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Submitted via email

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RE: COMMENTS IN OPPOSITION TO NOBLE DAIRY’S PROPOSAL TO SUBSTANTIALLY CHANGE ITS ANIMAL WASTE MANAGEMENT PLAN IN ORDER TO EXPAND AND BECOME OREGON’S NEWEST MEGA DAIRY CAFO

Dear Mr. Matthews and Ms. Moore:

Noble Dairy—a large, tier 1 confined animal feeding operation (CAFO) sited in a Special Flood Hazard Area (SFHA) on the banks of the Applegate River—seeks to become Oregon’s newest mega dairy CAFO. Specifically, Noble Dairy proposes to substantially change its animal waste management plan (AWMP) to accommodate its plans to nearly double the number of cows it confines. Stand Up to Factory Farms—a coalition of animal welfare, environmental, family farm, public health, rural advocacy, and wildlife protection organizations with hundreds of thousands of members and supporters in Oregon—submits the following comments in opposition to this proposal and requests a hearing under Oregon Administrative Rule 340-045-0027.

As the recent Lost Valley Farm regulatory catastrophe illustrates, mega dairy CAFOs constitute unjustifiable risks to Oregon’s environment, public health,
animal welfare, and rural communities.\textsuperscript{1} Accordingly, the commenting coalition urges the Oregon Department of Agriculture (ODA) and the Oregon Department of Environmental Quality (ODEQ) (collectively “the Agencies”) to (1) deny the proposed substantial changes to Noble Dairy’s AWMP and require Noble Dairy to apply for an individual National Pollutant Discharge Elimination System (NPDES) permit that addresses and mitigates the unique environmental risks that this CAFO already presents, and (2) institute a moratorium on all new or expanding mega dairy CAFOs in Oregon.

I. THE COMMENTING COALITION

Stand Up to Factory Farms is a coalition of local, state, and national organizations concerned about the harmful impacts of mega dairy CAFOs on Oregon’s family farms, communities, environment, public health, and animal welfare.\textsuperscript{2}

II. FACTUAL BACKGROUND

Noble Dairy is a large, tier 1 dairy CAFO sited in an SFHA\textsuperscript{3} on the banks of the Applegate River in Josephine County, Oregon.\textsuperscript{4} It proposes to substantially

\footnotesize{\textsuperscript{1} Lost Valley Farm was a permitted mega dairy CAFO in Boardman, Oregon that spilled manure and other waste; went into business without a legal and practical source of water; resorted to the stockwatering exemption in a designated Critical Groundwater Area and extracted water from an already depleted groundwater aquifer; went bankrupt and failed to pay its suppliers for goods and services rendered; and violated its permit more than two hundred times. The state was forced to expend its limited resources to shut down this mega dairy CAFO and manage the fallout.}

\footnotesize{\textsuperscript{2} Members of Stand Up to Factory Farms include Columbia Riverkeeper, Friends of the Columbia Gorge, Friends of Family Farmers, Humane Voters Oregon, Oregon Rural Action, WaterWatch of Oregon, Animal Legal Defense Fund, Center for Biological Diversity, Center for Food Safety, Food & Water Watch, and Food & Water Action. The Coalition, STAND UP TO FACTORY FARMS, https://standuptofactoryfarms.org/about-us/the-coalition/ (last visited Sep. 7, 2021).}

\footnotesize{\textsuperscript{3} Federal Emergency Management Agency (FEMA), National Flood Insurance Program, Flood Insurance Rate Map No. 41033C0740E, Josephine County, Oregon and Incorporated Areas, Panel 0740E (Dec. 3, 2009) ("FIRM 1") (Attach. 1).}

\footnotesize{\textsuperscript{4} The CAFO is owned by Jerry Noble and co-operated by Larry and Sharon Noble, d.b.a. Jerry Noble. It is registered to the NPDES General Permit #01-2016 under Master Address number 63943. ODA AND ODEQ, NOTICE OF PUBLIC PARTICIPATION OPPORTUNITY, PROPOSED SUBSTANTIAL CHANGE FOR CONFINED ANIMAL FEEDING OPERATION (CAFO) IN AREA IV (Aug. 4, 2021),}
change its AWMP by **nearly doubling** the number of cows it is permitted to confine.\(^5\) This CAFO is already permitted to confine 1,630 cows, and it proposes to increase this number to 2,900 cows.\(^6\) If the Agencies approve this proposal, Noble Dairy will become Oregon’s newest mega dairy CAFO.\(^7\)

