



# STAND UP TO FACTORY FARMS

September 24, 2020

**Submitted via ca.gov**

Mary D. Nichols, Chairperson  
California Air Resources Board  
1001 I Street #2828  
Sacramento, CA 95814

**RE: COMMENTS IN OPPOSITION TO TIER 2 PATHWAY APPLICATION NO. B0072**

Dear Chairperson Nichols:

Pursuant to Cal. Code Regs. tit. 17, § 95488.7(d)(5), Stand Up to Factory Farms—a coalition of environmental, family farm, public health, rural advocacy, animal welfare, and wildlife protection organizations—submits the following comments in opposition to Threemile Canyon Farms’ application for certification of a Tier 2 pathway for biomethane.<sup>1</sup> The applicant, located in Oregon, is the largest dairy concentrated animal feeding operation (CAFO) in the United States. The applicant is part of the industrial animal agriculture system, which is one of the largest global contributors to climate change and pollution. As wildfires continue to rage in California, Oregon, and throughout the west, it is incumbent upon the California Air Resources Board (CARB) to prevent the environmentally destructive “mega-dairy” industry from exploiting and profiting from the Low Carbon Fuel Standard (LCFS) program, which exists to mitigate climate change and pollution.

CARB should reject the application because it is fatally flawed, both factually and methodologically, and because to do otherwise would undermine the purpose of the LCFS program. First, important factual information is omitted, redacted, or labeled “confidential” in the application, rendering meaningful stakeholder review of its claims impossible. Second, the application fails to employ a methodologically sound life cycle analysis that accounts for the greenhouse gas (GHG) emissions that result from the applicant’s production of biomethane. Finally, granting the application would incentivize the applicant to expand its industrial dairy business, which would increase air pollution, accelerate climate change, further degrade

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<sup>1</sup> These comments also incorporate by reference the comments on this application submitted concurrently by Association of Irrigated Residents on behalf of several California-based organizations.

water quality and quantity, and harm community health. Accordingly, we urge CARB to reject the application.

## I. COMMENTING COALITION

**Stand Up to Factory Farms** is an Oregon-based coalition of local, state and national organizations concerned about the harmful impacts of mega-dairy CAFOs on Oregon’s family farms, communities, environment, and animal welfare. We believe the solution to Oregon’s mega-dairy crisis is a moratorium on new mega-dairy permits and on the expansion of existing mega-dairies until policies are in place to ensure the humane treatment of animals, the economic viability of family farmers, and the meaningful protection of our air, water, wildlife, and climate.

## II. BACKGROUND

### A. The Low Carbon Fuel Standard Program

The 2006 California Global Warming Solutions Act called for the state to reduce GHG emissions to fight climate change, and made clear that state efforts to reduce GHG emissions should not compromise or conflict with efforts to reduce air pollution.<sup>2</sup> In 2007, then-Governor Schwarzenegger signed Executive Order S-1-07, which declared GHG emissions a “serious threat” to the environment and human health.<sup>3</sup>

CARB, which is responsible for reducing GHG emissions,<sup>4</sup> adopted the LCFS regulation in 2009, and began implementing it in 2011.<sup>5</sup> “The LCFS is a key part of a comprehensive set of programs in California to cut GHG emissions and other smog-forming and toxic air pollutants,” and the program exists to reduce the GHG emissions that cause climate change.<sup>6</sup> The bedrock of the LCFS program is “the principle that each fuel has *‘life cycle’* [GHG] emissions that include CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, and other GHG contributors.”<sup>7</sup>

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<sup>2</sup> Cal. Health & Safety Code §§ 38500–38599.

<sup>3</sup> Executive Order S-1-07 (Jan. 18, 2007).

<sup>4</sup> Cal. Health & Safety Code § 38510.

<sup>5</sup> *Low Carbon Fuel Standard*, CAL. AIR. RES. BD., <https://ww2.arb.ca.gov/our-work/programs/low-carbon-fuel-standard/about> (last visited Sep. 20, 2020).

<sup>6</sup> *Id.*

<sup>7</sup> *Id.* (emphasis added).

