC (Oct. 30, 2014), <http://news.nationalgeographic.com/news/2014/10/141028-hog-farms-waste-pollution-methane-north-carolina-environment/> (highlighting that Duplin County alone is occupied by 530 pig CAFOs which, collectively, are large enough to confine 2.35 million pigs).
- ¹⁷⁸ Skolnick, *supra* note 41 (stating that Smithfield Foods was the world's largest pig producer before the corporation sold out to WH Group).
- ¹⁷⁹ *AFO Program Summary*, N.C. DEP'T OF ENV'T QUALITY, <https://deq.nc.gov/about/divisions/water-resources/water-resources-permits/wastewater-branch/animal-feeding-operation-permits/afo-program-summary> (last visited Dec. 20, 2017) (citing N.C. GEN. STAT. § 143-215.10B(a)) (noting an operation is also regulated as an AFO if it “has a liquid animal waste management system that discharges to the surface waters of the State.”).
- ¹⁸⁰ *Id.*
- ¹⁸¹ *Id.* (stating only existing CAFOs are eligible for permitting under the General Permit if they use the lagoon and sprayfield waste management system. New or expanded CAFOs must be permitted through a separate process).
- ¹⁸² *Id.* (mentioning community members fought this renewal without success); see *infra* Section V.
- ¹⁸³ Skolnick, *supra* note 41; see also *supra* note 48 and accompanying text (discussing water pollution in the New River).
- ¹⁸⁴ See *supra* note 48 and accompanying text.; *AFO Program Summary*, *supra* note 179.
- ¹⁸⁵ *AFO Program Summary*, *supra* note 179; see also Skolnick, *supra* note 41 (noting that the only way to start a new CAFO in North Carolina today is to use proper sewage treatment, which the industry states is cost-prohibitive and acknowledging that this victory followed relentless hard work on the part of the community); *infra* Section V.
- ¹⁸⁶ Jernigan, *supra* note 101, at 34 (“Most hog operations in North Carolina operate under a State General Permit, which supports the assumption that pollutants, including fecal bacteria and nutrients, stay on site. The permit allows the industry to flush hog feces and urine into open, unlined pits and then to spray this ‘liquid manure’ onto nearby fields under the pretext of it being used as fertilizer. The problem is that there is too much of the waste being produced for the soil or crops to absorb it all. Much of the waste runs off the fields, which are extensively ditched to facilitate drainage in the low-lying coastal plain, and the waste contaminates nearby waters. It also drifts as a noxious mist onto neighboring properties.”).
- ¹⁸⁷ *AFO Program Summary*, *supra* note 179.
- ¹⁸⁸ Jernigan, *supra* note 101, at 35; see discussion *infra* section V.
- ¹⁸⁹ Skolnick, *supra* note 41 (noting that as of February 2017, DEQ had issued only eighty-one fines over the previous five years, and the fines averaged \$4,207.75).
- ¹⁹⁰ AM. FARM BUREAU FED'N, <http://www.fb.org/> (last visited Dec. 20, 2017) (depicting photos of rolling green hills, white faces, and the American flag on their homepage); see also *id.* (“Farm Bureau is committed to working through

our grassroots organizations to enhance and strengthen the lives of rural Americans and to build strong, prosperous agricultural communities.”); Hoover, *supra* note 122, at 9 (citing Wilson, *supra* note 77, at 451) (“The industry . . . carries out marketing campaigns that perpetuate the image of the small American farmer and avoid environmental issues, adding to the regulatory challenge.”).

¹⁹¹ Travis Madsen et al., *Growing Influence: The Political Power of Agribusiness and the Fouling of America’s Waterways*, ENV’T AM. RESEARCH & POLICY CTR, 16 (Feb. 4, 2011), <http://www.environmentamerica.org/sites/environment/files/reports/Growing-Influence—low-res.pdf>.

¹⁹² *Id.*

¹⁹³ Angela Bowman, *WOTUS Survives*, GULF COAST CATTLEMAN (Jan. 20, 2016), <http://www.gulfcoastcattleman.com/wotus-survives/>.

¹⁹⁴ Hoover, *supra* note 122, at 9.

¹⁹⁵ Madsen et al., *supra* note 191, at 18.

¹⁹⁶ *Id.* at 18–19.

¹⁹⁷ *Agribusiness Sector Profile 2016*, OPENSECRETS.ORG: CTR FOR RESPONSIVE POLITICS, <https://www.opensecrets.org/lobby/indus.php?id=A&year=2016> (last visited Dec. 20, 2017).

¹⁹⁸ *Agribusiness Top Recipients*, OPENSECRETS.ORG: CTR FOR RESPONSIVE POLITICS, <https://www.opensecrets.org/industries/recips.php?ind=A&cycle=2016&recipdetail=P&mem=N&sortorder=U> (last visited Dec. 20, 2017).

¹⁹⁹ SIMON, *supra* note 10, at 89.

²⁰⁰ Sue Sturgis, *Civil Rights Battle Over N.C. Hog Industry Regulation Heats Up as Negotiations Break Down*, FACING S. (Mar. 9, 2016), <https://www.facing-south.org/2016/03/civil-rights-battle-over-nc-hog-industry-regulation> (statement of Elizabeth Haddix) (“[DEQ] has clearly been captured by the industry. . . [which] is the opposite of how government is supposed to work.”).

²⁰¹ *Id.*

²⁰² Pat Stith et al., *Boss Hog: The Power of Pork*, THE NEWS & OBSERVER (Feb. 19, 1995), <http://archive.pulitzer.org/archives/5892>.

²⁰³ Jernigan, *supra* note 101, at 33; *see generally supra* notes 28 and 173–177 and accompanying text (discussing the rapid rise of North Carolina pork industry in the 1980s).

²⁰⁴ Jernigan, *supra* note 101, at 34 (quoting Naeema Muhammad, director of the North Carolina Environmental Justice Network).

²⁰⁵ *Id.* at 33.

²⁰⁶ *Id.* at 33–34.

²⁰⁷ *Id.* at 34.

²⁰⁸ *See* Skolnick, *supra* note 41, at 7–8; *see generally* Wing, et al., *supra* note 43 and accompanying text (discussing Professor Wing’s research).

²⁰⁹ *See* Skolnick, *supra* note 41.

²¹⁰ *Grant Awards Database*, EPA, https://yosemite.epa.gov/oarm/igms_egf.nsf/9e9c2a5934a808d585256fb6006df292/2bad6665e2b5ab7785257d6f0071d5e4!OpenDocument&ExpandSection=4&Click= (last updated Oct. 1, 2017) (noting the EPA helped fund this study through a small grant to REACH).

²¹¹ Skolnick, *supra* note 41.

²¹² *See id.* (noting that residents were instructed to fill out journals twice each day).

²¹³ *Id.*

²¹⁴ *Id.*

²¹⁵ *Id.*

²¹⁶ *See id.*; Christopher D. Heaney et al., *Source Tracking Swine Fecal Waste in Surface Water Proximal to Swine Concentrated Animal Feeding Operations*, 511 SCI. TOTAL ENV’T 676, at 3, 7 (2015), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4514616/pdf/nihms708856.pdf> (discussing the results of water sampling study).

²¹⁷ *See* Skolnick, *supra* note 41.

²¹⁸ *Id.* (quoting Devon Hall, cofounder of REACH).

²¹⁹ *See* Jernigan, *supra* note 101, at 35.

²²⁰ *See* Skolnick, *supra* note 41.

²²¹ *See id.*

²²² *See* Lisa Sorg, *EPA to NC DEQ: “Grave Concerns” About Swine Industry’s Intimidation of Minority Residents*, N.C. POL’Y WATCH (Jan. 25, 2017), <http://www.ncpolicywatch.com/2017/01/25/epa-nc-deq-grave-concerns-swine-industrys-intimidation-minority-residents/>.

²²³ *See* Skolnick, *supra* note 41.

²²⁴ *See id.*

²²⁵ Sue Sturgis, *A Step Toward Environmental Justice in North Carolina’s Hog Country*, FACING S. (Feb. 3, 2017), <https://www.facingsouth.org/2017/02/step-toward-environmental-justice-north-carolinas-hog-country>.

²²⁶ *See* Jernigan, *supra* note 101, at 34–35.

²²⁷ *Id.* at 35 (quoting Naeema Muhammad, director of the North Carolina Environmental Justice Network); *see generally AFO Program Summary, supra* note 179 and accompanying text.

²²⁸ *See* Marianne Engelman Lado & Jocelyn D’Ambrosio, *Complaint Under Title VI of the Civil Rights Act of 1964*, 42 U.S.C. § 2000d, 40 C.F.R. Part 7, EARTHJUSTICE (Sept. 3, 2014), <http://earthjustice.org/sites/default/files/files/North-Carolina-EJ-Network-et-al-Complaint-under-Title-VI.pdf>.

²²⁹ *See id.* (discussing Title VI, 42 U.S.C. § 2000d (2016), which prohibits states from discriminating based on race, color, or national origin regarding state programs that receive federal tax dollars).

²³⁰ *See* 40 C.F.R. Part 7 (2016).

²³¹ *See id.* §§ 7.3–7.35.

²³² *See* Jernigan, *supra* note 101, at 35.

²³³ *See* Sorg, *supra* note 222 (explaining the grave concerns about the swine industry’s intimidation of minority residents).

²³⁴ *Id.*

²³⁵ Steve Holt, *Is Rural North Carolina the Next Flint? Groups Say People of Color There Bear the Brunt of Hog Farm Pollution*, CIVIL EATS (Mar. 23, 2016), <http://civileats.com/2016/03/23/is-north-carolina-the-next-flint-groups-say-the-hog-industry-disproportionate-impacts-on-people-of-color-in-the-state/> (quoting Elizabeth Haddix, attorney at the University of North Carolina Center for Civil Rights) (“They sent it to EPA saying that they wanted to be involved in the mediation, which was a surprise to us because we had been instructed by EPA that the very fact that we were in settlement negotiations should remain confidential. This is a community that has suffered a lot of retaliation and intimidation from the pork industry.”).

²³⁶ *Id.*

²³⁷ *Id.*

²³⁸ Lisa Sorg, *EPA Office of Civil Rights Investigating Intimidation Claims Against DEQ*, N.C. POLICY WATCH (Sept. 21, 2016), <http://www.ncpolicywatch.com/2016/09/21/epa-office-of-civil-rights-investigating-intimidation-claims-against-deq-national-producers/>.

²³⁹ *Id.* “[T]his didn’t make me feel good to know that they were there. They could have been writing down all of our [license] tag numbers. I felt exposed and that other community representatives were exposed.” (quoting Naeema Muhammad, acting director of NCEJN).

²⁴⁰ *See* Sorg, *supra* note 222 (explaining the grave concerns about the swine industry’s intimidation of minority residents).

²⁴¹ *Id.*

²⁴² Letter from Marianne Engelman Lado, Senior Staff Attorney, and Alexis Andiman, Assoc. Attorney, Earthjustice, to Lilian Dorka, Deputy Dir., Acting Assistant Dir., Office of Civil Rights, EPA (July 11, 2016) (<http://www.ncpolicywatch.com/wp-content/uploads/2016/09/July-11-2016-Letter-from-enviros-to-EPA-OCR.pdf>).

²⁴³ *Id.* at 1.

²⁴⁴ *Id.* at 9 (explaining one such story of Violet Branch, who has lived on her land in Duplin County since 1943. She lives with two miles of ten hog facilities. A state agency told her to stop drinking water from her well. Shortly after, a CAFO operator came to her home “with their industry spokesperson” and insinuated she was “out to get” the operator. She stated that she believed they were attempting to intimidate her. The industry spokesperson asked her if she had ever considered moving; *see* Sturgis, *supra* note 225 (describing another incident of intimidation against an elderly African American woman).

²⁴⁵ *See* Sorg, *supra* note 222.

²⁴⁶ *Id.*

²⁴⁷ *Id.*

²⁴⁸ *Id.*

²⁴⁹ *Id.*

²⁵⁰ Letter of Concern from Lilian Dorka, Dir., External Civil Rights Compliance Office, Office of Gen. Counsel, EPA to Marianne William G. Ross, Jr., Acting Secretary, N.C. Dep’t of Env’t. Quality (Jan. 12, 2017) [hereinafter Letter of Concern from Lilian Dorka] (<https://assets.documentcloud.org/documents/3381929/NCDEQ-Letter-of-Concern-from-EPA.pdf>).

²⁵¹ *Id.* at 1.

²⁵² *Id.* at 8.