In 2019, Noble Dairy reported that it generated 748,104 cubic feet of solid manure and disposed of 12,420 cubic feet of solid manure on fields.\(^8\) It reported that it generated 1,460,094 cubic feet—or *10,922,262 gallons*—of liquid manure, manure-contaminated runoff, and manure-contaminated process water.\(^9\) The CAFO also reported that it disposed of 2,586,722 cubic feet—or *19,350,024 gallons*—of liquid waste on 1,412 acres of nearby fields (“disposal fields”).\(^10\)

Noble Dairy failed to specify exactly how much additional manure would result from an additional 1,270 cows.\(^11\) However, since Noble Dairy proposes to nearly double the current number of cows, it stands to reason that each of the above figures will also nearly double. And since it seems that this CAFO plans to continue its practice of disposing of manure and manure-contaminated runoff and process water by applying it to fields, approval of the proposed substantial changes to the AWMP will result in nearly *40,000,000 gallons* of liquid waste being applied to the disposal fields each year. Accordingly, the quantity of pollutants discharged to the environment will also nearly double, including dangerous water pollutants like nitrates and dangerous air pollutants like hydrogen sulfide. Finally, the water that this CAFO consumes—for irrigation, cleaning, drinking water for the cows, etc.—will also nearly double.

The Applegate River, a “major tributary of the Rogue River” that “drains a large portion of the eastern Siskiyou Mountains,” is an invaluable natural


\(^6\) *Id.*

\(^7\) Legislation that would enact a mega dairy moratorium, which was introduced this year in Oregon, defines a “mega dairy” as one that has 2,500 cows or more. S.B. 0583, 81st Leg. Assemb., 2021 Reg. Session (Or. 2021); H.B. 2924, 81st Leg. Assemb., 2021 Reg. Session (Or. 2021). These comments adopt that definition.

\(^8\) AWMP, *supra* note 5, at 2.

\(^9\) *Id.*

\(^10\) *Id.*

\(^11\) This failure violates ORA 340-051-0015(e), which requires that new, modified, or expanded facilities and operations submit to the Agencies the “estimated volume of wastes to be collected and disposed of[.]”
resource. The river and its tributaries are home to many species of fish, including steelhead, rainbow, cutthroat, and brook trout, and the river’s drainage is home to the endangered Siskiyou Mountains salamander. The river and its shoreline are used for many forms of recreation, including camping, swimming, and hiking.

III. COMMENTS

The commenting coalition urges the Agencies to deny the proposed substantial changes to Noble Dairy’s AWMP, which substantial evidence shows is already noncompliant with NPDES General Permit #01-2016. Concurrently, the commenting coalition urges the Agencies to require Noble Dairy to apply for an individual NPDES permit. Given the circumstances, the proposed substantial changes to the AWMP would exacerbate the already significant risk that this CAFO poses to the environment. Accordingly, to approve the substantial changes to the AWMP would be arbitrary, capricious, and otherwise contrary to law.

The commenting coalition further urges the Agencies to institute a moratorium on all new or expanding mega dairy CAFOs in Oregon. Substantial evidence shows that such CAFOs constitute unjustifiable risks to the environment, public health, environmental justice communities, animal welfare, and rural communities.

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13 Id.
15 Applegate River, supra note 12.
16 ODA & DEQ, OREGON CONFINED ANIMAL FEEDING OPERATION NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT NUMBER 01-2016 (Apr. 20, 2016) (“General Permit”).
17 Any interested person may petition the Agencies to require an individual NPDES permit. Or. Admin. R. 340-045-0033(10)(c). Grounds for requiring an individual NPDES permit include that the activity significantly contributes pollution or “creates other environmental problems,” that the permittee is out of compliance with the General Permit or any applicable law, or “[a]ny other relevant factors.” Or. Admin. R. 340-045-0033(10)(c)(A), (B), and (F).
A. The Agencies should deny the proposed substantial changes to Noble Dairy’s AWMP and require Noble Dairy to apply for an individual NPDES permit.

Noble Dairy is required to ensure that its AWMP complies with the terms and conditions of the General Permit. The AWMP already fails to comply with these terms and conditions, and not without consequence—the CAFO’s location in an SFHA on the Applegate River makes it a ticking environmental time bomb. The proposed substantial changes to the AWMP would exacerbate existing risk to the environment by nearly doubling the quantity of manure and other pollutants that the CAFO produces, making any flood-related discharges to the Applegate River even more catastrophic. The Agencies should deny the proposed substantial changes to the AWMP and require Noble Dairy to apply for an individual NPDES permit that addresses and mitigates the unique environmental risks that this CAFO already presents.

