



**Oregon Senate Committee on Natural Resources  
In Support of SB 85 -1 CAFO Moratorium Bill  
March 13, 2023**

Senate Committee on Natural Resources  
900 Court Street, NE  
Salem, OR 97301

Chair Golden, Vice-Chair Girod, and Members of the Senate Committee on Natural Resources:

Willamette Riverkeeper, an Oregon 501(c)(3) nonprofit with approximately 7,000 members and supporters, submits the following testimony in support of SB 85 -1, the CAFO moratorium bill. Since 1996, Willamette Riverkeeper has proudly served as the eyes, ears, and voice of the Willamette River Basin waters. The Willamette, Santiam, Molalla, Clackamas, Tualatin, Yamhill, Calapooia, McKenzie, Long Tom, and Luckiamute Rivers are not just important for fishing and recreation, but also four our threatened salmonid habitat, our wildlife, and our fellow Oregonians in the Willamette Valley who rely on these waters for their drinking water.

Willamette Riverkeeper is driven to protect the rivers, creeks, tributaries, and side channels of the entire Basin, and our conservation and cleanup programs enable us and our volunteers to generate positive change for the Willamette River. We believe in a river with excellent water quality and abundant habitat, and safe for fishing and recreation. We believe this is a fundamental public right.

We support SB 85 -1, which will protect the waters of the state from new and expanding Tier 2 CAFOs while state agencies and OSU research important issues and present the finding to the legislature. Some of the issues that must be researched are siting, groundwater monitoring and protection, water quantity and cumulative impacts, and protecting high value farmland. The findings from this research will allow the legislature to guarantee that the state's Tier 2 CAFO regulations protect the water, air, and communities they are placed in.

**The Willamette River Basin**

Willamette River Basin lands are a diverse mix of agriculture, forest, and urban uses, intertwined with river systems descending from the Cascades and Coast Ranges into the main stem of the Willamette River, and into the Columbia River. The Basin covers approximately 12 Oregon Department of Environmental Quality (DEQ) sub-basins, nine Oregon counties (Lane, Linn, Marion, Clackamas, Multnomah, Benton, Polk, Yamhill, Washington), and three Oregon Department of Agriculture (ODA) Concentrated Animal Farming Operation (CAFO) Program Areas: II, III, and IV. Around 70% of Oregon's population lives within the Willamette River Basin. The Willamette Valley is Oregon's

breadbasket and the most diverse agricultural region in our state. We proudly produce wine, fruits, vegetables, nursery, and livestock products. Our farmers are young and old, organic and conventional.

Our livestock farming ownership structure and methods are rapidly changing though, and without SB 85 -1, we are left unprotected against corporate farming interests in a business model where products and profit are prioritized over water quality and Oregonians' well-being.

## I. Siting

Currently, CAFOs may be placed along surface waters, including those that contain endangered species and pristine habitat despite known pollution issues that arise from CAFOs. Additionally, CAFOs may be placed in communities and near schools despite air quality concerns.

### a. **The legislature must guarantee that surface waters are protected from CAFO runoff and pollution.**

Pollution into surface waters from both dairy and poultry CAFOs is a major concern in a state that has the most miles of polluted or impaired waterways nationwide.<sup>1</sup>

In 2021, Willamette Riverkeeper reviewed public records and confirmed that between 2018-2021, factory farms within the Willamette River Watershed constructed new manure lagoons, large-scale composting facilities, and solid manure storage structures, potential priming the area for dairy herd increases despite the dairies already having between 1,200 and 4,800 head. The proximity of these industrial operations to Willamette basin waters, with their unlined earthen lagoons storing wet dairy manure, their compost storage areas, and low-lying manure application fields, is incredibly worrisome to Willamette Riverkeeper.