²⁵³ *Id.*

²⁵⁴ Sorg, *supra* note 222; *see* Sorg, *supra* note 238 (noting the unlikelihood “that the EPA’s Office of Civil Rights will find in favor of the environmental groups. As the Center for Public Integrity reported last year, that office has determined just one finding of discrimination—from hundreds filed—in [twenty-two] years”) (citing *Environmental Justice, Denied*, CTR. FOR PUB.

INTEGRITY, <https://www.publicintegrity.org/environment/environmental-justice-denied> (last visited Dec. 20, 2017).

²⁵⁵ Sorg, *supra* note 222.

²⁵⁶ Matt Flegenheimer and Michael Barbaro, *Donald Trump Is Elected President In Stunning Repudiation of the Establishment*, N.Y. TIMES (Nov. 9, 2016), https://www.nytimes.com/2016/11/09/us/politics/hillary-clinton-donald-trump-president.html?_r=0.

²⁵⁷ Jennifer Steinhauer, *Republicans, Buoyed by Trump's Performance, Keep Control of Senate*, N.Y. TIMES (Nov. 9, 2016), <https://www.nytimes.com/2016/11/09/us/politics/republican-senate.html>; *House Election Results: G.O.P. Keeps Control*, N.Y. TIMES (Feb. 10, 2017), <https://www.nytimes.com/elections/results/house>.

²⁵⁸ Memorandum from David A. Bloom, Acting Chief Fin. Officer, EPA, to Acting Gen. Counsel, Acting Assistant Adm'rs, Inspector Gen. Chief of Staff, & Acting Reg'l Adm'rs, EPA (Mar. 21, 2017).

²⁵⁹ Juliet Eilperin et al., *New EPA Documents Reveal Even Deeper Proposed Cuts to Staff and Programs*, WASH. POST (Mar. 31, 2017), https://www.washingtonpost.com/news/energy-environment/wp/2017/03/31/new-epa-documents-reveal-even-deeper-proposed-cuts-to-staff-and-programs/?utm_term=.5030c31e220d.

²⁶⁰ *In His First 100 Days, Cooper Has Made A Strong Start By Following a Positive Agenda*, THE NEWS & OBSERVER (Apr. 10, 2018), [http://www.](http://www.newsobserver.com/opinion/editorials/article143824124.html)

[newsobserver.com/opinion/editorials/article143824124.html](http://www.newsobserver.com/opinion/editorials/article143824124.html) (specifying however, that Governor Cooper faces a veto-proof majority in the state legislature).

²⁶¹ See, e.g., N.C. State Conference of NAACP v. McCrory, 831 F.3d 204, 242 (4th Cir. 2016) (reversing and remanding to district court with directions to enjoin North Carolina election reform law that imposed photo ID requirement and other barriers to voting because weight of evidence indicated the law was motivated by discriminatory intent of North Carolina General Assembly), *cert denied*, 137 S. Ct. 1399 (2017); see generally Adam Liptak & Michael Wines, *Strict North Carolina Voter ID Law Thwarted After Supreme Court Rejects Case*, N.Y. TIMES (May 15, 2017), <https://www.nytimes.com/2017/05/15/us/politics/voter-id-laws-supreme-court-north-carolina.html?mcubz=3> ("The Supreme Court on Monday refused to revive a restrictive North Carolina voting law that a federal appeals court had struck down as an unconstitutional effort to 'target African-Americans with almost surgical precision.'").

²⁶² See, e.g., Covington v. North Carolina, 316 F.R.D. 117, 129–30 (M.D.N.C. 2016) (finding that evidence supports a conclusion of racial gerrymandering in North Carolina), *appeal filed*, No. 16-649 (Nov. 14, 2016); Harris v. McCrory, 159 F. Supp. 3d 600, 611–12 (M.D.N.C. 2016) (stating North Carolina redistricting was predominantly motivated by race and constituted impermissible gerrymandering in violation of Equal Protection Clause), *appeal filed sub nom. Cooper v. Harris*, No. 15-1262 (Feb. 8, 2016).

²⁶³ See *supra* notes 261–262 (highlighting various legal challenges).

ENDNOTES: THE “FOWL” PRACTICE OF HUMANE LABELING: PROPOSED AMENDMENTS TO FEDERAL STANDARDS GOVERNING CHICKEN WELFARE AND POULTRY LABELING PRACTICES

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far less—than they ever have. The most astounding genetic changes have been those of chickens. In 1925, chickens reached a weight of two and a half pounds in sixteen weeks; today, they reach a weight of almost six pounds in six weeks (while consuming less than half the feed per pound of weight gained). It's miraculous but torturous.”).

⁵ *The Business of Broilers*, PEW CHARITABLE TRUSTS 3, <http://www.pewtrusts.org/~media/legacy/uploadedfiles/peg/publications/report/businessofbroilersreportthepewcharitabletrustspdf.pdf> (last visited Dec. 13, 2017) [hereinafter *The Business of Broilers*].

⁶ See LESLEY J. ROGERS, *THE DEVELOPMENT OF BRAIN AND BEHAVIOR IN THE CHICKEN* 184 (1995) (explaining that the certain brain structures of chickens are similar to mammals).

⁷ Lori Marino, *Thinking chickens: a review of cognition, emotion, and behavior in the domestic chicken*, 20.2 ANIMAL COGNITION 128, 131, 137 (2017), <https://link.springer.com/content/pdf/10.1007%2F978-0-16-1064-4.pdf> [hereinafter *Thinking Chickens*]; see *Sentience in Farm Animals: Poultry Chickens*, THINK DIFFERENTLY ABOUT SHEEP, <http://www.think-differently-about-sheep.com/sentience%20in%20farm%20animals%20poultry%20chickens.htm> (last visited Dec. 13, 2017) [hereinafter *Sentience in Farm Animals*] (describing chickens as intelligent, complex creatures that will bravely defend their young from aggressors).

⁸ See *Sentience in Farm Animals*, *supra* note 7, at 138-39.

⁹ See *id.* at 131-34.

¹⁰ See *Thinking Chickens*, *supra* note 7; Robert Grillo, *Chicken Behavior: An Overview of Recent Science*, FREE FROM HARM (Feb. 7, 2014), <http://freefromharm.org/chicken-behavior-an-overview-of-recent-science/> (noting that chicken communication skills may be comparable to some primates).

¹¹ See AMY J. FITZGERALD, *ANIMALS AS FOOD: (RE)CONNECTING PRODUCTION, PROCESSING, CONSUMPTION, AND IMPACTS* 16 (2015) (emphasizing that 97% of U.S. livestock are CAFO raised); DANIEL IMHOFF, *CAFO: THE TRAGEDY OF INDUSTRIAL ANIMAL FACTORIES* xiii (2010) (stating that the purpose of factory farming is to bred animals for rapid growth and high outputs of animal products such as meat and milk).

¹² See IMHOFF, *supra* note 11, at xii–xv (explaining that animals in CAFOs exist in unnatural conditions without fresh-air or sunlight and are reduced to units of production by corporate agribusiness); see also *Putting Meat on the Table: Industrial Farm Animal Production in America*, PEW COMM’N ON INDUS. FARM ANIMAL PROD. 22 (2008), http://www.pewtrusts.org/~media/assets/2008/peifap_exec-summary.pdf.

¹³ See IMHOFF, *supra* note 11, at xii–xv.

¹⁴ *Regulatory Definitions of Large CAFOs, Medium CAFOs, and Small CAFOs*, ENVTL. PROT. AGENCY, https://www.epa.gov/sites/production/files/2015-08/documents/sector_table.pdf (last visited Dec. 13, 2017).

¹⁵ See *Animal Welfare for Broiler Chickens*, NAT’L CHICKEN COUNCIL, <http://www.nationalchickencouncil.org/industry-issues/animal-welfare-for-broiler-chickens/> (last visited Dec. 13, 2017) [hereinafter *Animal Welfare for Boiler Chickens*] (comparing industry practice with CAST requirements).

¹⁶ *Id.*

¹⁷ See *id.* (“Traditionally, a flock of broilers consist of about 20,000 birds in a growout house that measures 400 feet long and 40 feet wide, thus providing an area of about 16,000 square feet, or eight-tenths of a square foot per bird. As the birds age, they grow into this space.”).

¹⁸ See *A Closer Look at Animals on Factory Farms*, AM. SOC’Y FOR THE PREVENTION OF CRUELTY TO ANIMALS, <https://www.aspc.org/animal-cruelty/farm-animal-welfare/animals-factory-farms#Chickens> (last visited Dec. 13, 2017) [hereinafter *A Closer Look*] (explaining that the physical conditions for chickens in factory farms may cause heart failure, leg weakness, trouble breathing, and chronic pain).

¹⁹ See Cheryl L. Leahy, *Large-Scale Farmed Animal Abuse and Neglect: Law and Its Enforcement*, 4 J. ANIMAL L. & ETHICS 63, 64 (2011) (arguing that factory farm conditions also impact the environment and resource consumption).

²⁰ See generally GARY L. FRANCIONE & ROBERT GARNER, *THE ANIMAL RIGHTS DEBATE: ABOLITION OR REGULATION?* 48-49 (2010); Lorraine Mitchell, *Impact of Consumer Demand for Animal Welfare on Global Trade*, in *CHANGING STRUCTURE OF GLOBAL FOOD CONSUMPTION AND TRADE* 80 (2001) (describing the various consumer animal rights movements that have resulted from consumer awareness ranging from cessation of animals in economic activity to improved treatment and welfare for animals used in food production).

²¹ See Hope Bohanec, *Factory Farming vs. Alternative Farming: The Humane Hoax*, FREE FROM HARM (Mar. 6, 2014), <http://freefromharm.org/animal-products-and-ethics/factory-farming-alternative-farming/> (explaining that even animals harvested outside of large factory farms are still typically subjected to cruel practices).

²² See MARK ESSIG, *LESSER BEASTS: A SNOUT-TO-TAIL HISTORY OF THE HUMBLE PIG* 253 (2015) (noting that the world of humane farming has produced a “new tribe” of consumers willing to pay a great deal as long as the animal is treated well before dying at a welfare certified slaughterhouse); see also Memorandum from Bob Meadow & Joshua Ulibarri, Lake Research Partners, to Interested Parties, *Broiler Chicken—Online Survey Public Memo 1* (Apr. 2017), https://www.aspc.org/sites/default/files/publicmemo.aspc_broilerchicken2013.pdf (“Once consumers learned more about these conditions, concern about chicken

welfare increased dramatically, as did consumers' desire to purchase humanely raised chickens (including purchasing chicken at a higher price).").

²³ See, e.g., AM. HUMANE ASS'N, 2014 HUMANE HEARTLAND FARM ANIMAL WELFARE SURVEY 7 (2014) (reporting that 75% of survey participants are willing to pay more for "humanely raised" products); see also Lindsay Walton & Kristen King Jaiven, *Regulating Concentrated Animal Feeding Operations for the Well-Being of Farm Animals, Consumers, and the Environment*, WHAT CAN ANIMAL LAW LEARN FROM ENVIRONMENTAL LAW? 95 (Randall S. Abate ed., 2015) ("[H]umanely raised animal products . . . are often more expensive than their factory-farmed counterparts, partly because their prices more accurately reflect the "true cost" of the product.").

²⁴ See Animal Welfare Act, 7 U.S.C. § 2132 (2012); Humane Methods of Livestock Slaughter Act of 1978, 7 U.S.C. § 1901 (2012); 7 U.S.C. § 80502 (1994) (transportation of animals); see generally *Labeling Guideline on Documentation Needed to Substantiate Animal Raising Claims for Label Submissions*, U.S. DEP'T OF AGRIC. FOOD SAFETY & INSPECTION SER. 8 (2016), <https://www.fsis.usda.gov/wps/wcm/connect/6fe3cd56-6809-4239-b7a2-bccb82a30588/RaisingClaims.pdf?MOD=AJPERES> ("FSIS has not defined these claims in regulations or policy guidelines. For animal welfare claims, such as 'Raised with Care' or 'Humanely Raised' FSIS will only approve a claim if a statement is provided on the label showing ownership and including an explanation of the meaning of the claim for consumers.").

²⁵ *FSIS Compliance Guideline for Label Approval*, FOOD SAFETY & INSPECTION SERV. 3-15, <https://www.fsis.usda.gov/wps/wcm/connect/6fe3cd56-6809-4239-b7a2-bccb82a30588/RaisingClaims.pdf?MOD=AJPERES> (last visited Dec. 12, 2017) (detailing the guidelines to document the humane practice, but not providing a standard for which to grade those practices on).