The General Permit provides that AWMPs must, among other things:

- “[E]nsure collection, handling, and storage of contaminated stormwater runoff from the production area, manure, litter, and process wastewater in compliance with the requirements of [Section 2],” including the requirement that “permit registrant[s] must site, design, construct, operate, and maintain all waste storage facilities to contain all manure, litter, process wastewater, and stormwater runoff and direct precipitation from a 25-year, 24-hour rainfall event[.]”
- “[P]revent direct contact of confined animals with surface water,” which means “any situation where animals in the production area have free access and are allowed to loiter or drop waste in surface water.”

Noble Dairy is not in compliance with these terms and conditions—nor can it be so long as it is sited in an SFHA on the banks of the Applegate River, as depicted...
One of the disposal field areas, the “Noble Dairy Leased Farms,” even straddles the Applegate River.\textsuperscript{25} Noble Dairy’s production area is a stone’s throw from the Applegate River. This area includes cow confinement buildings and two large liquid manure impoundments (“Big Pond 1” and “Big Pond 2”), as depicted below.\textsuperscript{26} The “Home 2” and “Home 3” disposal fields, which Noble Dairy uses as “vegetated treatment areas,” are all that lies between the production area and the Applegate River.\textsuperscript{27}

\textsuperscript{24} AWMP, \textit{supra} note 5, at 9.
\textsuperscript{25} \textit{Id.}
\textsuperscript{26} \textit{Id.} at 22.
\textsuperscript{27} \textit{Id.} at 21; 23 (describing and depicting “Home 2” and “Home 3” fields).
As depicted below, \(^{28}\) “Big Pond 1” is approximately 1,370 feet from the Applegate River and “Big Pond 2” is approximately 4,321 feet from the Applegate River. In addition, Carris Creek also runs right alongside the western side of the production area, with “Big Pond 1” lying approximately 258 feet away from the creek and “Big Pond 2” lying approximately 636 feet away.

\(^{28}\) GOOGLE MAPS, https://www.google.com/maps/place/Noble+Dairy/@42.3059917,-123.2465208,972m/data=!3m1!1e3!4m5!3m4!1s0x0:0x8d9a934d87d611!8m2!3d42.305107!4d-123.2434631 (last visited Sep. 7, 2021).
As depicted below, much of the production area (as well as disposal fields “Home 2” and “Home 3”) lies beneath a SFHA, as designated by the Federal Emergency Management Agency (FEMA). This includes many of the buildings where cows are confined. It also includes “Big Pond 1,” which contains 2,147,530 gallons of liquid manure, and “Big Pond 2,” which contains 2,312,939 gallons of liquid manure. Together, these “ponds” alone hold nearly 4.5 million gallons of liquid manure. If these “ponds” were inundated in a flood, the environmental impact would be catastrophic.

As depicted below, almost all of Noble Dairy’s disposal fields—including “Home 4,” “Mac L,” “Lynch L,” “Andreas 1(L),” “Andreas 2(L),” “Andreas 3(L),”

29 FIRM 1, supra note 3 (Attach. 1); see Special Flood Hazard Area (SFHA), FEMA, fema.gov/glossary/special-flood-hazard-area-sfha (last visited Sep. 7, 2021) (defining “Special Flood Hazard Area” as “[a]n area having special flood, mudflow or flood-related erosion hazards and shown on . . . a Flood Insurance Rate Map (FIRM) Zone A, AO, A1-A30, AE, A99, AH, AR, AR/A, AR/AE, AR/AH, AR/AO, AR/A1-A30, V1-V30, VE or V” (emphasis added)); FEMA, UNIT 3: NFIP FLOOD STUDIES AND MAPS 3-5 (explaining that SFHAs have a 4% chance of being hit with a 25-year flood within one year, a 34% chance within ten years, a 56% chance within twenty years, a 71% chance within thirty years, and an 87% chance within fifty years).

30 AWMP, supra note 5, at 9.
“Rice,” “Gallos 1,” “Gallos 2,” “Gallos 3,” “SorensonsL,” “HydeL,” “HannaganL,” “TwinL,” and “HeisnersL”31—also lie at least partially beneath a FEMA-designated SFHA.32 If these disposal fields were inundated in a flood, the environmental impact would be catastrophic.

31 Id. at 23; 24.
The evidence is clear: Noble Dairy is sited in an SFHA. As discussed above, this means that Noble Dairy has a 4% chance of being hit with a 25-year flood within one year, a 34% chance within ten years, a 56% chance within twenty years, a 71% chance within thirty years, and an 87% chance within fifty years. And these odds may actually be even higher, as wildfires driven by climate change are increasing the risk of flooding.