## B. Concentrated Animal Feeding Operations

CAFOs—also known as factory farms—are industrial-scale agricultural facilities that keep hundreds to thousands of animals in cruel, high-density confinement.<sup>8</sup> CAFOs deplete water quantity and produce vast amounts of animal manure<sup>9</sup> and emissions (including GHG) that spur climate change and significantly degrade air and water quality.<sup>10</sup> These environmental effects harm human health,<sup>11</sup> particularly in communities with “minority” and low-income populations,<sup>12</sup> where CAFOs are disproportionately sited.<sup>13</sup> CAFOs and their environmental effects also harm animals, including farmed animals and wild animals who are members of endangered and threatened species.<sup>14</sup>

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<sup>8</sup> CARRIE HRIBAR, NAT’L ASSOC. OF LOCAL BDS. OF HEALTH, UNDERSTANDING CONCENTRATED ANIMAL FEEDING OPERATIONS AND THEIR IMPACTS ON COMMUNITIES 1 (2010), CENTERS FOR DISEASE CONTROL AND PREVENTION, [https://www.cdc.gov/nceh/ehs/docs/understanding\\_cafos\\_nalboh.pdf](https://www.cdc.gov/nceh/ehs/docs/understanding_cafos_nalboh.pdf).

<sup>9</sup> “Underlying all of the environmental problems associated with CAFOs is the fact that too much manure accumulates in restricted areas.” EPA, *Risk Assessment Evaluation for Concentrated Animal Feeding Operations* 2 (May 2004); see *id.* at 9 (stating that a dairy CAFO with one thousand cows produce the same amount of waste as a city of 164,500 humans).

<sup>10</sup> Hribar, *supra* note 8, at 2–11.

<sup>11</sup> *Id.*

<sup>12</sup> See, e.g., Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, Exec. Order No. 12,898, 3 C.F.R. 859 (1995), *reprinted as amended in* 42 U.S.C. § 4321 (1998).

<sup>13</sup> See Jan. 12, 2017 EPA External Civil Rights Compliance Office Letter of Concern to N.C. Dep’t of Env’tl. 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](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); Steve Wing et al., *Environmental Injustice in North Carolina’s Hog Industry*, 108 ENVTL. HEALTH PERSP. 225 (2000).

<sup>14</sup> ENVIRONMENTAL IMPACT OF INDUSTRIAL FARM ANIMAL PRODUCTION 30 (2008), PEW COMMISSION ON INDUSTRIAL FARM ANIMAL PRODUCTION, [http://www.pcifapia.org/\\_images/212-4\\_EnvImpact\\_tc\\_Final.pdf](http://www.pcifapia.org/_images/212-4_EnvImpact_tc_Final.pdf); LIVESTOCK’S LONG SHADOW: ENVIRONMENTAL ISSUES AND OPTIONS 196, 209, 273 (2006), UNITED NATIONS FOOD AND AGRICULTURE ORGANIZATION, <http://www.fao.org/3/a0701e/a0701e.pdf>.

## 1. CAFO emissions spur climate change, degrade air quality, and harm human health.

CAFOs produce emissions that fuel climate change<sup>15</sup> and diminish ambient air quality.<sup>16</sup> These emissions include four hundred different volatile organic compounds, particulate matter, methane, ammonia, hydrogen sulfide, ozone, endotoxins, and noxious odors.<sup>17</sup> CAFOs produce nearly 75% of the United States' ammonia air pollution.<sup>18</sup>

These emissions are so concentrated that it can be dangerous even to approach a waste lagoon—particularly in hot summer months.<sup>19</sup> “The oxygen-deficient, toxic, and/or explosive atmosphere which can develop in a manure pit has claimed many lives.”<sup>20</sup> There are multiple incidents of farm workers approaching lagoons to make repairs and succumbing to fatal emissions; some died from hydrogen sulfide poisoning, while others asphyxiated in the oxygen-starved air.<sup>21</sup> Others died after collapsing during rescue attempts.<sup>22</sup>

But it is not necessary to be near a lagoon to suffer health effects from the emissions. 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

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<sup>15</sup> Hribar, *supra* note 8, at 7; see 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 contribute 26% of all of California's point-source methane emissions—more than the oil and gas sector); 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).

<sup>16</sup> Hribar, *supra* note 8, at 3.

<sup>17</sup> See ROBBIN MARKS, CESSPOOLS OF SHAME: HOW FACTORY FARM LAGOONS AND SPRAYFIELDS THREATEN ENVIRONMENTAL AND PUBLIC HEALTH 1, 17 (July 2001), <https://www.nrdc.org/sites/default/files/cesspools.pdf>; 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).