²⁶ 7 U.S.C. § 2132(g)(1) (2012) ("This term excludes birds, rats of the genus *Rattus*, and mice of the genus *Mus*, bred for use in research; horses not used for research purposes; and other farm animals, such as, but not limited to, livestock or poultry used or intended for use as food or fiber, or livestock or poultry used or intended for use for improving animal nutrition, breeding, management, or production efficiency, or for improving the quality of food or fiber. With respect to a dog, the term means all dogs, including those used for hunting, security, or breeding purposes").

²⁷ See *Hemy v. Perdue Farms, Inc.*, No. 11-888, 2013 WL 1338199, at *1 (Mar. 31, 2013) (noting that the company utilized misleading marketing practices by advertising its products as "Humanely Raised" and using the phrase "USDA Process Verified" to charge premium prices for chickens that were raised under the same conditions as non-"Humanely Raised" chickens); see also *Frequently Asked Questions*, CERTIFIED HUMANE, <http://certifiedhumane.org/how-we-work/frequently-asked-questions/#15> (last visited Dec. 13, 2017) ("[I]t is more expensive to raise farm animals humanely, and so it usually does cost a little more to buy Certified Humane® foods").

²⁸ See *Hemy*, No. 11-888, 2013 WL 1338199 at *1 (discussing allegations that Perdue Farms falsely labeled certain products as "humane" and charged higher prices).

²⁹ See Michael Lipkin, *Purdue Accused of Lying about 'Humane' Chicken Treatment*, LAW 360 (Oct. 24, 2013, 10:20 PM), <http://www.law360.com/articles/483243/perdue-accused-of-lying-about-humane-chicken-treatment>.

³⁰ See Nicolas Kristof, *Abusing Chickens We Eat*, N.Y. TIMES (Dec. 3, 2014), https://www.nytimes.com/2014/12/04/opinion/nicholas-kristof-abusing-chickens-we-eat.html?_r=0 (discussing the conditions at Purdue's "Humane" farms); *Chicken Production supra*, note 4 (overviewing the conditions of farm factory chickens).

³¹ See Hope Bohanec, *Factory Farming vs. Alternative Farming: The Humane Hoax*, FREE FROM HARM (Mar. 6, 2014), <http://freefromharm.org/animal-products-and-ethics/factory-farming-alternative-farming/>.

³² Dan Charles, *Can You Trust That Organic Label On Imported Food?*, NPR (July 23, 2014, 6:14 PM), <https://www.npr.org/sections/thesalt/2014/07/23/334073167/can-you-trust-that-organic-label-on-imported-food>.

³³ Press Release, Council for Agric. Sci. & Tech., *Process Labeling of Food: Consumer Behavior, the Agricultural Sector, and Policy Recommendations* (Oct. 7, 2015), http://www.cast-science.org/news/?process_labeling_of_food_consumer_behavior_the_agricultural_sector_and_policy_recommendations&show=news&newsID=20802.

³⁴ R. Post et al., *A Guide to Federal Food Labeling Requirements for Meat, Poultry and Egg Products*, U.S. DEP'T OF AGRIC. FOOD SAFETY & INSPECTION SERVICE (2007), https://www.fsis.usda.gov/shared/PDF/Labeling_Requirements_Guide.pdf

³⁵ *Label Confusion: How "Humane" and "Sustainable" claims on meat packages deceive consumers*, ANIMAL WELFARE INST. (May 2014), <https://awionline.org/sites/default/files/products/AWI-FA-FoodLabelReport-05072014.pdf>.

³⁶ 21 U.S.C. § 602 (2012) (stating that the unwholesome, adulterated, mislabeled, or deceptively packaged articles can be sold at lower prices and compete unfairly with the wholesome, not adulterated, and properly labeled and packaged articles to the detriment of consumers and the public generally).

³⁷ Emily Field, *Perdue, Kroger Agree to Settle Chicken Labeling Suits*, LAW 360 (Oct. 14, 2014, 6:44 PM), <http://www.law360.com/articles/586798/perdue-kroger-agree-to-settle-chicken-labeling-suits>.

³⁸ *Id.*

³⁹ *Id.*

⁴⁰ Karen Davis, *The Need for Legislation and Elimination of Electrical Immobilization*, UNITED POULTRY CONCERNS, <http://www.upc-online.org/slaughter/report.html> (last visited Dec. 13, 2017).

⁴¹ See *infra* Part I.

⁴² See generally *The Business of Broilers, supra* note 5; *Chickens Used for Meat*, FARM SANCTUARY, <https://www.farmsanctuary.org/learn/factory-farming/chickens/> (last visited Dec. 13, 2017) (noting typical chickens in the meat industry rapidly grow to "market weight" with lights constantly kept on to stimulate eating, causing them to suffer from deformities, and the chickens, spend their lives confined in overcrowded factories on floors covered in feces and urine).

⁴³ See *infra* Part IIC.

⁴⁴ Press Release, Perdue Farms Inc., Maryland Governor Honors Jim Perdue for Sustained Leadership (Mar. 15, 2010), <https://www.perdufarm.com/news/press-releases/maryland-governor-honors-jim-perdue-for-sustained-leadership/>.

⁴⁵ *Accord America's Largest Private Companies*, FORBES <http://www.forbes.com/companies/perdue/> (last visited Dec. 11, 2017) (reporting Forbes 2017 rankings for American's Largest Private Companies where Perdue ranks 50th).

⁴⁶ See generally Press Release, Perdue Farms Inc., *Perdue Launches Recipe Dedication to Support Susan G. Komen for the Cure* (Oct. 1, 2010), <https://www.perdufarm.com/news/press-releases/perdue-launches-recipe-dedication-program-to-support-susan-g-komen-for-the-cure/>.

⁴⁷ Field, *supra* note 37.

⁴⁸ Melanie Warner, *Perdue's "Humanely-Raised" Chicken: The Latest Misleading Food Claim*, CBS NEWS (May 21, 2010), <http://www.cbsnews.com/news/perdues-humanely-raised-chicken-the-latest-misleading-food-claim/>.

⁴⁹ Overview, NAT'L CHICKEN COUNCIL, <http://www.nationalchickencouncil.org/about-ncc/overview> (last visited Dec. 12, 2017) (The NCC's Animal Welfare Guidelines and Audit Checklist include guidance for housing space, feed, water, veterinary attention, proper handling, humane slaughter, and breeding.)

⁵⁰ *Id.*

⁵¹ See Warner, *supra* note 48.

⁵² See Kristof, *supra* note 30.

⁵³ Jim Perdue, *Chairman, Perdue Farms*, YOUTUBE (July 11, 2011), https://www.youtube.com/watch?v=2a8x_8liZWA.

⁵⁴ *Id.*

⁵⁵ *Id.*

⁵⁶ See Harrison Jacobs, *Perdue Farmer Reveals How Bad Life Is For His 'Humanely Raised' Chickens*, BUS. INSIDER (Dec. 10, 2014, 3:51 PM), <http://www.businessinsider.com/the-truth-about-humanely-raised-chicken-2014-12>.

⁵⁷ *Id.*

⁵⁸ *Id.*

⁵⁹ *Id.*

⁶⁰ *Id.* (leaving the floor of the barn to be covered with feces and urine).

⁶¹ *Meat Chickens*, HOMESTEAD ORGANICS (2003), <http://www.homesteadorganics.ca/meat-chickens.aspx> (noting that breeds such as Meat King and White Cornish Crosses are marketed as broilers at 8-10 weeks of age).

⁶² *The Business of Broilers, supra* note 5; Jacqueline Howard, *Chickens Look Way Different Today, And Here's the Reason Why*, HUFFINGTON POST (Oct. 21, 2014), http://www.huffingtonpost.com/2014/10/21/chickens-bred-bigger_n_5983142.html (citing a study by the University of Alberta demonstrating that broiler chicken breeds are four times larger today than the industry standard breeds in 1957).

⁶³ Gaverick Matheny & Cheryl Leahy, *Farm-Animal Welfare, Legislation, and Trade*, 70 L. & CONTEMP. PROBS. 325, 330 (2007), <https://scholarship.law.duke.edu/cgi/viewcontent.cgi?article=1415&context=lcp>.