When such a flood does occur, Noble Dairy’s two large liquid manure impoundments (and any other manure storage facilities located in the production area) will be inundated by the floodwaters of the Applegate River (and potentially Carris Creek). In addition, the cows who are confined in the buildings located in the production area will come into direct contact with the floodwaters of the Applegate River—and they may even drown.

Therefore, Noble Dairy’s AWMP does not—and cannot—comply with the terms and conditions of the General Permit. Noble Dairy has failed to site and operate its waste storage facilities to contain all manure, process wastewater, stormwater runoff, and direct precipitation from a 25-year, 24-hour rainfall event. It has also sited the majority of its disposal fields in a SFHA. Finally, Noble Dairy has failed to site and operate its production area such that it can prevent cows from coming into direct contact with the Applegate River (and potentially Carris Creek) during a flood. No CAFO should be sited in an SFHA in the first place, but one that is already sited there should certainly not be allowed to expand. The Agencies should deny the proposed substantial changes to Noble Dairy’s AWMP and require Noble Dairy to apply for an individual NPDES permit that can address and mitigate these unique—and significant—environmental risks.

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33 See Unit 3: NFIP Flood Studies and Maps, supra note 29, at 3-5.
35 See AWMP, supra note 5, at 3.
36 The cows will not be saved and will still come into direct contact with the Applegate River even if they are out to pasture when a flood occurs—most of the disposal fields that are also used as pasture are also in SFHAs. AWMP, supra note 5, at 51.
37 See supra notes 20–23.
38 See supra notes 20–21.
39 See supra notes 22–23.
B. The Agencies should institute a moratorium on all new or expanding mega dairy CAFOs in Oregon.

Substantial evidence shows that mega dairy CAFOs constitute unjustifiable risks to the environment, public health, environmental justice communities, animal welfare, and rural communities. First, such CAFOs:

- Threaten Oregon’s vulnerable water supply, with some CAFOs consuming as much water as a midsized city.
- Are significant sources of water pollution, impacting groundwater and surface water resources.
- Are significant sources of air pollution—including potent greenhouse gases like methane—that fuel climate change, undercut Oregon’s efforts to improve ambient air quality, and threaten Oregon’s iconic natural resources, such as the Columbia River Gorge.

Second, CAFOs harm public health by polluting water and air resources, breeding new viruses capable of generating pandemics, and contributing to the growth of antibiotic resistance. Third, CAFOs disproportionately harm Oregon’s low-income and BIPOC communities. Fourth, CAFOs force sentient animals into intense confinement—where they are deprived of the opportunity to graze outdoors and are instead left to stand or lie all day in their own manure—without regard for their interests or well-being. Finally, CAFOs are putting Oregon’s remaining small and mid-sized family farms out of business.

1. Environmental Effects

   a. Water Consumption

   CAFOs consume “a massive amount of water” for various operational purposes, such as flushing manure from barns, watering animals, and irrigating the crops upon which they rely for manure management.40 “Because of this demand for water, CAFOs tend to seek sites above major aquifers,” and “water is essentially treated as a free good after it is removed from the ground.”41 Lost Valley Farm used an estimated ten million gallons of water each day—in part by exploiting a permit loophole for “stockwatering” that allowed it to extract groundwater from an aquifer that had been closed to new withdrawals for decades—despite the fact that it

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41 Id. at 22.
reached only one third of its permitted size. A water plan for the proposed Easterday mega dairy CAFO shows it would use approximately twenty million gallons of water per day.

Oregon’s rivers suffer from low flows and warming water, and its groundwater and surface water resources are overallocated. There are twenty-two designated groundwater administrative areas in Oregon, including critical groundwater areas, groundwater limited/classified areas, and those areas withdrawn from appropriation. CAFOs further burden these critical resources at the expense of Oregon’s other water users, including homes, family farms, and wildlife.

b. Water Pollution

“Underlying all of the environmental problems associated with CAFOs is the fact that too much manure accumulates in restricted areas.” For example, a single dairy CAFO with one thousand cows produces as much waste as a city of 164,500 humans. And larger CAFOs, such as the proposed Easterday mega dairy CAFO—

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42 This estimate includes water used for irrigation and is based on water rights, number of acres, and applications for additional water rights. Without considering water used for irrigation, Lost Valley Farms used approximately one million gallons of water each day. Tracy Loew, State officials let mega-dairy use loophole to tap endangered Oregon aquifer, STATESMAN JOURNAL (Mar. 22, 2018), https://www.statesmanjournal.com/story/tech/science/environment/2018/03/22/lost-valley-mega-dairy-oregon-used-loophole-tap-aquifier-allowed-state-officials/426738002/.