Currently, new poultry CAFOs are proposed, and going through the permitting process, along sensitive waterways in the Willamette River Basin. Two of the proposed poultry CAFOs would be sited along the North Santiam River and Thomas Creek. One of the CAFOs would be a mere 400 yards, before flooding, from the North Santiam River. Allowing CAFOs to be placed precariously close to waterways, especially those prone to yearly flooding, is risking the water quality in the area. The poultry industry relies on the myth of dry litter to back up their claims that poultry litter will not harm water quality. However, placing a poultry CAFO on a floodplain next to a river almost guarantees that the "dry" litter will not remain so. Importantly, poultry CAFOs also tout that they sell their much sought after litter to be used as fertilizer. There are no restrictions placed on where this litter can be applied and studies have shown that using chicken litter as fertilizer can and will pollute

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<sup>1</sup> Environmental Integrity Project, *The Clean Water Act at 50: Promises Half Kept at the Half-Century Mark*, at 18 (March 17, 2022), <https://environmentalintegrity.org/wp-content/uploads/2022/03/CWA@50-report-3-17-22.pdf>.

waterways.<sup>2</sup> The legislature must study the effects of poultry litter, both at the CAFO and off-site fertilizer use, before more poultry CAFOs are built or expanded in the state.

Additionally, poultry CAFOs produce a significant amount of ammonia. “Ammonia can enter the aquatic environment via direct means such as municipal effluent discharges and the excretion of nitrogenous wastes from animals, and indirect means such as nitrogen fixation, air deposition, and runoff from agricultural lands.”<sup>3</sup> Willamette Basin waters are already listed as impaired for ammonia, and increasing the amount of ammonia in the waters by siting poultry CAFOs close to these waterways would greatly exacerbate the issue.

Finally, CAFOs should not be placed near waterways that provide drinking water to communities. For example, allowing a CAFO to be built a mere 400 yards from the North Santiam River risks a drinking water source that ten cities rely on. The North Santiam Watershed provides drinking water to Detroit, Gates, Idanha, Jefferson, Lyons, Mehama, Mill City, Salem, Stayton, and Turner. Risking the water quality of such a vital water source is unacceptable and the legislature needs to determine how close a CAFO can be sited to a critical drinking water source without risking the quality of the water.

Willamette River Basin waters are already at risk and SB 85 -1 would help prevent against further degradation. For years, numerous Willamette River Basin waters have been listed as Clean Water Act § 303(d) impaired waters for pollutants including harmful algal blooms, temperature, E. Coli, fecal coliform, turbidity, dissolved gas, nitrate, ammonia, flow modification, and sedimentation.<sup>4</sup> Pollution from new and expanding CAFOs will only exacerbate the pollution in the Willamette River Basin. Essentially the entirety of the Willamette River Basin is federally-designated as critical habitat for federally-listed threatened salmonids which must be protected to prevent further decline.

- b. The legislature must protect threatened and endangered species from CAFO pollution.

The Willamette River Basin is home to aquatic federally-listed species, including Upper Willamette River Chinook, Upper Willamette River steelhead, and bull trout. These species, among many others, rely on rivers like the North Santiam for spawning and rearing habitat. CAFOs, especially poultry CAFOs, should not be sited along waterbodies that provide habitat for threatened or endangered species.

Among key safety concerns of chicken litter are considerable nutrient contents, especially nitrogen and phosphorous which can pollute waterbodies. Chicken litter is contaminated

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<sup>2</sup> See Deborah Van Fleet, *Study points to poultry litter as source of Nebraska water pollution*, Kiowa County Press (December 7, 2022); Jack Money, *Federal judge finds poultry companies' chicken poop polluted Oklahoma's scenic rivers*, The Oklahoman (January 20, 2023); Jayne Miller, *Report finds Eastern Shore chicken farming a main cause of Chesapeake Bay pollution*, WBAL-TV (October 28, 2021).

<sup>3</sup> U.S. EPA, *Aquatic Life Criteria – Ammonia*, <https://www.epa.gov/wqc/aquatic-life-criteria-ammonia>.

<sup>4</sup> See Oregon DEQ Water Quality 2022 Impaired Waters 303(d) Map and Integrated Report.

with bacteria, fungi, viruses, parasitic protozoa, antibiotics, heavy metals, and growth and sex hormones, among other things.

In December 2022, a study came out of Nebraska finding that litter from chicken farms upped contamination of water in the area. The researchers monitored seven locations for three years both upstream and downstream of the poultry facility. The report stated that counts for selected pathogens, like E. coli and enterococci, violated the acceptance limits established by the Environmental Protection Agency in almost 80% of the samples taken during the study period. Levels of orthophosphate were up to 10 times higher than typical levels of total phosphorus, and concentrations of nitrogen exceeded normal levels even more.