⁶⁴ *Id.*

- ⁶⁵ R.F. Wideman et al., *Pulmonary Arterial Hypertension (Ascites Syndrome) in Broilers: A Review*, 92 *POULTRY SCI.* 64–83 (2013), <https://academic.oup.com/ps/article-lookup/doi/10.3382/ps.2012-02745>.
- ⁶⁶ *Id.*
- ⁶⁷ J. MENCH, MEASURING AND AUDITING BROILER WELFARE 3-5 (C.A. Weeks & A. Butterworth eds., 2004).
- ⁶⁸ *17 Chicken Facts the Industry Doesn't Want You to Know*, FREE FROM HARM (Aug. 28, 2014), <http://freefromharm.org/animalagriculture/chicken-facts-industry-doesnt-want-know/>.
- ⁶⁹ See Roberto A. Ferdman, *The not-so-humane way 'humanely raised' chickens are being raised*, WASH. POST (Dec. 8, 2014), https://www.washingtonpost.com/news/wonk/wp/2014/12/08/the-not-so-humane-way-humanely-raised-chickens-are-being-raised/?utm_term=.0049e1e701d1.
- ⁷⁰ *Id.*
- ⁷¹ Wideman et al., *supra* note 65, at 67.
- ⁷² *Big Liver and Spleen Disease*, THE POULTRY SITE (2004), <http://www.thepoultrysite.com/diseaseinfo/12/big-liver-and-spleen-disease> (explaining that accelerated growth and overcrowding causes latency and big liver and spleen disease).
- ⁷³ Stephen R. Collett et al., *Overview of Sudden Death Syndrome of Broiler Chickens*, MERCK VETERINARY MANUAL, http://www.merckvetmanual.com/mvm/poultry/sudden_death_syndrome_of_broiler_chickens/overview_of_sudden_death_syndrome_of_broiler_chickens.html (last visited Dec. 12, 2017).
- ⁷⁴ Billy M. Hargis, *Ascites Syndrome in Poultry*, MERCK VETERINARY MANUAL, <http://www.merckvetmanual.com/poultry/miscellaneous-conditions-of-poultry/ascites-syndrome-in-poultry> (last visited Dec. 13, 2017).
- ⁷⁵ Collett et al., *supra* note 73.
- ⁷⁶ *Buried Alive: COK Investigation Uncovers Shocking Cruelty to Chickens at NC Factory Farm*, COMPASSION OVER KILLING, <http://cok.net/inv/pilgrims/> (last updated Aug. 6, 2014) [hereinafter *Buried Alive*].
- ⁷⁷ KRISHAN PAL, *DISEASES OF POULTRY* 306-24 (2015).
- ⁷⁸ Casey W. Ritz, *Mortality Management Options for Georgia Poultry Growers*, UNIV. OF GA. COOP. EXTENSION 1, 3 (Apr. 2009), https://secure.caes.uga.edu/extension/publications/files/pdf/B%201244_2.PDF.
- ⁷⁹ See *id.*; Jacobs, *supra* note 56.
- ⁸⁰ See Ferdman, *supra* note 69.
- ⁸¹ *Id.*
- ⁸² *A Closer Look*, *supra* note 18.
- ⁸³ *Id.*
- ⁸⁴ JAMES V. CRAIG, *DOMESTIC ANIMAL BEHAVIOR*, 243-44 (1981).
- ⁸⁵ *Id.*
- ⁸⁶ *Overview of the United States Slaughter Industry*, U.S. DEP'T OF AGRIC. (Oct. 27, 2016), <http://usda.mannlib.cornell.edu/usda/current/SlauOverview/SlauOverview-10-27-2016.pdf>.
- ⁸⁷ Fred LaSenna, *For Chicken Farms, Have Slaughterhouse, Will Travel*, CNBC (Nov. 17, 2013, 2:27 PM), <https://www.cnbc.com/2013/11/17/for-chicken-farms-have-slaughterhouse-will-travel.html> (noting there is a shortage of slaughterhouses in the United States, thus small-scale producers (less than 37,500) in remote areas often have to travel long distance from farm to the slaughterhouse with one driver hauling chickens from Georgia to South Carolina).
- ⁸⁸ 49 U.S.C. § 80502 (2012).
- ⁸⁹ See 7 U.S.C. § 2132(g) (2012) (excluding “farm animals” including poultry from protection under the statute); *Farmed Animals and the Law*, ANIMAL LEGAL DEF. FUND, <http://aldf.org/resources/advocating-for-animals/farmed-animals-and-the-law/> (last visited Dec. 13, 2017) [hereinafter *Farmed Animals and the Law*] (indicating that the USDA claims the rule does not apply to poultry and, even if it did, the rule is rarely enforced); Edward Lotterman, *Why no one mourns the loss of the family chicken farm*, FED GAZETTE (Apr. 1, 1998), <https://www.minneapolisfed.org/publications/fedgazette/why-no-one-mourns-the-loss-of-the-family-chicken-farm> (noting that poultry were likely excluded from the law since, at the time of passage, selling poultry products outside of the family farm was uncommon).
- ⁹⁰ See *Farmed Animals and the Law*, *supra* note 89.
- ⁹¹ *National Chicken Council Brief on Stunning Chickens*, NAT'L CHICKEN COUNCIL, <http://www.nationalchickencouncil.org/national-chicken-council-brief-on-stunning-of-chickens/> (last visited Dec. 8, 2017); Sara Shields & Mogan Raj, *An HSUS Report: The Welfare of Birds at Slaughter*, THE HUMANE SOC'Y OF THE U.S. 1, http://www.fao.org/fileadmin/user_upload/animalwelfare/HSUS—The%20Welfare%20of%20Birds%20at%20Slaughter.pdf (last visited Dec. 13, 2017) [hereinafter *HSUS Report*].
- ⁹² See *HSUS Report*, *supra* note 91, at 1,6.
- ⁹³ *Id.* at 5-6.
- ⁹⁴ *Id.* at 6.
- ⁹⁵ See *Poultry Slaughter 2016*, *supra* note 3, at 8-9.; Farm Sanctuary & Animal Welfare Institute, *Petition to issue regulations under the Poultry Products Inspection Act 14* (Dec. 17, 2013), <https://www.fsis.usda.gov/wps/wcm/connect/e138fe1a-d380-42b2-88b7-f24a11ed7d7f/Petition-AWI-PPIA-121713.pdf?MOD=AJPERES> (citing that as birds enter the water, many organisms including feces, salmonella, and campylobacter, are released and inhaled by the live birds causing cross-contamination).
- ⁹⁶ *Buried Alive*, *supra* note 76.
- ⁹⁷ *Food Labels Survey 2016 Nationally-Representative Phone Survey*, CONSUMER REPORTS NAT'L RESEARCH CTR. 4 (Apr. 6, 2016), http://greenerchoices.org/wp-content/uploads/2016/08/2016_CRFoodLabelsSurvey.pdf (“Many consumers think a humanely raised claim on eggs, dairy and meat currently means the farm was inspected to verify this claim (82%), the animals had adequate living space (77%), the animals were slaughtered humanely (71%), the animals went outdoors (68%), the animals were raised in houses with clean air (65%), or the animals were raised without cages (57%). Accordingly, a greater percentage of consumers believe this claim should mean that the farm was inspected to verify this claim (88%), the animals had adequate living space (86%), the animals were slaughtered humanely (80%), the animals were raised in houses with clean air (78%), the animals went outdoors (78%), or the animals were raised without cages (66%)”).
- ⁹⁸ Anne Bucher, *Kroger, Perdue Farms Settle Chicken Labeling Class Action Lawsuits*, TOP CLASS ACTIONS (Oct. 15, 2014), <http://topclassactions.com/lawsuit-settlements/lawsuit-news/42213-kroger-perdue-farms-settle-chicken-labeling-class-action-lawsuits/>.
- ⁹⁹ *Id.*
- ¹⁰⁰ *Settlement Reached in Lawsuit Concerning Perdue Chicken Labeling*, THE HUMANE SOC'Y OF THE U.S., (Oct. 13, 2014), http://www.humane-society.org/news/press_releases/2014/10/Perdue-settlement-101314.html?credit=web_id98471502.
- ¹⁰¹ *Id.*
- ¹⁰² *Id.*
- ¹⁰³ See Complaint at ¶ 1, *Ortega v. Kroger Co.*, CASE NO. 2:14-cv-1949 (C.D. Cal. 2014).
- ¹⁰⁴ *Id.* at ¶¶ 77-79.
- ¹⁰⁵ *Id.* at ¶ 4 (asserting that production codes included on Simple Truth brand chicken indicate that its chicken is produced by Perdue Farms' at its Cromwell, Kentucky facility).
- ¹⁰⁶ Stephanie Strom, *Perdue Aims to Make Chickens Happier and More Comfortable*, N.Y. TIMES (June 26, 2016), <https://www.nytimes.com/2016/06/27/business/perdue-aims-to-make-chickens-happier-and-more-comfortable.html>.
- ¹⁰⁷ See *id.*
- ¹⁰⁸ *Id.*
- ¹⁰⁹ *Id.*
- ¹¹⁰ *Id.*
- ¹¹¹ *Compare Livestock Slaughter 2016 Summary*, U.S. DEP'T OF AGRIC. (Apr. 2017) (adding up the number of cattle, hogs, and sheep annually slaughtered together is in the millions and is less than the number of chickens annually slaughtered which is in the billions), *with Poultry Slaughter 2016 Summary*, U.S. DEP'T OF AGRIC. (Feb. 2017) (demonstrating that the number of chickens slaughtered annually is close to 9 billion); see also *The United States Meat Industry at a Glance*, THE N.A. MEAT INST., <https://www.meatinstitute.org/index.php?ht=d/sp/i/47465/pid/47465> (last visited Dec. 1, 2017); *Farm Animal Statistics: Slaughter Totals*, THE HUMANE SOC'Y OF THE U.S., http://www.humanesociety.org/news/resources/research/stats_slaughter_totals.html?referrer=https://www.google.com/ (last updated June 25, 2015).
- ¹¹² See Veronica Hirsch, *Detailed Discussions of Legal Protections of the Domestic Chicken in the United States and Europe*, ANIMAL LEGAL & HISTORICAL CTR. (2003), <https://www.animallaw.info/article/detailed-discussion-legal-protections-domestic-chicken-united-states-and-europe> (discussing the limited federal and state regulations governing poultry use).
- ¹¹³ Jai-Rui Chong, *Wood-Chipped Chickens Fuel Outrage*, L.A. TIMES (Nov. 22, 2003), <http://articles.latimes.com/2003/nov/22/local/me-chipper22>.
- ¹¹⁴ *Call to Compassion: Reflections on Animal Advocacy from the World's Religions* 249 (Lisa Kemmerer, Anthony J. Nocella ed., 2008).
- ¹¹⁵ See *id.* (noting that the farm owners were following professional advice rather than acting with malice).

¹¹⁶ *Animal Welfare Act*, U.S. DEP'T OF AGRIC., <https://www.nal.usda.gov/awic/animal-welfare-act> (last visited Dec. 13, 2017); *see generally* 7 U.S.C. § 2131 (2012).

¹¹⁷ *The Animal Welfare Act—Public Law 89-544 Act of August 24, 1966*, U.S. DEP'T OF AGRIC., <https://www.nal.usda.gov/awic/animal-welfare-act-public-law-89-544-act-august-24-1966> (last visited Dec. 13, 2017).

¹¹⁸ *Animal Welfare Act Amendments of 1970*, Pub. L. No. 91-579, 84 Stat. 1560 (codified as amended at 7 U.S.C. § 2132(g) (defining the term animal)).

¹¹⁹ DONALD D. BELL, *COMMERCIAL MEAT AND CHICKEN PRODUCTION: ANATOMY OF THE CHICKEN* 41 (5th ed. 2002).

¹²⁰ 7 U.S.C. § 2132(g) (“The term ‘animal’ . . . excludes . . . farm animals, such as, but not limited to livestock or poultry, used or intended for use as food or fiber, or livestock or poultry used or intended for use for improving nutrition, breeding, management, or production efficiency, or for improving the quality of food or fiber.”).

¹²¹ 7 U.S.C. § 1901 (1958).

¹²² *Id.*

¹²³ *Id.* § 1902(a).

¹²⁴ *Levine v. Vilsack*, 587 F.3d 986, 989 (9th Cir. 2009).

¹²⁵ *Id.* § 1904(b).

¹²⁶ *Humane Methods of Livestock Slaughter Act of 1958*, ch. 72, § 3, 72 Stat. 862, 862, *repealed by Humane Methods of Livestock Slaughter Act of 1978*, ch. 72, § 5, 92 Stat. 1069, 1069.

¹²⁷ *Compare Humane Methods of Livestock Slaughter Act of 1958*, ch. 72, § 3, 72 Stat. 862, 862, *with Humane Methods of Livestock Slaughter Act of 1978*, ch. 72, § 5, 92 Stat. 1069, 1069.

¹²⁸ *Humane Methods of Livestock Slaughter Act of 1978*, ch. 72, 92 Stat. 1069, 1069.

¹²⁹ *Id.*

¹³⁰ *See id.*

¹³¹ *See id.* § 2(b) (extending humane slaughter to “cattle, sheep, swine, goats, horses, mules, and other equines”).

¹³² *Id.*

¹³³ 7 U.S.C. § 1904(b) (2012).

¹³⁴ *Treatment of Live Poultry Before Slaughter*, 70 Fed. Reg. 56,624, 56,624 (Sept. 28, 2015) (reminding the public that “poultry must be handled in a manner that is consistent with good commercial practices, which means they should be treated humanely”).

¹³⁵ *Id.*

¹³⁶ *Id.*

¹³⁷ *Id.* (“poultry products are more likely to be adulterated if, among other circumstances, they are produced from birds that have not been treated humanely, because such birds are more likely to be bruised or to die other than by slaughter”).

¹³⁸ *See Levine v. Vilsack*, 587 F.3d 986, 990-91 (9th Cir. 2009) (holding that Levine lacked standing due to the repeal of the legislation that made USDA responsible for the Plaintiff’s injury).

¹³⁹ *See id.* at 991.

¹⁴⁰ Bruce Friedrich, *Still in the Jungle: Poultry Slaughter and the USDA*, 23 N.Y.U. ENVTL. L.J. 247, 252-53 (2015) (stating that the USDA does not extend FMIA protection to birds, giving poultry no protection from inhumane treatment under federal law).

¹⁴¹ *Working to Make Slaughter More Humane for Poultry*, AM. WELFARE INST. 19 (2014), <https://awionline.org/awi-quarterly/2014-winter/working-make-slaughter-more-humane-poultry> [hereinafter *AWI, Working*].

¹⁴² Friedrich, *supra* note 140, at 263.

¹⁴³ *Levine*, 587 F.3d at 988.

¹⁴⁴ *See Chevron U.S.A. Inc. v. Nat. Res. Def. Council, Inc.*, 467 U.S. 837, 864 (1984) (deciding that where legislative delegation to agency on particular question was made by Congress, the court may not substitute its own construction of statutory provision for reasonable interpretation made by administrator of agency).

¹⁴⁵ *See* 21 U.S.C. § 451 (2012).

¹⁴⁶ *See id.* § 454.

¹⁴⁷ *Statement of Interim Labeling Guidance Documentation Needed to Substantiate Animal Production Claims for Label Submission*, 78 Fed. Reg. 66,826 (proposed Nov. 7, 2013) (to be codified at 9 C.F.R. pt. 317, 318, 320, 327, 331, 381, 412, and 424) [hereinafter *Interim Labeling Guidance*].

¹⁴⁸ *See* 21 U.S.C. § 457 (stating that the Secretary delegates the ability to regulate poultry product labeling under the Act).

¹⁴⁹ U.S. DEP'T OF AGRIC. FOOD SAFETY INSPECTION SERV., *FSIS STATUTES AND YOUR ROLE*, 1 (Nov. 6, 2013) [hereinafter *Your Role*].

¹⁵⁰ *See* 21 U.S.C. § 451 (2012).

¹⁵¹ *Id.*

¹⁵² *Interim Labeling Guidance*, *supra* note 147 (describing the role of the Secretary of Agriculture as the gatekeeper for proper labeling of meat and poultry products).

¹⁵³ Friedrich, *supra* note 140, at 258.

¹⁵⁴ *Your Role*, *supra* note 149, at 16.

¹⁵⁵ 21 U.S.C. § 458 (a)(2).

¹⁵⁶ *Id.* § 453 (g)(3)-(5).

¹⁵⁷ *Treatment of Live Poultry Before Slaughter*, 70 Fed. Reg. 56,624 (Sept. 28, 2005).

¹⁵⁸ Philip G. Chambers & Temple Grandin, *Guidelines for Humane Handling, Transport and Slaughter of Livestock*, FOOD & AGRIC. ORG. OF THE U.N., REG'L OFF. FOR ASIA & THE PAC. 6 (2001), <http://www.fao.org/3/a-x6909e.pdf>.