43 Water Description Use, Easterday Farms Dairy (Sep. 2020) (water plan produced by Oregon Water Resources Department in response to public records request) (Attach. 7).


46 EPA, Risk Assessment Evaluation for Concentrated Animal Feeding Operations 9 (May 2004) (finding that a dairy CAFO with one thousand cows produces the same amount of waste as a city of 164,500 humans).

47 Id. at 2.
which seeks to confine 28,300 cows on the site of Lost Valley Farm—would produce approximately seven times the waste of Portland, Oregon.

Unlike cities, however, CAFOs typically rely on “traditional” manure management methods to store and dispose of manure, which “are not adequate to contend with the large volumes present at CAFOs.” The “age-old practice” of storing raw manure in holding lagoons and disposing of it by land application pollutes groundwater and surface water resources via sprayfield runoff and lagoons that leak, seep, and catastrophically breach.

Manure contaminants include nitrates—which threaten aquatic species—and pathogens, as well as ammonium, phosphate, dissolved solids, metals and metalloids, pharmaceutical chemicals, and natural and synthetic hormones. Pathogens are parasites, bacteria, and viruses capable of causing disease or infection in animals or humans, and there are 150 different pathogens in manure capable of affecting human health. Just six of these pathogens—Campylobacter, Salmonella, Listeria, E. coli 0157:H7, Cryptosporidium, and Giardia—account for 90% of food- and waterborne diseases. Metals and metalloids include copper, zinc,

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50 EPA, supra note 46, at 2.

51 See id. at 1, 2.

52 See id. at 1; Steve Wing et al., Environmental Injustice in North Carolina’s Hog Industry, 108 ENVTL. HEALTH PERSP. 225, 225 (2000).


54 Wing, supra note 52, at 225.

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


arsenic, nickel, and selenium. Pharmaceutical chemicals include antibiotics, and hormones include estrogen.

Despite the unjustifiable risks that CAFOs present to water quality, they are legion in Oregon. As a result, Oregon’s groundwater and surface water resources—including drinking water sources—are polluted from CAFOs. Testing conducted in the 1990s found nearly a third (30%) of groundwater samples from monitoring wells exceeded the state trigger level. Samples from areas dominated by CAFOs and agricultural fields where CAFO waste is applied were showing nitrate levels that reached and exceeded 70 mg/L—seven times the 10 mg/L MCL for nitrate. A 1996 study showed that 23% of the surveyed population were drinking private well water with nitrate concentrations over the 10 mg/L MCL. Of the households with nitrate levels over the MCL, 72% were not taking measures to effectively remove the nitrates before human consumption.

More recent figures suggest that the problem has only worsened. The Lower Umatilla Basin Ground Water Management Area Committee (LUBGWMA Committee) compiled the results of well sampling conducted in the region between 2015 and 2016 from a data set of 255 wells, and concluded that nearly half (48%) exceeded the 10 mg/L drinking water standard and nearly two thirds (60%) exceeded the 7 mg/L state trigger level. In a separate survey examining just private domestic wells, the Committee found that 42% of the region’s domestic wells contained nitrate levels exceeding the safe drinking water standard.


Hutchins et al., supra note 55, at 9.

Id. at 9–13.

GERALD H. GRONDIN ET AL., HYDROGEOLOGY, GROUNDWATER CHEMISTRY AND LAND USES IN THE LOWER UMATILLA BASIN GROUNDWATER MANAGEMENT AREA ES-1 & ES-5. At the time of these initial tests, the Oregon trigger level was set equal to EPA’s MCL of 10 mg/L but has since been adjusted to the more protective standard of 7 mg/L. Id. at ES-2.

Id. at ES-6–ES-7.

40 C.F.R. § 141.11(d).


Id. at 18.


Id. at 73.
c. Air Pollution and Climate Change

As the Oregon Dairy Air Quality Task Force has recognized, CAFOs produce a plethora of dangerous air emissions, including ammonia, nitrous oxide, nitrogen oxides, methane, volatile organic compounds, hydrogen sulfide, particulate matter (PM), and methanol.67 These emissions diminish ambient air quality68 and generate regional haze, which harms important natural resources of the state like the iconic Columbia River Gorge.69 These emissions also spur climate change.70

A single CAFO is capable of emitting millions of pounds of ammonia each year.71 CAFOs also produce nearly 75% of all ammonia air pollution in the United States.72 Ammonia emissions are particularly high for CAFOs that rely on land application for manure management, which volatizes the ammonia in the manure and further increases emissions.73

2. Public Health Effects

a. Health Effects of Drinking Water Contaminated by CAFOs

Millions of people—including Oregonians—who live in CAFO-occupied communities are forced to rely on drinking water that has been “contaminated by