<sup>18</sup> *CAFOs Ordered to Report Hazardous Pollution*, WATERKEEPER ALLIANCE (Apr. 11, 2017), <http://waterkeeper.org/cafos-ordered-to-report-hazardous-pollution/>.

<sup>19</sup> Marks, *supra* note 17, at 26.

<sup>20</sup> *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>.

<sup>21</sup> Marks, *supra* note 17, at 19.

<sup>22</sup> See *id.* at 26.

neighbors of other types of farms and non-livestock areas.”<sup>23</sup> Ammonia is a “strong respiratory irritant” that causes chemical burns to the respiratory tract, skin, and eyes.<sup>24</sup> It also causes severe coughing and chronic lung disease.<sup>25</sup> 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.<sup>26</sup> Particulate matter causes “chronic bronchitis, chronic respiratory symptoms, declines in lung function, [and] organic dust toxic syndrome.”<sup>27</sup>

## **2. CAFOs degrade water quantity and quality, which harms human health.**

CAFOs consume “a massive amount of water” for various operational purposes, such as flushing manure from barns and watering animals.<sup>28</sup> Pig and dairy CAFOs are particularly water intensive.<sup>29</sup> For example, one sow and twenty piglets in a pig CAFO would require approximately 14,000 gallons of drinking water and nearly 55,000 gallons of flushing water per year.<sup>30</sup> A single dairy in Oregon, Lost Valley Farm, was expecting to use close to one million gallons of water each day before the state shuttered it for hundreds of permit violations and massive environmental degradation.<sup>31</sup> “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.”<sup>32</sup>

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<sup>23</sup> Wilson, *supra* note 17, at 445 n.45.

<sup>24</sup> CAFO Subcomm., *supra* note 15, at 4.

<sup>25</sup> Hribar, *supra* note 8, at 6.

<sup>26</sup> *Id.*; CAFO Subcomm., *supra* note 15, at 4.

<sup>27</sup> Hribar, *supra* note 8, at 6.

<sup>28</sup> See WILLIAM J. WEIDA, CONCENTRATED ANIMAL FEEDING OPERATIONS AND THE ECONOMICS OF EFFICIENCY 22 (Mar. 19, 2000), <https://www.sraproject.org/wp-content/uploads/2017/10/cafosandtheeconomicsofefficiency.pdf>; see Faith Cullens, *Water use on dairy farms*, MICH. STATE. U. [https://www.canr.msu.edu/news/water\\_use\\_on\\_dairy\\_farms](https://www.canr.msu.edu/news/water_use_on_dairy_farms) (noting that agriculture uses 70% of fresh water).

<sup>29</sup> See Hribar, *supra* note 8, at 8.

<sup>30</sup> Weida, *supra* note 28, at 22.

<sup>31</sup> See 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-aquifer-allowed-state-officials/426738002/>.

<sup>32</sup> Weida, *supra* note 28, at 22; see Loew, *supra* note 31 (describing how Lost Valley Farm, a former dairy CAFO located approximately twelve miles from Threemile Canyon Farms, exploited a legal loophole to extract water from an overdrawn aquifer).

CAFOs also pollute surface water and groundwater via lagoon breaches, seeps, and leaks; catastrophic flooding; and sprayfield runoff.<sup>33</sup> Contaminants in manure include nitrates and pathogens,<sup>34</sup> as well as ammonium, phosphate, dissolved solids, metals and metalloids, pharmaceutical chemicals, and natural and synthetic hormones.<sup>35</sup> Pathogens are parasites, bacteria, and viruses capable of causing disease or infection in animals or humans, and there are one hundred and fifty different pathogens in manure capable of affecting human health.<sup>36</sup> Metals and metalloids include copper, zinc, arsenic, nickel, and selenium.<sup>37</sup> Pharmaceutical chemicals include antibiotics, and hormones include estrogen.<sup>38</sup>

The health impacts of polluted water are serious, particularly for those who have weakened immune systems. Symptoms of illnesses caused by contaminated water include “nausea, vomiting, fever, diarrhea, muscle pain, death,” and kidney failure.<sup>39</sup> People at high risk of illness or death constitute approximately 20% of the United States population, and they include elders, infants, children, and those who are pregnant, HIV positive, on chemotherapy, or are otherwise immunosuppressed.<sup>40</sup> Rural America faces significant health disparities which are exacerbated by the presence of CAFOs.<sup>41</sup> Most immediately, COVID-19 is revealing just how disparate health services and outcomes are in rural communities when compared to urban populations.<sup>42</sup>

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<sup>33</sup> *Id.* at 4.