The study also found that there was a rise in orthophosphate contamination due to erosion. Higher rates of erosion during flood events lead to higher contributions of phosphorous to waterways. CAFOs should not be sited on lands prone to erosion.

Increased nitrogen and phosphorous in a waterbody can cause algal blooms. Algal blooms can create toxins that fill fish and other wildlife and can block out sunlight and clog fish gills. Overgrowth of algae consumes oxygen, making it impossible for aquatic life to survive and creates a dead zone. Hog operations can also lead to toxic algae blooms.

If CAFOs are placed next to waterways, the likelihood of algal blooms is greatly increased as is the likelihood of “massive fish kills.”<sup>5</sup> The state has a duty to protect these listed species and must study how CAFOs can affect these species and how far a CAFO must be to prevent algal blooms in rivers.

Finally, as stated above, poultry CAFOs produce significant quantities of ammonia. Ammonia can be deposited in water through the air. “When ammonia is present in water at high enough levels, it is difficult for aquatic organisms to sufficiently excrete the toxicant, leading to toxic buildup in internal tissues and blood, and potentially death.”<sup>6</sup>

The legislature must ensure that CAFO regulations properly protect listed species before new CAFOs are built or current CAFOs are expanded.

- c. The legislature must ensure that communities are protected from CAFO air pollution.

CAFOs are typically located in rural communities. Moving in mega-CAFOs, which is what Tier 2 CAFOs are in Oregon, will harm these communities by not only polluting water sources, but by also degrading the air quality.

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<sup>5</sup> *Animal Waste and Water Quality: EPA Regulation of Concentrated Animal Feeding Operations (CAFOs)*, EveryCRSReport.com (April 15, 2003), <https://www.everycrsreport.com/reports/RL31851.html>.

<sup>6</sup> U.S. EPA, Aquatic Life Criteria – Ammonia.

“A study by Iowa State University, which was a result of a lawsuit settlement between the Sierra Club and Tyson Chicken, found that two chicken houses in western Kentucky emitted over 10 tons of ammonia in the year they were monitored (Burns et al., 2007).”<sup>7</sup> Exposure to high concentrations of ammonia can cause: burning of the nose, throat, and respiratory tract; coughing; and nose and throat irritation.<sup>8</sup> Children exposed to ammonia may receive a larger dose when exposed to the same concentration as adults due to having a larger lung surface area-to-body ratios and increased minute volumes-to-weight ratios; additionally, children may be exposed to higher concentrations of ammonia because larger quantities of ammonia vapor is found near the ground.<sup>9</sup> One currently proposed CAFO would be located half a mile, as the crow flies, from a rural K-8 charter school. Constant ammonia exposure from the poultry CAFO could force students to find a new school and shut down this small charter school.

Poultry CAFOs rely on fans to blow contaminated air outside, where it pollutes communities. These rural communities need protection from ammonia exposure, among other pollutants, and should not be forced to risk their health. The legislature needs to guarantee that rural communities are protected before allowing new CAFOs to be built or existing CAFOs to be expanded.

## **II. Groundwater monitoring**

Most of the communities CAFOs can be found in are rural agricultural communities. These communities almost exclusively rely on well systems and if the groundwater is contaminated, there are no other options for these communities to obtain potable water except for trucking it in.

At the February 2023 legislative CAFO informational meeting, Wym Matthews, the ODA CAFO and Fertilizer program manager, stated that “when we detect a violation of groundwater, it’s already too late and the system failed.”<sup>10</sup> It is significantly easier to see and determine when there is a discharge into surface water than to know when there is a discharge into groundwater. To monitor groundwater, the state must rely on soil samples, groundwater monitoring wells, and monitoring drinking water wells. However, most of this monitoring will tell you that the groundwater is already polluted, and as Mr. Matthews said, it is too late at that point.

Exposure to waterborne contaminants from CAFOS can “result from both recreational use of affected surface water and from ingestion of drinking water derived from either

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<sup>7</sup> Carrie Hribar, *Understanding Concentrated Animal Feeding Operations and Their Impact on Communities*, National Association of Local Boards of Health, at 5 (2010),

[https://www.cdc.gov/nceh/ehs/docs/understanding\\_cafos\\_nalboh.pdf](https://www.cdc.gov/nceh/ehs/docs/understanding_cafos_nalboh.pdf).