67 See OR. DAIRY AIR QUALITY TASK FORCE, FINAL REPORT TO THE DEP’T OF ENVIRONMENTAL QUALITY & DEP’T OF AG. 6 (July 1, 2008), http://library.state.or.us/repository/20; 12/201204101013082/.
68 Hribar, supra note 56, at 7.
69 MARK GREEN ET AL., THE COLUMBIA RIVER GORGE AIR QUALITY AND VISIBILITY STUDY 21 (2008) (results of study concluding that CAFO emissions are a significant source of haze in the Gorge).
70 See, e.g., R.M. Duren et al., California’s methane super-emitters, 575 NATURE 180 (Nov. 7, 2019) (results of a study finding that California dairy CAFOs generate 26% of California’s point-source methane emissions—more than the oil and gas sector); see also Xun Liao et al., Large-scale regionalised LCA shows that plant-based fat spreads have a lower climate, land occupation and water scarcity impact than dairy butter, INTERNATIONAL JOURNAL OF LIFE CYCLE ASSESSMENT (2020) (results of study finding that dairy butter is 3.5 times more damaging to the environment than alternatives).
73 Hribar, supra note 56, at 5.
dangerous nitrates and coliform bacteria” from CAFOs.\textsuperscript{74} Public water systems in such communities often have nitrate and coliform levels that exceed federal contaminant limits set by the Safe Drinking Water Act.\textsuperscript{75}

The health impacts of drinking contaminated water are serious, particularly for those who have weakened immune systems.\textsuperscript{76} Symptoms of illnesses caused by contaminated water include “nausea, vomiting, fever, diarrhea, muscle pain, death,” and kidney failure.\textsuperscript{77} People at high risk of illness or death constitute approximately 20\% of the population, and they include elders, infants, children, and those who are pregnant, HIV positive, on chemotherapy, or are otherwise immunosuppressed.\textsuperscript{78}

\textbf{b. Health Effects of Breathing Air Polluted by CAFOs}

CAFO emissions are so potent that it can be dangerous even to approach a waste lagoon—particularly in hot summer months.\textsuperscript{79} “The oxygen-deficient, toxic, and/or explosive atmosphere which can develop in a manure pit has claimed many lives.”\textsuperscript{80} There are multiple incidents of workers approaching lagoons to make repairs and succumbing to the emissions, including one recent incident that claimed the lives of three brothers in Minnesota.\textsuperscript{81} Some workers died from hydrogen sulfide poisoning, while others asphyxiated in the oxygen-starved air.\textsuperscript{82} Others died after collapsing during rescue attempts.\textsuperscript{83}

\begin{itemize}
\item \textsuperscript{75} Miller & Muren, supra note 57 (citing Wang et al., supra note 74; Drinking Water Contaminants—Standards and Regulations, EPA, https://www.epa.gov/dwstandardsregulations).
\item \textsuperscript{76} Hribar, supra note 56, at 9.
\item \textsuperscript{77} \textit{Id.} at 10.
\item \textsuperscript{78} \textit{Id.} at 9.
\item \textsuperscript{79} ROBBIN MARKS, CESSPOOLS OF SHAME: HOW FACTORY FARM LAGOONS AND SPRAYFIELDS THREATEN ENVIRONMENTAL AND PUBLIC HEALTH 1, 26 (July 2001), https://www.nrdc.org/sites/default/files/cesspools.pdf.
\item \textsuperscript{80} NIOSH Warns: Manure Pits Continue to Claim Lives, CENTERS FOR DISEASE CONTROL AND PREVENTION (July 6, 1993), https://www.cdc.gov/niosh/updates/93-114.html.
\item \textsuperscript{81} Graeme Massie, Three brothers killed by manure pit fumes on family farm, THE INDEPENDENT (Aug. 12, 2021), https://www.independent.co.uk/news/world/americas/manure-pit-fumes-kill-brothers-b1901689.html.
\item \textsuperscript{82} Marks, supra note 79, at 19.
\item \textsuperscript{83} See \textit{id.} at 26.
\end{itemize}
But it is not necessary to be near a lagoon to suffer health effects from the emissions. Studies show that people in CAFO-occupied communities suffer disproportionate levels tension, anger, confusion, fatigue, depression, upper respiratory, and gastrointestinal ailments than neighbors of other types of farms and non-livestock areas.\textsuperscript{84} Ammonia is a “strong respiratory irritant” that causes chemical burns to the respiratory tract, skin, and eyes.\textsuperscript{85} It also causes severe coughing and chronic lung disease.\textsuperscript{86} 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.\textsuperscript{87} Particulate matter causes “chronic bronchitis, chronic respiratory symptoms, declines in lung function, [and] organic dust toxic syndrome.”\textsuperscript{88}