¹⁵⁹ *See Treatment of Live Poultry Before Slaughter*, 70 Fed. Reg. at 56,264 (“[P]oultry products are more likely to be adulterated if, among other circumstances, they are produced from birds that have not been treated humanely, because such birds are more likely to be bruised or to die other than by slaughter”); *see also* Definitions, 7 U.S.C. § 2132 (g) (2012) (explaining the term “animal” in the statute).

¹⁶⁰ U.S. DEP'T OF AGRIC. FOOD SAFETY & INSPECTION SERV., PUB. NO. 6100.3, *ANTE-MORTEM AND POST-MORTEM POULTRY INSPECTION* (2011) [hereinafter *Directive*].

¹⁶¹ *Id.* at 3.

¹⁶² *Id.*

¹⁶³ *AWI, Working*, *supra* note 141.

¹⁶⁴ U.S. DEP'T OF AGRIC. FOOD SAFETY & INSPECTION SERV., *HUMAN HANDLING VERIFICATION FOR LIVESTOCK AND GOOD COMMERCIAL PRACTICES FOR POULTRY*, 30-26 (Nov. 29, 2016) [hereinafter *Humane Handling Verification*].

¹⁶⁵ U.S. DEP'T OF AGRIC. FOOD SAFETY & INSPECTION SERV., PUB. NO. 44-16, *INSTRUCTIONS FOR WRITING POULTRY GOOD COMMERCIAL PRACTICES NONCOMPLIANCE RECORDS AND MEMORANDUM OF INTERVIEW LETTERS FOR POULTRY MISTREATMENT 1* (June 27, 2016) [hereinafter *Instructions*] (describing the duties of Inspection Program Personnel who are FPP employees trained to record instances of non-compliance and establish the GCP records).

¹⁶⁶ *Id.* (stating that “in poultry operations, following GCP, including employing humane methods of handling and slaughtering, increases the likelihood of producing unadulterated product”).

¹⁶⁷ *Humane Handling Verification*, *supra* note 164, at 30-27.

¹⁶⁸ *Id.*

¹⁶⁹ *Id.* at 30-28.

¹⁷⁰ *AWI, Working*, *supra* note 141, at 18 (discussing the USDA’s failure to provide adequate guidelines to regulate and oversee FPPs even with existing guidelines for the poultry industry).

¹⁷¹ *Id.*

¹⁷² *Id.* at 18-19.

¹⁷³ *Animal Welfare Institute, Petition to issue regulations under the Poultry Products Inspection Act to regulate practices and actions that result in adulterated poultry products* 8 (Dec. 17, 2013), <https://www.fsis.usda.gov/wps/wcm/connect/e138fe1a-d380-42b2-88b7-f24a11ed7d7f/Petition-AWI-PPIA-121713.pdf?MOD=AJPERES>.

¹⁷⁴ *See id.* (finding that the two most common problems of birds dying other than by slaughter and inadequate cutting were due to the common practice of improper handling and the placement of live birds in “dead on arrival” bins).

¹⁷⁵ 21 U.S.C. § 453 (h)(1) (2012).

¹⁷⁶ *Your Role*, *supra* note 149, at 2, 14-17.

¹⁷⁷ *Animal Welfare Institute, Petition to Amend Labeling Regulations under the Federal Meat Inspection Act and the Poultry Products Inspection Act to Require Third-Party Certification for the Approval of Animal Welfare and Environmental Stewardship Claims* 8 (May 2014), <https://www.fsis.usda.gov/wps/wcm/connect/5bdab0ca-8072-480b-9bd9-c9bc04b56531/Petition-AWI-Labeling-0514.pdf?MOD=AJPERES> [hereinafter *Petition to Amend Labeling*] (stating that the FSIS is responsible for safeguarding the country’s marketable supply of meat, poultry, and processed egg products to ensure that they are “safe, wholesome, and correctly labeled and packaged” and if needed, they have the power to rescind or refuse approval of labels and marks).

¹⁷⁸ *Id.* at 9 (claiming that the test to determine if a company’s testimonial evidence is lacking because the FSIS explained that animal welfare and environmental stewardship claims “should be defined according to the company’s or

producer's standard" to clearly state to consumers how animals were raised and what the terms mean).

¹⁷⁹ *Id.*

¹⁸⁰ *Id.* at 10.

¹⁸¹ *Id.* at 22.

¹⁸² *Id.* at 8-9.

¹⁸³ *Id.* at 9; see also Treatment of Live Poultry Before Slaughter Notice, 70 Fed. Reg. 187, (Sept. 28, 2005) (referring to the compliance of the NCC Animal Welfare Guidelines and Audit Checklist which has been widely used and is consistently revised).

¹⁸⁴ *Animal Raising Claims Transcript of Record*, U.S. DEP'T OF AGRIC. FOOD SAFETY & INSPECTION SERV. 15 (Oct. 14, 2008), https://www.fsis.usda.gov/wps/wcm/connect/50bdbb61-f293-4e4c-90d5-ac819a16ca03/Animal_Raising_Claims_101408.pdf?MOD=AJPERES.

¹⁸⁵ *Id.* at 13.

¹⁸⁶ *Organic Certification*, U.S. DEP'T OF AGRIC., ECON. RESEARCH SERV., <http://www.ers.usda.gov/topics/natural-resources-environment/organic-agriculture/organic-certification.aspx> (last visited Dec. 13, 2017) (explaining that the demand for organic agriculture began in response to large-scale plant-based agricultural practices).

¹⁸⁷ Jessica Ellsworth, *The History of Organic Food Regulation 3* (2001) (unpublished Third Year Paper at Harvard Law School) (on file with the Harvard University Library System).

¹⁸⁸ *Id.* at 5.

¹⁸⁹ *Id.* at 6.

¹⁹⁰ *Id.* at 5-6.

¹⁹¹ *Id.* at 6.

¹⁹² *Id.* (noting that producers were motivated to mislabel food as organic because consumers were likely to pay more for organic products).

¹⁹³ 7 U.S.C. § 6501 (1990).

¹⁹⁴ *National Organic Program*, U.S. DEP'T OF AGRIC., AGRIC. MKTG. SERV., <https://www.ams.usda.gov/about-ams/programs-offices/national-organic-program> (last visited Dec. 13, 2017).

¹⁹⁵ Ellsworth, *supra* note 187, at 14.

¹⁹⁶ *Id.* at 23 (stating that the term "organic" will no longer be questioned and that the national organic standards will protect the integrity of the organic product including the prohibited use of irradiation, sewage sludge, or genetic engineering in anything labeled organic).

¹⁹⁷ *Id.* at 7.

¹⁹⁸ *Natural Resource Management*, U.S. DEP'T OF AGRIC., NAT'L AGRIC. LIBRARY, <https://www.nal.usda.gov/afsic/natural-resource-management-0> (last visited Dec. 13, 2017).

¹⁹⁹ *Sustainable Table — Organic Agriculture*, GRACE COMM'C N FOUND. FOOD PROG., <http://www.sustainabletable.org/253/organic-agriculture> (last visited Dec. 13, 2017).

²⁰⁰ Ann H. Baier, *Organic Certification of Farms and Businesses Producing Agricultural Products*, U.S. DEP'T OF AGRIC. AGRIC. MKTG. SERV. (Nov. 2012), <http://extension.wsu.edu/spokane/wp-content/uploads/sites/33/2014/10/USDA-organic-cert-summary.pdf>.

²⁰¹ *Becoming a Certified Operation*, U.S. DEP'T OF AGRIC., AGRIC. MKTG. SERV., <http://www.ams.usda.gov/services/organic-certification/faq-becoming-certified> (last visited Dec. 13, 2017).

²⁰² *Organic Certification Fees*, CAL. CERTIFIED ORGANIC FARMERS, <http://www.ccof.org/certification/fees> (last visited Dec. 13, 2017).

²⁰³ *Id.*

²⁰⁴ *Organic Certification Cost Share Programs*, U.S. DEP'T OF AGRIC., AGRIC. MKTG. SERV., <http://www.ams.usda.gov/services/grants/ocsp> (last visited Dec. 13, 2017) (demonstrating how producers often compare the cost of production divided by the area used to grow then dividing that number by pounds harvested of that item).

²⁰⁵ *Id.*

²⁰⁶ *Organic Agriculture: Frequently Asked Questions*, FOOD & AGRIC. ORG. OF U.N., <http://www.fao.org/organicag/oa-faq/oa-faq5/en/> (last visited Dec. 13, 2017).

²⁰⁷ U.S. DEP'T OF AGRIC. NAT. AGRIC. STAT. SERV., *POULTRY—PRODUCTION AND VALUE*, SUMMARY 5, 14, (Apr. 2015).

²⁰⁸ *Per Capita Consumption of Poultry and Livestock, 1965 to Estimated 2016, in Pounds*, NAT. CHICKEN COUNCIL (2012), <http://www.nationalchicken-council.org/about-the-industry/statistics/per-capita-consumption-of-poultry-and-livestock-1965-to-estimated-2012-in-pounds/>.

²⁰⁹ 7 U.S.C. § 2132(g) (2012) ("Animals covered under this Act include any live or dead cat, dog, hamster, rabbit, nonhuman primate, guinea pig, and any other warm-blooded animal determined by the Secretary of Agriculture for research, pet use or exhibition.").

²¹⁰ See generally, Animal Welfare Act, Pub. L. No 91-579, 84 Stat. 1560 § 2(g) (1970) (amending the 1966 original to expressly exclude poultry). The Act was amended to include psychological enrichment, and in 2002. If chickens were added to these protections they could be covered under mandatory federal regulations, and although it the Act is not guarantee humane treatment for all chickens, it can help to mitigate some of the abuse they endure).

²¹¹ *Id.* (noting the amendments to the AWA added warm-blooded animals to its protections to help eliminate the suffering endured by warm-blooded animals).

²¹² *Farmed Animals and the Law*, *supra* note 89.

²¹³ See U.S. DEP'T OF AGRIC., FOOD SAFETY & INSPECTION SERV., *HUMANE HANDLING OF LIVESTOCK AND GOOD COMMERCIAL PRACTICES IN POULTRY 1*, 22 (Jan. 2015) (recognizing that GCP approaches are currently voluntary on the part of the industry).

²¹⁴ 21 U.S.C. § 451 (2012) (claiming that "unwholesome, adulterated, or misbranded poultry products impair the effective regulation of poultry products").

²¹⁵ 7 U.S.C. § 1901 (2012) (detailing Congressional reasoning for law).

²¹⁶ Mary L. Azcuenaga, *The Role of Advertising and Advertising Regulation in the Free Market*, Turkish Association of Advertising Agencies, (Apr. 8, 1997), ("Advertising that distorts the market by disseminating false or deceptive claims. These claims may induce consumers to purchase goods or services that, had the consumers not been misled by the deceptive advertising, they would not have chosen to buy. When this happens, the government may need to step in to restore the integrity of the market. It may take various steps, including case-by-case law enforcement to prevent false and deceptive advertising and issuance of regulations to address particular practices that mislead consumers about material attributes of goods and services in the market.").

²¹⁷ E.g., 21 U.S.C. § 607(d) (2012); 21 U.S.C. § 457(c); Lanham Act, 15 U.S.C. § 1125(a)(1)(A)-(B) (2012).

²¹⁸ U.S. DEP'T OF AGRIC. FOOD SAFETY & INSPECTION SERV., *FOOD SAFETY AND INSPECTION SERVICE LABELING GUIDELINE ON DOCUMENTATION NEEDED TO SUBSTANTIATE ANIMAL RAISING CLAIMS FOR LABEL SUBMISSIONS 2016* (Sept. 2016), <https://www.fsis.usda.gov/wps/wcm/connect/6fe3cd56-6809-4239-b7a2-bcc82a30588/RaisingClaims.pdf?MOD=AJPERES> [hereinafter SERVICE LABELING GUIDELINE] (noting "[The Food Labeling Compliance Guideline] is for establishments that are designing or modifying meat or poultry product labels with animal raising claims." And therefore they do not apply to those producers who do not raise such claims).

²¹⁹ E.g., 7 U.S.C. § 2131 (2012); 49 U.S.C. § 80502 (2012); Humane Methods of Slaughter Act, 7 U.S.C. § 1901 (1978).