<sup>8</sup> New York State Department of Health, *The Facts About Ammonia*,

[https://www.health.ny.gov/environmental/emergency/chemical\\_terrorism/ammonia\\_tech.htm#:~:text=Exposure%20to%20high%20concentrations%20of,and%20nose%20and%20throat%20irritation..](https://www.health.ny.gov/environmental/emergency/chemical_terrorism/ammonia_tech.htm#:~:text=Exposure%20to%20high%20concentrations%20of,and%20nose%20and%20throat%20irritation..)

<sup>9</sup> *Id.*

<sup>10</sup> Senate Committee on Natural Resources, CAFO Informational Meeting (February 28, 2023) at minute 58, <https://olis.oregonlegislature.gov/liz/mediaplayer/?clientID=4879615486&eventID=2023021227>.

contaminated surface water or ground water.”<sup>11</sup> High-risk populations are “generally. The very young, the elderly, pregnant women, and immunocompromised individuals.”<sup>12</sup> Exposure may result in diarrhea, gastrointestinal tract distress, skin infections, ear infections, and eye infections, among other illnesses.

Additionally, even the communities free from CAFOs may have their waters affected by CAFO pollutants when the waste is sold as fertilizer and applied on lands away from the CAFO. “Ground water can be contaminated by waste seepage.”<sup>13</sup> For example, rain falling on dry poultry manure, will likely transport pollutants into soil, causing groundwater pollution and contaminating surface water.

The legislature must ensure that CAFO regulations are protecting rural communities, including their groundwater and recreational areas, before allowing new CAFOs to be built and existing CAFOs to be expanded. The legislature cannot risk these communities and a moratorium will give the legislature time to ensure these communities, and their water sources, are protected.

### **III. Water Quantity**

SB 85 -1 is needed so that the legislature can address water quantity issues. Large CAFOs put extreme demand on Oregon’s water resources. These CAFOs use water from surface and ground waters for all aspects of their industrial farming practices.

Under current Oregon law, large CAFOS fall under the stockwatering exemption, which allows the use of an unlimited amount of water as drinking water for the animals, without requiring the CAFO to obtain water rights permits. Their use of water is not measured and they can increase use without state review. This exemption is greatly detrimental to the communities that rely on this water, especially in Eastern Oregon which is more arid than Western Oregon and has significant water quantity issues.

Currently, the state also does not address cumulative impacts of large CAFOs in small areas, like the three proposed poultry CAFOs in Linn County which would be in close proximity to one another. Putting this pressure on the water resources in the area could substantially lower the groundwater aquifer, which these communities rely on as their sole water source and could threaten the water resources of the cities’ who rely on the Santiam for water.

The legislature needs to measure and limit the amount of water a large CAFO can use without obtaining proper permitting to prevent a water quantity crisis. Until this issue is studied, the legislature must put a moratorium on new and expanding Tier 2 CAFOs.

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<sup>11</sup> JoAnn Burkholder, et al., *Impacts of Waste from Concentrated Animal Feeding Operations on Water Quality*, Environ Health Perspect. (November 14, 2006), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1817674/>.

<sup>12</sup> *Id.*

<sup>13</sup> EPA, *Protecting Water Quality from Agricultural Runoff*, (March 2005), [https://www.epa.gov/sites/default/files/2015-09/documents/ag\\_runoff\\_fact\\_sheet.pdf](https://www.epa.gov/sites/default/files/2015-09/documents/ag_runoff_fact_sheet.pdf).



#### **IV. Local Government Control**

The legislature should study giving local governments more control over the siting of CAFOs. Currently, CAFOs are a sub-1 use under ORS §215.213 and ORS §215.283, but the legislature should consider making them sub-2 uses.

Under current Oregon law, counties are unable to determine if a CAFO should be located in a certain area even if their community has valid concerns as to why siting would be improper in an area (e.g., too close to a school, too close to a water source, or not enough water in the area). This is because as a sub-1 use, counties do not have the ability to regulate these CAFOs and approving them becomes a rubberstamping exercise instead of a thoughtful look at whether a mega-CAFOs could harm the community it is placed in. In light of this, counties' hands are tied.

If the legislature studied this issue and determined that the law needed to change making CAFOs sub-2 uses, counties could issue conditional use permits and determine if the proposed site of a CAFO would harm their community or be beneficial for it. This would allow counties to work on a CAFO-by-CAFO basis and give the control to the local governments that know what their communities need and have resources for. What is best in Tillamook County may not be what is best in Linn County, and the local governments should have more control in this area.