c. Novel Viruses

In addition to pathogen-driven illnesses, CAFOs also breed new viruses capable of generating pandemics. When the U.S. Centers for Disease Control and Prevention (CDC) sequenced the DNA of the swine flu that killed thousands of Americans in 2009, they traced its origin to a single North Carolina pig CAFO.\textsuperscript{89} CDC estimates that the 2009 swine flu pandemic sickened 60.8 million Americans, hospitalized 274,304, and killed 12,469, including more than a thousand children.\textsuperscript{90} Though both COVID-19 and SARS likely originated in live animal markets, they could have originated in CAFOs due to their similar conditions—and the next pandemic very well may.\textsuperscript{91}

\textsuperscript{84} Hribar, supra note 56, at 5; see Sarah C. Wilson, Comment, \textit{Hogwash! Why Industrial Animal Agriculture is Not Beyond the Scope of Clean Air Act Regulation}, 24 PACE ENVTL. L. REV. 439, 441, 445 n.45 (2007).
\textsuperscript{86} Hribar, supra note 56, at 6.
\textsuperscript{87} \textit{Id.}; CAFO Subcomm., supra note 85, at 4.
\textsuperscript{88} Hribar, supra note 56, at 6.
d. Antibiotic Resistance

Finally, there are often antibiotics in CAFO animal feed.\footnote{Hribar, supra note 56, at 10; Antibiotic Resistance Threats in the United States, CENTERS FOR DISEASE CONTROL AND PREVENTION 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).} Seventy percent of all antibiotics used in the United States are administered to farmed animals as feed additives.\footnote{Hribar, supra note 56, at 10. But see Gilchrist et al., supra note 92, at 313 (noting that estimates suggest up to 87% of all antibiotic use in the United States is for livestock animals).} CDC has recommended that the use of antibiotics in “food animals” be “phased out.”\footnote{CDC, supra note 92, at 11.} 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.”\footnote{Hribar, supra note 56, at 10.} The risk to public health is high because this exposure causes antibiotics to be less effective for humans while also leading to the development of antibiotic-resistant microbes.\footnote{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)).}

3. Environmental Injustice

CAFOs are disproportionately sited in low-income and BIPOC communities.\footnote{See Jan. 12, 2017 EPA External Civil Rights Compliance Office Letter of Concern to N.C. Dep’t of Envtl. Quality (describing discriminatory health and quality of life impacts from pig and poultry CAFOs), https://www.epa.gov/sites/production/files/2018-05/documents/letter_of_concern_to_william_g_ross_nc_deq_re_admin_complaint_11r-14-r4_.pdf; Kelley J. Donham et al., Community Health and Socioeconomic Issues Surrounding Concentrated Animal Feeding Operations, 115 ENVTL. HEALTH PERSP. 317 (2007); Wing, supra note 52, at 225.} This is because these communities have been denied “the political clout to diseases . . . . The common thread binding all risk factors, however, is our exploitation of both animals and the natural environment we share with them.”}
successfully oppose their construction.” Accordingly, these communities disproportionately bear the consequences of the negative externalities of CAFOs, including the public health harms discussed above, diminished quality of life, and plummeting property values.

Rural communities already face significant health disparities when compared to urban communities, and CAFOs exacerbate those disparities. Individuals suffering adverse health impacts from factory farms include not only members of BIPOC and low-income communities occupied by CAFOs, but also CAFO workers themselves, of whom a large number are undocumented and/or BIPOC.

4. Animal Welfare

CAFOs keep sentient animals in conditions that betray Oregonian values. They “maximize profits by treating animals not as sentient creatures, but as production units. Raised by the thousands at a single location, animals are confined in such tight quarters that they can barely move, let alone behave normally.” Cows in dairy CAFOs often are “injected with the growth hormone that causes

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99 See id.