²²⁰ See generally *Pet Adoptions Rise, Shelter Deaths Fall as Ad Council Launches Second Wave of Historic Pet Adoption Campaign*, AD COUNCIL (Nov. 15, 2011), <https://www.adcouncil.org/News-Events/Press-Releases/Pet-Adoptions-Rise-Shelter-Deaths-Fall-as-Ad-Council-Launches-Second-Wave-of-Historic-Pet-Adoption-Campaign> (noting the effectiveness of the Shelter Pet Project, a series of advertisements released by The Ad Council in conjunction with The Humane Society of the United States and Maddie's Fund, in reducing euthanasia of shelter pets by 10% since its promotion in 2009 "Despite a bleak economy, the percentage of pets in homes that were adopted from animal shelters and rescue groups has risen from 27 percent to 29 percent in the last two years, with the number of healthy and treatable pets losing their lives for lack of a home dropping from 3 million to 2.7 million.").

²²¹ Azcuenaga, *supra* note 216.

²²² *Levine v. Vilsack*, 587 F.3d 986, 989 (9th Cir. 2009) ("The [PPIA] . . . among other things, gave USDA authority to inspect poultry producers for compliance with health and sanitary requirements, required inspection of poultry after slaughter, established labeling requirements for poultry products, and allowed for withdrawal of inspections for noncompliance and the imposition of civil and criminal penalties for the sale of adulterated products.").

²²³ U.S. DEP'T OF AGRIC., FOOD SAFETY & INSPECTION SERV., *FSIS AS A PUBLIC HEALTH REGULATORY AGENCY: REGULATORY FRAMEWORK* (Sept. 24, 2012).

²²⁴ 21 U.S.C. § 458 (2012).

²²⁵ See U.S. DEP'T OF AGRIC. FOOD SAFETY & INSPECTION SERV., *GUIDEBOOK HUMANE HANDLING OF LIVESTOCK AND POULTRY 12* (2009) (stating that poultry be slaughtered with good commercial practices, in a manner that ensures that poultry are treated humanely).

²²⁶ THE HUMANE SOC'Y OF THE U.S. 1 (Sept. 2004), http://www.humanesociety.org/assets/pdfs/Gas_killing.pdf (last visited Dec. 13, 2017) [hereinafter

Controlled Atmosphere Killing] (contrasting controlled-atmosphere killing with electric immobilization).

²²⁷ Kimberly Kindy, *USDA plan to speed up poultry-processing lines could increase risk of bird abuse*, WASH. POST (Oct. 29, 2013), https://www.washingtonpost.com/politics/usda-plan-to-speed-up-poultry-processing-lines-could-increase-risk-of-bird-abuse/2013/10/29/aeeffe1e-3b2e-11e3-b6a9-da62c264f40e_story.html?utm_term=.f6d96e02d705 (“the [USDA] considers electrified and gas stunning to be humane provided the systems are properly run and maintained.”).

²²⁸ See Charlotte Berg & Mohan Raj, *A Review of Different Stunning Methods for Poultry—Animal Welfare Aspects (Stunning Methods for Poultry)*, 5.4 ANIMALS 1207, 1212 (Nov. 30, 2015), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4693211/>; *Controlled Atmosphere Killing*, *supra* note 226, at 1-2; see also William Neuman, *New Way to Help Chickens Cross to Other Side*, N.Y. TIMES (Oct. 21, 2010), <http://www.nytimes.com/2010/10/22/business/22chicken.html>.

²²⁹ *Controlled-Atmosphere Killing*, *supra* note 226, at 1 (“Controlled Atmosphere Killing is carried out by passing birds in their transport crates through a chamber containing gas. This gas is not poisonous, but causes death by anoxia.”).

²³⁰ *Id.* at 1-2.

²³¹ *Id.* at 2.

²³² See Neuman, *supra* note 228 (“The gas technology is expensive. Each company said it would cost about \$3 million to convert their operations and more over time to run the systems. That makes it a hard sell in a commodity-oriented industry that relies on huge volumes and low costs to turn narrow margins into profits.”).

²³³ *Controlled-Atmosphere Killing*, *supra* note 226, at 2 (discussing cost-savings associated with controlled-atmosphere killing).

²³⁴ 21 U.S.C. § 453(h) (2012).

²³⁵ *Victory for Honest Food Labels*, COMPASSION IN WORLD FARMING (Nov. 12, 2015), <https://www.ciwf.com/news/2015/11/usda-no-longer-verifying-factory-farm-chicken-as-humane> (spotlighting the outrage some consumers had with the USDA’s labeling of Perdue’s chickens considering the conditions exposed in Watts’s video).

²³⁶ *Id.*

²³⁷ See generally SERVICE LABELING GUIDELINE, *supra* note 218 (discussing the requirements for obtaining the necessary label but not defining the terms).

²³⁸ Dena Jones, *American Humane Certified Is Out of Step on the Meaning of “Humane,”* HUFFINGTON POST (July 28, 2015), http://www.huffingtonpost.com/dena-jones/american-humane-certified-is-out-of-step-on-the-meaning-of-humane_b_7859634.html (indicating that marketing materials and animal care standards are inconsistent with the public’s perception of what is “humane”).

²³⁹ *Animal Welfare: What Is It?*, AM. VETERINARY MED. ASS’N (2010), <https://www.avma.org/KB/Resources/Reference/AnimalWelfare/Pages/what-is-animal-welfare.aspx> [hereinafter *Animal Welfare: What Is It*] (citing the existence of various means of measuring animal welfare, including but not limited to “health, productivity, behavior, and physiological responses”).

²⁴⁰ Barry Bousfield & Richard Brown, *Animal Welfare*, 1.4 AGRIC. FISHERIES & CONSERVATION DEP’T. NEWSLETTER (Nov. 2010), https://www.afcd.gov.hk/english/quarantine/quar_vb/files/AW8.pdf.

²⁴¹ *Animal Welfare: What Is It*, *supra* note 239 (detailing the AVMA definition of what a good state of welfare for an animal entails).

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- ²⁹⁷ See *Instructions*, *supra* note 165 (providing notice of instructions of inspection standards for poultry GCP).
- ²⁹⁸ *Id.*
- ²⁹⁹ Jones, *supra* note 293 (discussing the lower-than-expected standards of the poultry industry and their negative effects on chickens and the consumer).
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- ³⁰¹ *Id.*
- ³⁰² See *id.* (providing instructions of inspection standards for poultry GCP).
- ³⁰³ *Id.*
- ³⁰⁴ 21 U.S.C. § 458 (2012).
- ³⁰⁵ *Treatment of Live Poultry Before Slaughter*, 70 Fed. Reg. 56,624, 56,624 (Sept. 28, 2015) (noting the proper way poultry must be handled under PPIA).
- ³⁰⁶ Jacobs, *supra* note 56.
- ³⁰⁷ See 21 U.S.C. § 461(a); see also 21 U.S.C. § 676 (stating that distribution of adulterated chickens subject the culprit to imprisonment and/or fines).

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¹⁵ Zareva, *supra* note 5.

¹⁶ *Id.*

¹⁷ See *El gas*, *supra* note 9; see Meinhold, *supra* note 9.

¹⁸ *Vertebrate Animals*, *supra* note 13.

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²⁰ *Id.* Part I, Article 3; Part II, Article 5(1)-(4).

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⁴⁰ *Id.* (noting the limited consumption of farmed fish in the past and the growth in consumption of farmed fish today).

⁴¹ *Id.* at 70-79.

⁴² *Id.* at 5.

⁴³ FAO, FOOD OUTLOOK: BIENNIAL REPORT ON GLOBAL FOOD MARKETS 8 (June 2017), <http://www.fao.org/3/a-i7343e.pdf> (predicting increase in output of farmed finfish and other fish) [hereinafter *FOOD OUTLOOK*].

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⁴⁵ FOOD OUTLOOK, *supra* note 43, at 8 (projecting the expansion in amount of wild caught fish).

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⁴⁷ *Id.*

⁴⁸ Alison Mood, *Worse Things Happen at Sea: The Welfare of Wild-Caught Fish*, FISHCOUNT 70 (2010), <http://www.fishcount.org.uk/published/standard/fishcountfullrptSR.pdf>; *Fishery Statistical Collections: Global Capture Production*, FAO, <http://www.fao.org/fishery/statistics/global-capture-production/3/en> (last visited Dec. 20, 2017).

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⁵⁰ See *id.* (“[T]he number of fish represented by an average annual recorded capture tonnage . . . does not include fish caught in unrecorded capture nor the unaccounted numbers of fish that escape from fishing gear but are fatally stressed or injured in the process.”); Daniel Pauly & Dirk Zeller, *Catch Reconstructions Reveal That Global Marine Fisheries Catches Are Higher Than Reported and Declining*, 7 NATURE COMM. 1, 1-6 (Jan. 19, 2016), <https://www.nature.com/articles/ncomms10244.pdf>.

⁵¹ Mood & Brooke, *supra* note 49, at 13.

⁵² See *Overfishing*, WWF, <https://www.worldwildlife.org/threats/overfishing> (last visited Dec. 20, 2017) (stating that the makeup of marine communities is changing with an increase in prey marine species due to targeted fishing of predator marine species) [hereinafter *Overfishing*]; see also *Fisheries Impact on the Ecosystem*, FAO, <http://www.fao.org/docrep/006/y4773e/y4773e05.htm> (last visited Oct 22, 2017) (finding that a decrease of marine predators, including tuna or sharks, could lead to an abnormally large amount of marine prey

animals, which could create problems with the food chain and composition of species).

⁵³ FOOD OUTLOOK, *supra* note 43, at 8.

⁵⁴ STATE OF WORLD FISHERIES 2016, *supra* note 19, at 5.

⁵⁵ *Id.* at 11, table 2.

⁵⁶ See generally Ian Johnston, *Fish Are Sentient Animals Who Form Friendships and Experience ‘Positive Emotions,’ Landmark Study Suggests*, INDEPENDENT (Mar. 31, 2017), <http://www.independent.co.uk/news/science/fish-sentient-animals-friends-positive-emotions-study-study-source-ethics-eating-pescaterians-vegans-a7660756.html>; see also Donald M. Broom, *Considering Animals’ Feelings*, ANIMAL SENTIENCE 8-9 (2014), <http://animalstudiesrepository.org/cgi/viewcontent.cgi?article=1015&context=animsent> (asserting that fish have the capacity to feel pain); Nathan Runkle, *New Scientific Study: Crabs, Lobsters, and Other Aquatic Animals Feel Pain*, MERCY FOR ANIMALS (Jan. 18, 2013), <http://www.mercyforanimals.org/new-scientific-study-crabs-lobsters-and-other-aquatic-animals-feel-pain> (commenting that hermit crabs and prawns display behaviors of pain avoidance); Culum Brown, *Fish Intelligence, Sentience & Ethics*, ANIMAL STUDIES REPOSITORY (2015), http://animalstudiesrepository.org/cgi/viewcontent.cgi?article=1074&context=acwp_asie (stating that fish suffering from pain demonstrate lack of attention to stimuli).

⁵⁷ See Robert W. Elwood & Laura Adams, *Electric Shock Causes Physiological Stress Responses in Shore Crab, Consistent with Prediction of Pain*, ROYAL SOC’Y PUB. (2015), <http://rsbl.royalsocietypublishing.org/content/roy-biolett/11/11/20150800.full.pdf> (concluding that decapods exhibit the requisite behavioral and physiological responses to aversive stimuli to indicate pain in animals); see also Barry Magee & Robert W. Elwood, *Shock Avoidance by Discrimination Learning in the Shore Crab Avoidance by Discrimination Learning in the Shore Crab (Carcinus maenas) is Consistent with a Key Criterion for Pain*, 216 J. OF EXPERIMENTAL BIOLOGY 353, 357 (2013), <http://jeb.biologists.org/content/jebio/216/3/353.full.pdf> (finding that crabs presented with two locations changed their previous preferred location based on learning which location administered a shock and this is indicative, though not definitive, of their ability to experience pain); Jennifer A. Mather & Claudio Carere, *Cephalopods are the Best Candidates for Invertebrate Consciousness*, ANIMAL SENTIENCE 2 (2016), <http://animalstudiesrepository.org/cgi/viewcontent.cgi?article=1127&context=animsent> (stating cephalopods have been accepted by neuroscientists as sentient animals); Gary Armstrong, *How is Nociceptive ‘Pain’ Processed by Squid?*, 216 J. OF EXPERIMENTAL BIOLOGY vii (2013), <http://jeb.biologists.org/content/jebio/216/17/vii.full.pdf> (stating cephalopods have complex nervous systems that allow them to interact socially and learn); Roger J. Crook, *Squid Have Nociceptors That Display Widespread Long-Term Sensitization and Spontaneous Activity After Bodily Injury*, 33 J. OF NEUROSCIENCE 10021, 10024-25 (June 12, 2013), <http://www.jneurosci.org/content/jneuro/33/24/10021.full.pdf> (stating that squid, like mammals, demonstrate adaptive responses to injuries and could potentially experience pain due to lingering activity in nociceptors after injuries); Olivia N. Werner, *Is the Lobster Worth Considering?*, 33 J. OF NEUROSCIENCE 5, 11 (2013), <http://www.jneurosci.org/content/33/24/10021.full> (stating that lobsters could feel pain). But see Jean S. Auplay et al., *Arm Injury Produces Long-Term Behavioral and Neural Hypersensitivity In Octopus*, 558 NEUROSCIENCE LETTERS 137, 141 (2013), <http://www.sciencedirect.com/science/article/pii/S0304394013009932> (concluding that octopuses “respond to noxious stimuli with reflex avoidance that probably does not require higher cognitive processing” and although octopuses arms and mantles contain sensory units that conduct noxious stimulation to higher processing center, whether there is pain associated with noxious sensory input is unclear).

