

The Johns Hopkins Center for a Livable Future
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Testimony for HB1312 -Water Pollution Control - Discharge Permits - Industrial Poultry
Operations

Bill Sponsor: Delegate Stewart

Committee: Environment and Transportation

Person Submitting: Sarah Goldman

Position: FAVORABLE

Disclaimer: The opinions expressed herein are our own and do not necessarily reflect the views of The Johns Hopkins University.

Honorable Chair Barve, Vice Chair Stein, and members of the committee, thank you for the opportunity to submit this statement for the record in support of H.B. 13412. We are researchers at the Johns Hopkins Center for a Livable Future, an interdisciplinary academic center focused on food systems and public health. The Center is in the Bloomberg School of Public Health's Department of Environmental Health and Engineering. We have been researching Industrial Food Animal Production since our Center's founding in 1996. Recognizing the negative public health implications that results from industrial food animal production, we support H.B. 1312.

Confined Animal Feeding Operations (CAFOs) are harmful to human and environmental health. Due to the negative impacts associated with CAFOs, the Center for Disease Control determined that these operations pose risks to public health and the environment.¹ The American Public Health Association also released a policy statement calling for a precautionary moratorium on new and expanding CAFOs based on these operations' negative public health impacts.²

CAFOs contribute to negative human health outcomes via environmental degradation

Raising animals in large, high-density operations leads to the routine accumulation of large volumes of animal waste, often at rates far exceeding the capacity of nearby farmland to absorb it. The excess waste produced is often disposed of in a manner that can pollute surface and groundwater resources, posing public health and ecological hazards. CAFO-generated manure has constituents and byproducts of health concern, including antibiotics, pathogens, bacteria,

¹ Centers for Disease Control and Prevention. Animal feeding operations. Available at: <https://www.cdc.gov>. Accessed November 28, 2019.

² American Public Health Association. Precautionary Moratorium on New and Expanding Confined Animal Feeding Operations. Available at: <https://www.apha.org/policies-and-advocacy/public-health-policy-statements/>.

nitrogen, and phosphorus.³ Manure from these operations can contaminate ground and surface waters with nitrates, drug residues, and other hazards,⁴ and studies have demonstrated that humans can be exposed to waterborne contaminants from poultry operations through the recreational use of contaminated surface water and the ingestion of contaminated drinking water.^{5,6} This is of particular concern for the 34.2 million Americans, approximately 11% of the population, who rely on private wells for drinking water and household use,^{7,8} as private wells are not monitored by government agencies to ensure safe levels of pathogens.⁹ Furthermore, land application of manure in excess of the land's absorptive capacity can lead to excess nitrogen and phosphorus in soil, water resource pollution, eutrophication of surface waters, and algae overgrowth, including some algae producing human toxins.¹⁰ Exposure to elevated levels of nitrates in drinking water is associated with adverse health effects such as cancer, birth defects and other reproductive problems, thyroid problems, and methemoglobinemia (blue baby syndrome).¹¹ In addition, exposure to algal toxins has been linked to adverse health effects including gastrointestinal illness, liver inflammation and failure, severe dermatitis, respiratory paralysis, cardiac arrhythmia, and tumor promotion.¹²

CAFOs pose additional risks to workers and surrounding communities

CAFOs pose a particular risk for workers. One Pennsylvania study showed that living in close proximity to poultry operations may increase the risk of community-acquired pneumonia.¹³ In addition, CAFO workers can be exposed to airborne waste particles, drug residues, heavy metals, and potentially harmful pathogens, many of which can be transferred into neighboring communities by these workers.^{14,15} People living near CAFOs may also have an increased risk of

³ Literature Review of Contaminants in Livestock and Poultry Manure and Implications for Water Quality. Washington, DC: Environmental Protection Agency; 2013.

⁴ Ibid.

⁵ Environmental Protection Agency. Relation between nitrates in water wells and potential sources in the Lower Yakima Valley, Washington State. Available at: <https://cfpub.epa.gov>. Accessed November 28, 2019.

⁶ Burkholder J, Libra B, Weyer P, et al. Impacts of waste from concentrated animal feeding operations on water quality. *Environ Health Perspect*. 2007;115:308–312.

⁷ Centers for Disease Control and Prevention. Ground Water Awareness Week. Available at: <https://www.cdc.gov>. Accessed November 28, 2019.

⁸ U.S. Census Bureau. U.S. and world population clock. Available at: <https://www.census.gov>. Accessed November 28, 2019.

⁹ Environmental Protection Agency. Private drinking water wells. Available at: <https://www.epa.gov>. Accessed November 28, 2019.