Before permitting more Tier 2 CAFOs to be built or expanded in the state, the legislature should study how local government control over this issue could be beneficial as opposed to statewide rules for CAFOs.

#### **V. High-Value Soil**

Parts of Oregon, especially the Willamette Valley, are blessed with extremely fertile soil that is ideal for growing crops. This soil is protected in the state, with the Oregon Land Conservation and Development Commission approving new rules that restrict commercial solar development on high-value farmland across the state in 2019. High-value farmland is defined as "land in a tract composed predominantly of soils that, at the time the siting... are: (a) irrigated and classified prime, unique, Class I or Class II; or not irrigated and classified prime, unique, Class I or Class II."<sup>14</sup> In addition, high-value farmland is also defined as tracts growing specified perennials, with further definitions for the soil within the Willamette Valley and the Coast Range.<sup>15</sup>

The legislature needs to study if all CAFOs should be sited on this high-value farmland with precious soil. In a 2004 Land Use Board of Appeals (LUBA) decision, *Friends of Jefferson County v. Jefferson County*, determined that a proposed feed lot was a farm use rather than a commercial activity.<sup>16</sup> However, this specific case was focused on a feed lot that presented

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<sup>14</sup> ORS § 215.710(a).

<sup>15</sup> See *id.* at (2)-(4).

<sup>16</sup> 48 Or LUBA 107 (2004), <https://www.oregon.gov/luba/Docs/Opinions/2004/10-04/04063.pdf>.

a mostly closed loop of production: the feed lot took up approximately 30% of the 128-acre parcel of exclusive farm use land and over three-quarters of the parcel, the remaining 98-acres, were used to grow hay for the calves in the feed lot. The waste produced by the calves was then used as fertilizer for the hay production. The high-value farmland this feed lot was located on was an integral part of this loop.

Contrarily, poultry CAFOs do not use the soil, high-value or not, that they are located on. Poultry CAFOs do not grow anything other than the birds, and the land is not used to grow feed for the poultry, rather that is shipped in, and the waste is not used to fertilize the land, rather that is shipped off-site. Instead, the industrial-sized barns and waste storage facilities tamp down the land and destroy and degrade the quality of the soil in the process. This fertile soil is compacted and covered until it is merely a surface on which to build enormous barns and facilities, causing the soil to lose its value and become unproductive over time.

These soils are a limited and treasured resource in Oregon that have been the foundation of the State's illustrious agricultural industry. By blanketing all CAFOs as agricultural activity allowable in all exclusive farm use zones, poultry CAFOs can and will degrade the incredible soil the Oregon agricultural community relies on. The state needs to study if all types of CAFOs are suitable for high-value farmland. CAFOs that use a (close to) closed loop cycle like the *Jefferson County* case utilize the land it is placed on while poultry CAFOs could exist on any land as the birds do not go outside, the land is not fertilized, and the feed is not grown on-site. The legislature must study and consider disallowing poultry CAFOs on high-value farmland to protect a precious Oregon resource.

## **VI. Conclusion**

Importantly, SB 85 -1 would **not** reduce the amount of CAFOs, nor the size of existing CAFOs, in Oregon. SB 85 -1 is only directed at Tier 2 CAFOs which are the largest CAFOs in the state. This moratorium would not halt the construction or operation of small, mid-sized, or even large farms and CAFOs, but would rather halt mega CAFOs until their affects could be adequately studied.

These studies cannot be done while letting CAFOS be built and grow because once a CAFO is built, it would be too late to make possibly major changes. The legislature needs to ensure that water quality, listed species, air quality, groundwater, water quantity, and the high value soils of the state are protected before more Tier 2 CAFOs can be built in the state or expand within the state. Allowing the expansion of CAFOs to proliferate without protecting the communities and Oregonians at large would be extremely irresponsible and unreasonable. If the legislature does not pass SB 85 -1, it could be too late to remedy the issues that the influx of Tier 2 CAFOs could bring to the state.

Willamette Riverkeeper requests that you please schedule a work session on SB 85 -1. If you would like additional information on how these issues affect the Willamette River Basin, we stand ready to assist you. Thank you for your time.



Sincerely,

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