100 See supra section III.B.2.

101 Hribar, supra note 56, at 7–8 (noting odors and insect vectors that plague CAFO-occupied communities).

102 Id. at 11 (noting that “property value declines can range from a decrease of 6.6% within a 3-mile radius of a CAFO to an 88% decrease within 1/10 of a mile from a CAFO”).


lameness and mastitis, a painful udder infection.”¹⁰⁶ Moreover, animals are forced into intense confinement—where they are deprived of the opportunity to graze outdoors and are instead left to stand or lie all day in their own manure—without regard for their interests or well-being.¹⁰⁷ The manure causes ammonia emissions to fill the confinement buildings, causing the animals to suffer painful skin, lung, and eye damage.¹⁰⁸

5. Small and Mid-Sized Family Farms

The rise of CAFOs is driving small and mid-sized family farms—historically the backbone of Oregon’s rural economy—to extinction. The “catastrophic decline” in small and mid-sized dairy farms¹⁰⁹ is one example: as a direct result of the rise of CAFOs in Oregon, the total number of dairy farms has fallen from 1,900 in 1992 to approximately 230 today.¹¹⁰ In sum, Oregon’s small and mid-sized family farms cannot—and will not—survive CAFOs.

IV. Conclusion

For the foregoing reasons—and to prevent another regulatory catastrophe like Lost Valley Farm—the Agencies should (1) deny the proposed substantial changes to Noble Dairy’s AWMP and require Noble Dairy to apply for an individual NPDES permit that addresses and mitigates the unique environmental risks that this CAFO already presents, and (2) institute a moratorium on all new or expanding mega dairy CAFOs in Oregon.

¹⁰⁶ Id.
¹⁰⁷ Lost Valley Farm, for example, confined cows to barns overflowing with manure. See Leah Douglas, *Lost Valley debacle leads to effort to limit mega-dairies in Oregon*, OREGON LIVE (Apr. 5, 2019), https://www.oregonlive.com/business/2019/04/lost-valley-debacle-leads-to-effort-to-limit-mega-dairies-in-oregon.html (featuring a photo of a dairy cow forced to stand in manure up to her ankles).
Sincerely,

Christine Ball-Blakely  
Staff Attorney  
ANIMAL LEGAL DEFENSE FUND  
cblakely@aldf.org

On behalf of:

STAND UP TO FACTORY FARMS
Attach. 1
Attach. 2
Attach. 6
<table>
<thead>
<tr>
<th>Description</th>
<th>Average Daily Gallons</th>
<th>Average Daily CFS</th>
<th>Annual Acre Feet</th>
<th>Source</th>
<th>Approval/Contract Required</th>
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</thead>
<tbody>
<tr>
<td>Domestic Use for human consumption and sanitation - both employees and owners/operators</td>
<td>4850</td>
<td>0.0075</td>
<td>5.43</td>
<td>1) Port of Morrow 2) Ground Water/Surface Water use transfer</td>
<td>1) Current LOI &amp; future contract POM 2) ODWR Transfer Approval</td>
</tr>
<tr>
<td>Watering Livestock</td>
<td>336,400</td>
<td>0.5205</td>
<td>376.64</td>
<td>1) Port of Morrow 2) Ground Water/Surface Water use transfer</td>
<td>1) Current LOI &amp; future contract POM 2) ODWR Transfer Approval</td>
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<tr>
<td>Water for the milking system, cleanup, and maintenance</td>
<td>46,500</td>
<td>0.0719</td>
<td>52.06</td>
<td>1) Port of Morrow 2) Ground Water/Surface Water use transfer</td>
<td>1) Current LOI &amp; future contract POM 2) ODWR Transfer Approval</td>
</tr>
<tr>
<td>Water for air misting</td>
<td>35,000</td>
<td>0.0541</td>
<td>39.19</td>
<td>1) Port of Morrow 2) Ground Water/Surface Water use transfer</td>
<td>1) Current LOI &amp; future contract POM 2) ODWR Transfer Approval</td>
</tr>
<tr>
<td>Other Water use for milk/dairy production</td>
<td>40,000</td>
<td>0.0618</td>
<td>44.79</td>
<td>1) Port of Morrow 2) Ground Water/Surface Water use transfer</td>
<td>1) Current LOI &amp; future contract POM 2) ODWR Transfer Approval</td>
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<tr>
<td>Water used in flushing system for cleaning livestock holding areas</td>
<td>360,000</td>
<td>0.557</td>
<td>403.07</td>
<td>1) Port of Morrow 2) Ground Water/Surface Water use transfer</td>
<td>1) Current LOI &amp; future contract POM 2) ODWR Transfer Approval</td>
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<td>Totals</td>
<td>822,750</td>
<td>1.2728</td>
<td>921.18</td>
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<td>Water for dilution of wastewater for application at agronomic rates</td>
<td>N/A</td>
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<td></td>
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<tr>
<td>Crop Production 5333 Acres</td>
<td>84.96</td>
<td>23998</td>
<td></td>
<td>Certificates 80062, 83517, 86856, 86857, 86992, 86993</td>
<td></td>
</tr>
</tbody>
</table>

_Par 60, Mean = 1.5200 AP annually_