¹⁰ Ibid.

¹¹ Ward MH. Too much of a good thing? Nitrate from nitrogen fertilizers and cancer. *Rev Environ Health*. 2009;24:357–363.

¹² Literature Review of Contaminants in Livestock and Poultry Manure and Implications for Water Quality. Washington, DC: Environmental Protection Agency; 2013.

¹³ Poulsen MN, Pollak J, Sills DL, et al. High-density poultry operations and community-acquired pneumonia in Pennsylvania. *Environ Epidemiol*. 2018;2:e013.

¹⁴ Literature Review of Contaminants in Livestock and Poultry Manure and Implications for Water Quality. Washington, DC: Environmental Protection Agency; 2013.

infection owing to the transmission of harmful microbes from CAFOs via flies or contaminated water and air.¹⁶

CAFOs perpetuate environmental injustice

Research has also revealed that CAFOs have disproportionate negative health impacts for low-income, disadvantaged, and economically distressed communities, as well as communities of color.^{17, 18, 19} The establishment of CAFOs in a community is frequently associated with declines in local economic and social indicators (e.g., business purchases, infrastructure, property values, population, social cohesion), which undermine the socioeconomic and social foundations of community health.²⁰ Moreover, the negative health and environmental impacts associated with CAFOs can become concentrated in these communities due to their limited economic and political resources to address problems.

CAFOs contribute to antibiotic resistance

Administering antibiotics to animals at levels too low to treat disease fosters the proliferation of antibiotic-resistant pathogens.²¹ While many CAFOs utilize antibiotics prophylactically, there is scientific consensus that antibiotics administered to food animals contribute to antibiotic resistance in humans.^{22, 23} Studies have demonstrated that antibiotic-resistant pathogens are found in animal operations that administer antibiotics for purposes other than treating or controlling veterinarian-diagnosed disease and are also found in the environment in and around production facilities.²⁴ Pathogens can spread from animal production operations to surrounding communities, exposing workers, their family members, and community members to these resistant pathogens.²⁵ In addition, numerous studies have shown that industrial food animal

¹⁵ Graham JP, Leibler JH, Price LB, et al. The animal-human interface and infectious disease in industrial food animal production: rethinking biosecurity and biocontainment. *Public Health Rep.* 2008;123:282–299.

¹⁶ *Ibid.*

¹⁷ Donham KJ, Wing S, Osterberg D, et al. Community health and socioeconomic issues surrounding concentrated animal feeding operations. *Environ Health Perspect.* 2007;115:317–320.

¹⁸ Nicole W. CAFOs and environmental justice: the case of North Carolina. *Environ Health Perspect.* 2013;121:a182–a189.

¹⁹ Abara W, Wilson SM, Burwell K. Environmental justice and infectious disease: gaps, issues, and research needs. *Environ Justice.* 2012;5:8–20.

²⁰ Donham KJ, Wing S, Osterberg D, et al. Community health and socioeconomic issues surrounding concentrated animal feeding operations. *Environ Health Perspect.* 2007;115:317–320.

²¹ Pew Commission on Industrial Farm Animal Production. Putting meat on the table: industrial farm animal production in America. Available at: <https://www.pewtrusts.org>. Accessed November 28, 2019.

²² *Ibid.*

²³ Hribar C. Understanding concentrated animal feeding operations and their impact on communities. Available at: <https://www.cdc.gov>. Accessed November 28, 2019.

²⁴ Graham JP, Price LB, Evans SL, Graczyk TK, Silbergeld EK. Antibiotic resistant enterococci and staphylococci isolated from flies collected near confined poultry feeding operations. *Sci Total Environ.* 2009;407:2701–2710.

²⁵ Casey JA, Kim BF, Larsen J, Price LB, Nachman KE. Industrial food animal production and community health. *Curr Environ Health Rep.* 2015;2:259–271.

production workers and their family members, as well as those who are in residential proximity to CAFOs, face increased risk of antibiotic-resistant infections. Resistant infections in humans are more difficult and expensive to treat²⁶ and more often fatal²⁷ than infections with non-resistant strains.

H.B. 1312 is an important step towards reducing the negative public health implication of CAFOs. We applaud the committee for considering this bill.

Sincerely,

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²⁶ Aryee A, Price N. Antimicrobial stewardship—can we afford to do without it? *Br J Clin Pharmacol*. 2014;79:173–181.

²⁷ Filice GA, Nyman JA, Lexau C, et al. Excess costs and utilization associated with methicillin resistance for patients with *Staphylococcus aureus* infection. *Infect Control Hosp Epidemiol*. 2010;31:365–373.