⁵⁸ See Lynne U. Sneddon, *Pain in Aquatic Animals*, ANIMAL STUDIES REPOSITORY (2015), http://animalstudiesrepository.org/cgi/viewcontent.cgi?article=1054&context=acwp_asie (stating that fish, crustaceans, and mollusks (1) demonstrate behavioral responses to potentially painful events, and (2) that all three have at least most of the criteria needed to experience pain); Lynne U. Seddon, *Pain Perception In Fish: Indicators and Endpoints*, ANIMAL STUDIES REPOSITORY (2009), http://animalstudiesrepository.org/cgi/viewcontent.cgi?article=1010&context=acwp_aff (concluding “fish are capable of nociception and appear to experience a negative affective state”); see also Isabelle Maccio-Hage, *Pain in Fish*, FAIR-FISH (2005), http://www.fair-fish.ch/media/filer_public/c8/41/c841966b-11d3-4673-9476-fbd93c5ab3c6/tmpim-port0e5eir.pdf (asserting that fish demonstrate their ability to feel pain through changes in behavior when confronted with noxious stimuli); Brown, *supra* note 56 (stating that fish have the requisite “hardware” to feel pain); Culum Brown, *How Fish Think and Feel, And Why We Should Care About Their Welfare*, WILDLIFE AUSTRAL. 13-14 (Mar. 2016), <https://www.researchgate.net/>

publication/297577331_How_fish_think_and_feel_and_why_we_should_care_about_their_welfare (finding that brain structures in fish include areas thought to be involved in emotional and cognitive functions); John Webster, *Fish are Sentient Beings*, 14, 17-22 (2009), <http://www.fishcount.org.uk/published/low/fishcountchapter3LR.pdf> (concluding fish are sentient animals, meaning they are capable of feeling fear and pain, and they do so via pain receptors, or nociceptors, which connect to the brain).

⁵⁹ See FRANCIS CRICK MEMORIAL CONFERENCE, THE CAMBRIDGE DECLARATION ON CONSCIOUSNESS (July 7, 2012), <http://fcmconference.org/img/CambridgeDeclarationOnConsciousness.pdf> (concluding that non-human animals, including octopuses, possess neurological substrates that create consciousness).

⁶⁰ See Brown, *supra* note 56 (asserting that fish may be capable of self-awareness as demonstrated by their ability to recognize themselves through smell).

⁶¹ See Lester R. Aronson, *Orientation and Jumping Behaviour in the Gobiid Fish Bathygobius Soporator*, 1486 Am. Museum Novitates 1, 17-18 (1951), <http://digitallibrary.amnh.org/bitstream/handle/2246/3993/v2/dspace/ingest/pdfSource/nov/N1486.pdf?sequence=1&isAllowed=y> (stating that goby fish use their memory of the surrounding topography when they are trapped in pools of water during low tides and can retain such memory for two weeks); Brown, *supra* note 56 (stating fish have demonstrated a capacity for long term memory by finding and remembering a certain way to avoid negative stimuli); A. Gómez et al., *Relational and Procedural Memory Systems in the Goldfish Brain Revealed by Trace and Delay Eyeblink-Like Conditioning*, 167 PSYCHOLOGY & BEHAVIOR 332, 338-340 (2016), https://www.researchgate.net/publication/308978310_Relational_and_procedural_memory_systems_in_the_goldfish_brain_revealed_by_trace_and_delay_eyeblink-like_conditioning (finding that memories of fish go further than just spatial knowledge or maps; like mammals, fish can form memories that connect stimuli to events); S. Perathoner et al., *Potential of Zebrafish as a Model for Exploring the Role of the Amygdala in Emotional Memory and Motivational Behavior*, 94 J. OF NEUROSCIENCE RES. 445, 446, (2016), https://www.researchgate.net/publication/292949100_Potential_of_zebrafish_as_a_model_for_exploring_the_role_of_the_amygdala_in_emotional_memory_and_motivational_behavior.

⁶² See V.A. Braithwaite & P. Boulcott, *Pain Perception, Aversion and Fear in Fish*, 75 DISEASES OF AQUATIC ORGANISMS 131, 136-37 (2007), http://www.int-res.com/articles/dao_oa/d075p131.pdf (concluding that fish may feel suffering based on the findings that: fish and mammals respond to aversive stimuli in similar ways; and fish have the ability to remember and anticipate aversive stimuli); Catarina I.M. Martins et al., *Behavioural Indicators of Welfare in Farmed Fish*, 38 FISH PHYSIOLOGY & BIOCHEMISTRY 17, 31 (2010), <http://link.springer.com/article/10.1007/s10695-011-9518-8> (stating that research in cognitive, neuromatic, and emotional areas of fish behavior show fish are sentient beings); Victoria A. Braithwaite & Felicity Huntingford, *Variation in Emotion and Cognition Among Fishes*, 26 J. AGRIC. & ENV'TL ETHICS 7 (2011), https://www.researchgate.net/publication/257576371_Variation_in_Emotion_and_Cognition_Among_Fishes (finding some species of fish do have to cognitive abilities to experience emotions); Sonia Rey et al., *Fish Can Show Emotional Fever: Stress-induced Hyperthermia in Zebrafish*, ROYAL SOC'Y PUB. (2015), <http://rspb.royalsocietypublishing.org/content/royprsb/282/1819/20152266.full.pdf> (concluding fish have the capacity for stress-induced hyperthermia and that indicates sentience or consciousness).

⁶³ Lucie H. Salwiczek et al., *Adult Cleaner Wrasse Outperform Capuchin Monkeys, Chimpanzees and Orangutans in a Complex Foraging Task Derived from Cleaner – Client Reef Fish Cooperation*, 7.11 PLOS ONE 1, 5 (2012), <http://journals.plos.org/plosone/article/file?id=10.1371/journal.pone.0049068&type=printable>.

⁶⁴ Ulrike E. Siebeck, *Fish are Flexible Learners Who Can Discriminate Human Faces*, ANIMAL SENTIENCE 2 (2017), <http://animalstudiesrepository.org/cgi/viewcontent.cgi?article=1194&context=animsent>; see Cait Newport et al., *Discrimination of Human Faces by Archerfish (Toxotes Chatareus)*, SCI. REP. (June 7, 2016), <http://www.nature.com/articles/srep27523> (stating that fish can learn at least some aspects of human facial recognition).

⁶⁵ Brown, *supra* note 56.

⁶⁶ See generally JONATHAN BALCOMBE, WHAT A FISH KNOWS: THE INNER LIVES OF OUR UNDERWATER COUSINS 177, 195-199 (2016) (stating that fish learn from other species, engage in deception, and protect their eggs and their fry).

⁶⁷ See *Animal Protection Laws of the United States of America and Canada*, ANIMAL LEGAL DEF. FUND, <http://aldf.org/resources/advocating-for-animals/animal-protection-laws-of-the-united-states-of-america-and-canada/> (last

visited Dec. 20, 2017) (discussing state anti-cruelty laws with states that do not include aquatic animals in their protection).

⁶⁸ Mood & Brooke, *supra* note 49, at 14.

⁶⁹ See Mood, *supra* note 48, at 71 (explaining that about one trillion fish are caught each year).

⁷⁰ P. J. Ashley & L. U. Sneddon, *Pain and Fear in Fish*, in FISH WELFARE 49, 53-68 (Edward J. Branson ed., 2008).

⁷¹ See *id.* at 68 (discussing the results of various studies suggesting that “[fish] wellbeing is adversely affected by potentially painful and fearful situations”); see *infra* Section II (discussing the abilities of fish).

⁷² Victoria A. Braithwaite & Philip Boulcott, *Can Fish Suffer?*, in FISH WELFARE 78, 88 (Edward J. Branson ed., 2008).

⁷³ Ashley & Sneddon, *supra* note 70, at 49.

⁷⁴ Mood & Brooke, *supra* note 49, at 4-5.

⁷⁵ See Petri Suuronen, *Mortality of Fish Escaping Trawl Gears* 21 (FAO, Fisheries, Technical Paper No. 478, 2005), <http://www.fao.org/docrep/008/y6981e/y6981e00.htm> (explaining that all major fishing gear types can cause some injury to fish).

⁷⁶ See Mood, *supra* note 48, at 71; Kieran Kelleher, *Discards in the World's Marine Fisheries: An Update* iv (FAO Fisheries Technical Paper 470, 2005), <http://www.fao.org/3/a-y5936e.pdf> (stating that 8% of the catch is discarded); Harish, *How Many Animals Does a Vegetarian Save?*, COUNTING ANIMALS (Mar. 16, 2015), <http://countinganimals.com/how-many-animals-does-a-vegetarian-save> (stating that due to American consumption of seafood, an estimated 14 to 32 million animals are caught as bycatch every year). A discussion on how to reduce bycatch is outside the scope of this paper.

⁷⁷ Neville G. Gregory, *Fish*, in ANIMAL WELFARE AND MEAT SCI. 195 (1998).

⁷⁸ *Id.* at 198.

⁷⁹ *Id.*

⁸⁰ *Id.*

⁸¹ *Id.*

⁸² *Id.*

⁸³ *Id.* at 195.

⁸⁴ Mood & Brooke, *supra* note 49, at 33-34.

⁸⁵ See *id.* at 37 (explaining that when fish are hauled on board, the fish can be injured, crushed, severely exhausted, or attacked by predators when caught); A.P. Farrell et al., *Physiological Status of Coho Salmon (Oncorhynchus kisutch) Captured in Commercial Nonretention Fisheries*, 57 CANADIAN J. FISHERIES & AQUATIC SCIENCES. 1668, 1668 (2000) (explaining that after being captured, 303 adult coho salmon were found to be in a state of severe metabolic exhaustion after arriving onboard).

⁸⁶ Mood & Brooke, *supra* note 49, at 37.

⁸⁷ S.J. Lockwood et al., *The Effects of Crowding on Mackerel (Scomber Scombrus L.) — Physical Condition and Mortality*, 2 FISHERIES RES. 129, 145 (1983).

⁸⁸ See Mood & Brooke, *supra* note 49, at 33 (explaining that fish may die from “skin and scale damage incurred from collisions with other fish and with the net walls”).

⁸⁹ Gregory, *supra* note 77, at 195-96.

⁹⁰ Mood & Brooke, *supra* note 49, at 40.

⁹¹ See Farrell et al., *supra* note 85, at 1677 (explaining that gillnet caught fish maybe exhausted before they come onboard); Gregory, *supra* note 77, at 199 (explaining that gillnets cause considerable damage to skin and scales); Mood & Brooke, *supra* note 49, at 41 (explaining that fish can be caught in the net for a long time, which can prevent fish from breathing, cause skin and scales damages, and severe exhaustion).

⁹² Mood & Brooke, *supra* note 49, at 5.

⁹³ *Id.* at 41-42.

⁹⁴ See Gregory, *supra* note 77, at 199 (explaining that gaffing loose fish causes additional damage to the fish).

⁹⁵ Mood & Brooke, *supra* note 49, at 40.

⁹⁶ F.S. Chopin et al., *A Comparison of the Stress Response and Mortality of Sea Bream Pagrus Major Captured by Hook and Line and Trammel Net*, 28.3 FISHERIES RESEARCH 277, 285-87 (1996); see G.E. Vander Haegen et al., *Survival of Spring Chinook Salmon Captured and Released in a Selective Commercial Fishery Using Gill Nets and Tangle Nets*, 68 FISHERIES RES. 123, 123, 128-29 (2004) (bleeding is more common when fish are captured by gillnets than tangle nets).

⁹⁷ Chopin et al., *supra* note 96, at 277, 285-86 (“No fish survived longer than 18 h of capture by trammel net.”).

⁹⁸ Mood & Brooke, *supra* note 49, at 44.

- ⁹⁹ *Id.* at 47.
- ¹⁰⁰ *Id.*; Gregory, *supra* note 77, at 199–200.
- ¹⁰¹ JOHN WEBSTER, ANIMAL WELFARE: LIMPING TOWARDS EDEN 221–22 (James K. Kirkwood et al. eds., 2d ed. 2005).
- ¹⁰² Farrell et al., *supra* note 85, at 1669.
- ¹⁰³ Gregory, *supra* note 77, at 196.
- ¹⁰⁴ Mood & Brooke, *supra* note 49, at 49.
- ¹⁰⁵ *Id.*; see also Gregory, *supra* note 77, at 196 (explaining that because the hook is barbless, the fish disengages from the hook at the end of the swing).
- ¹⁰⁶ Mood & Brooke, *supra* note 49, at 52.
- ¹⁰⁷ *Id.*
- ¹⁰⁸ *Id.* at 53.
- ¹⁰⁹ *Id.* at 55.
- ¹¹⁰ *Id.*; see also R.G. Cole et al., *Selective Capture of Blue Cod Parapercis Colias by Potting: Behavioural Observations and Effects of Capture Method on Peri-mortem Fatigue*, 60 FISHERIES RES. 381, 381 (2003).
- ¹¹¹ Mood & Brooke, *supra* note 49, at 58; Gregory, *supra* note 77, at 201.
- ¹¹² Mood & Brooke, *supra* note 49, at 58.
- ¹¹³ *Id.* at 66; see also D. Robb & S. Kestin, *Methods Used to Fish: Field Observations and Literature Reviewed*, 11 ANIMAL WELFARE 269, 270–73 (2002) (explaining how fish are killed by removal from water, having their gills cut and then put back in the water, or having parts or all of their internal organs eviscerated).
- ¹¹⁴ See Mood & Brooke, *supra* note 49, at 66.
- ¹¹⁵ *Id.*
- ¹¹⁶ Robb & Kestin, *supra* note 113, at 270, 272.
- ¹¹⁷ See *id.* at 271 (timing for loss of brain function is based on the differential between the ambient fish temperature and the temperature of the ice); Mood & Brooke, *supra* note 49, at 66.
- ¹¹⁸ See Kelly Levenda, *Legislation to Protect the Welfare of Fish*, 20 ANIMAL L. 119, 127, 136–37 (2013).
- ¹¹⁹ See Mood & Brooke, *supra* note 49, at 62–63 (chumming and impaling baitfish on hooks should be avoided to reduce use and suffering).
- ¹²⁰ See *id.* at 62–63.
- ¹²¹ See *id.* at 41, 43, 62.
- ¹²² See *id.* at 45.
- ¹²³ See *id.* at 62.
- ¹²⁴ See Gregory, *supra* note 77, at 201; see Mood & Brooke, *supra* note 49, at 28, 61–63.
- ¹²⁵ See Mood & Brooke, *supra* note 49, at 61.
- ¹²⁶ See *id.* at 68; see generally Humane Slaughter of Livestock, 9 C.F.R. § 313.30 (2017) (recognizing that being rendered unconscious before being killed is required for some farmed land animals not chickens, although they make up the majority of land animals killed for consumption).
- ¹²⁷ See Mood & Brooke, *supra* note 49, at 61.
- ¹²⁸ *Id.*
- ¹²⁹ *Id.*
- ¹³⁰ *Id.*
- ¹³¹ *Id.* at 69.
- ¹³² STATE OF WORLD FISHERIES 2016, *supra* note 19, at 8.
- ¹³³ *Id.*
- ¹³⁴ *Id.*
- ¹³⁵ See *id.* at 3, 7.
- ¹³⁶ See *id.* at 5–6.
- ¹³⁷ U.N., TRANSFORMING OUR WORLD: THE 2030 AGENDA FOR SUSTAINABLE DEVELOPMENT 6 (2015), <https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf> [hereinafter TRANSFORMING OUR WORLD].
- ¹³⁸ *Id.* at 5.
- ¹³⁹ STATE OF WORLD FISHERIES 2016, *supra* note 19, at 5.
- ¹⁴⁰ *Id.*
- ¹⁴¹ See *id.*
- ¹⁴² TRANSFORMING OUR WORLD, *supra* note 137, at 14–18.
- ¹⁴³ *Id.* at 13.
- ¹⁴⁴ Total justice for animals within our food system would mean not unnecessarily killing them for consumption.
- ¹⁴⁵ See Sustainable Development Goal 14, U.N. SUSTAINABLE DEV. KNOWLEDGE PLATFORM, <https://sustainabledevelopment.un.org/sdg14> (last visited Dec. 20, 2017) (stating the specific goals to be achieved within a timeframe); see generally UNDP Support to the Implementation of the Sustainable Development Goals, U.N. DEV. PROGRAMME, <http://www.undp.org/content/undp/en/home/librarypage/sustainable-development-goals/undp-support-to-the-implementation-of-the-2030-agenda/> (last visited Dec. 20, 2017) (discussing the program’s policy initiatives to end poverty while reducing inequalities and exclusionary measures in place around the world).
- ¹⁴⁶ See generally UNDP Support to the Implementation of the Sustainable Development Goal 14, U.N. DEV. PROGRAMME SUSTAINABLE DEV. GOALS 6, 1–10 (Jan. 2016), http://www.undp.org/content/dam/undp/library/Sustainable%20Development/14_Oceans_Jan15_digital.pdf?download (discussing UNDP’s role in achieving Sustainable Development Goal 14).
- ¹⁴⁷ FAO, WHAT IS THE CODE OF CONDUCT FOR RESPONSIBLE FISHERIES? 2–12 (2001), <http://www.fao.org/3/a-x9066e.pdf> (discussing the principles, goals, and elements of the Code of Conduct) [hereinafter FISHERIES CODE OF CONDUCT 2001].
- ¹⁴⁸ See *id.* at 1–2.
- ¹⁴⁹ See *id.*
- ¹⁵⁰ See FAO, CODE OF CONDUCT FOR RESPONSIBLE FISHERIES, 2–3 (1995), <http://www.fao.org/3/a-v9878e.pdf> [hereinafter FISHERIES CODE OF CONDUCT 1995] (stating principles of article 2 of the Code of Conduct).
- ¹⁵¹ See *id.* at 2.
- ¹⁵² See *id.* at 2.
- ¹⁵³ See *id.* at 5, 6, 21, 25 (discussing the sentence of fish and other aquatic animals); *infra* Section II.
- ¹⁵⁴ FISHERIES CODE OF CONDUCT 1995, *supra* note 150, at 4.
- ¹⁵⁵ See *id.* at 5.
- ¹⁵⁶ See *id.* at 7, 21, 28, 29 (discussing how articles 6, 7, & 8 of the Code of Conduct regulate fishing locations, methods, and equipment and animals targeted).
- ¹⁵⁷ See *id.* at 5.
- ¹⁵⁸ See generally STATE OF WORLD FISHERIES 2016, *supra* note 19.
- ¹⁵⁹ See Patrick Winn, *5 Reasons Why Slaves Still Catch Your Seafood*, PUBLIC RADIO INT’L (Mar. 10, 2014), <https://www.pri.org/stories/2014-03-10/5-reasons-why-slaves-still-catch-your-seafood> (discussing how sovereign laws or lack thereof coupled with lack of information to the consumer facilitate the labor standards present in fishing industry); *The Violation of Human Rights Within the Fishing Sector and Illegal, Unreported and Unregulated (IUU) Fishing*, FAO (Nov. 21, 2016), <http://www.fao.org/about/meetings/world-fisheries-day-event/en> (discussing the event World Fisheries Day, which shines a light on the human rights abuses in the fishing sector).
- ¹⁶⁰ See Convention C188—Work in Fishing Convention, 2007 (No. 188), ILO, http://www.ilo.org/DYN/NORMLEX/EN/F?P=NORMLEXPUB%3A12100%3A0%3A%3AANO%3A%3API2100_ILO_CODE%3AC188 (last visited Dec. 20, 2017) (recognizing effects of globalization and impact on fishing sector).
- ¹⁶¹ *The Global Picture – Global Wild Fisheries*, FISHWATCH, <https://www.fish-watch.gov/sustainable-seafood/the-global-picture> (last visited Dec. 20, 2017) [hereinafter *The Global Picture*] (discussing NOAA’s role in shaping industry standards regarding conservation and fishery management).
- ¹⁶² See also Cassandra Profita, *Exporting and Re-Importing Local Seafood?*, OR. PUB. BROAD. (Sept. 21, 2012, 9:44 AM), <http://www.opb.org/news/blog/ecotrope/exporting-and-re-importing-local-seafood/> (last updated Feb. 19, 2013) (discussing the effect of United States imports and exports on the fishing industry).
- ¹⁶³ See also *id.* (discussing the shipment of fish caught in Asia for processing, which are then shipped back to the United States).
- ¹⁶⁴ See *The Global Picture*, *supra* note 161.
- ¹⁶⁵ See *International Labour Standards on Fishers*, ILO, <http://www.ilo.org/global/standards/subjects-covered-by-international-labour-standards/fishers/lang-en/index.htm> (last visited Dec. 20, 2017) (discussing the physical, social, and economic costs employees in the fishing industry encounter).
- ¹⁶⁶ GREENPEACE, SLAVERY AND LABOUR ABUSE IN THE FISHING SECTOR: GREENPEACE GUIDANCE FOR THE SEAFOOD INDUSTRY AND GOVERNMENT 2, 1–6, <http://www.greenpeace.org/international/Global/international/briefings/oceans/2014/Slavery-and-Labour-Abuse-in-the-Fishing-Sector.pdf> (last visited Dec. 20, 2017) [hereinafter GREENPEACE SEAFOOD INDUSTRY GUIDANCE] (discussing the labor abuses practiced within the fishing industry and guidance directed at both consumers, business, and government); see Dino Drudi, *Fishing for a Living is Dangerous Work*, BUREAU OF LAB. STAT. 3, 3–7 (1998), <https://www.bls.gov/opub/mlr/cwc/fishing-for-a-living-is-dangerous-work.pdf> (discussing the unique hazards to life that exist in the fishing industry).
- ¹⁶⁷ See GREENPEACE SEAFOOD INDUSTRY GUIDANCE, *supra* note 166.
- ¹⁶⁸ See Gudrun Petursdottir et al., *Safety at Sea in Developing Countries*, FAO 1, 1–10 (2001) <http://www.fao.org/tempref/docrep/fao/003/x9656e/x9656e00>.

pdf (discussing the conditions of fishing equipment from the perspective of the fisherman and the owner, and the reasons why they exist).

¹⁶⁹ *Id.*

¹⁷⁰ Press Release, ILO, 21 Million People Are Now Victims of Forced Labour, ILO Says, U.N. (June 1, 2012) (available at http://www.ilo.org/global/about-the-ilo/newsroom/news/WCMS_181961/lang-en/index.htm).

¹⁷¹ ILO, CAUGHT AT SEA: FORCED LABOR AND TRAFFICKING IN FISHERIES (2013), http://www.ilo.org/wcmsp5/groups/public/-ed_norm/-declaration/documents/publication/wcms_214472.pdf.

¹⁷² Trevor Sutton & Avery Siciliano, *Seafood Slavery*, CTR. FOR AM. PROGRESS, <https://www.americanprogress.org/issues/green/reports/2016/12/15/295088/seafood-slavery/> (last visited Dec. 20, 2017).

¹⁷³ *Overview of the Fishing and Aquaculture Sector*, VERITE, <https://www.verite.org/wp-content/uploads/2016/12/Fishing-and-Aquaculture-Overview.pdf> (last visited Dec. 20, 2017).

¹⁷⁴ *An AP Investigation Helps Free Slaves in the 21st Century*, ASSOCIATED PRESS, <https://www.ap.org/explore/seafood-from-slaves/> (last visited Dec. 20, 2017).

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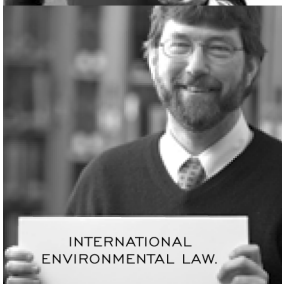
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