<sup>34</sup> Wing et al., *supra* note 13, at 225; see Food & Water Watch et al., Petition for Emergency Action Pursuant to the Safe Drinking Water Act § 1431, 42 U.S.C. § 300i, to Protect Citizens of the Lower Umatilla Basin in Oregon from Imminent and Substantial Endangerment to Public Health Caused by Nitrate Contamination of Public Water Systems and Underground Sources of Drinking Water 15 (Jan. 16, 2020), [https://www.foodandwaterwatch.org/sites/default/files/2020.01.16\\_final\\_petition\\_for\\_emergency\\_action\\_pursuant\\_to\\_the\\_safe\\_drinking\\_water\\_act1.pdf](https://www.foodandwaterwatch.org/sites/default/files/2020.01.16_final_petition_for_emergency_action_pursuant_to_the_safe_drinking_water_act1.pdf) (describing the dangers of nitrate loading) (Attach 1).

<sup>35</sup> STEPHEN R. HUTCHINS ET AL., CASE STUDIES ON THE IMPACT OF CONCENTRATED ANIMAL FEEDING OPERATIONS (CAFOs) ON GROUND WATER QUALITY 7–8 (2012).

<sup>36</sup> Hribar, *supra* note 8, at 8–9.

<sup>37</sup> Hutchins et al., *supra* note 35, at 9.

<sup>38</sup> *Id.* at 9–13.

<sup>39</sup> Hribar, *supra* note 8, at 10.

<sup>40</sup> *Id.* at 4.

<sup>41</sup> See generally, Virginia Guidry et al., *Connecting Environmental Justice and Community Health*, 79 N.C. Med. J. 5, 324–28 (Sept. 10, 2018), <https://www.ncmedicaljournal.com/content/79/5/324.full>.

<sup>42</sup> Liz Essley Whyte and Chris Zubak-Skees, *Underlying Health Disparities Could Mean Coronavirus Hits Some Communities Harder*, NPR (Apr. 1, 2020),

In addition to pathogen-driven illnesses, CAFOs also breed new viruses and generate 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.<sup>43</sup> The 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.<sup>44</sup> Similarly, though both COVID-19 and SARS likely originated in live animal markets,<sup>45</sup> they could have originated in CAFOs due to their similar conditions—and the next pandemic very well may.<sup>46</sup>

Finally, there are often antibiotics in CAFO animal feed.<sup>47</sup> Seventy percent of all antibiotics used in the United States are administered to farmed animals as feed additives.<sup>48</sup> CDC has recommended that the use of antibiotics in “food animals” be “phased out.”<sup>49</sup> These antibiotics are dangerous because “[t]he antibiotics often are

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<https://www.npr.org/sections/health-shots/2020/04/01/824874977/underlying-health-disparities-could-mean-coronavirus-hits-some-communities-harder>.

<sup>43</sup> Gavin J. D. Smith, et al., *Origins and Evolutionary Genomics of the 2009 Swine-origin H1N1 Influenza of Epidemic*, 459 NATURE 1122 (2009); Bernice Wuethrich, *Chasing the Fickle Swine Flu*, 299 SCIENCE 1502 (2003).

<sup>44</sup> Sundar S. Shrestha et al., *Estimating the Burden of 2009 Pandemic Influenza of (H1N1) in the United States (April 2009–April 2010)*, 52 CLINICAL INFECTIOUS DISEASES S75–82 (2011).

<sup>45</sup> Aylin Woodward, *Both the new coronavirus and SARS outbreaks likely started in Chinese wet markets*, BUS. INSIDER (Feb. 26, 2020), <https://www.businessinsider.com/wuhan-coronavirus-chinese-wet-market-photos-2020-1> (discussing the potential for zoonotic diseases to jump from animals to humans).

<sup>46</sup> ANIMAL LEGAL DEFENSE FUND, COVID-19 AND ANIMALS: RETHINKING OUR RELATIONSHIP WITH ANIMALS TO REDUCE THE LIKELIHOOD OF THE NEXT GLOBAL PANDEMIC 9, (June 2020), <https://aldf.org/wp-content/uploads/2020/06/White-Paper-COVID-19-and-Animals.pdf> (“A variety of factors contributed to the development and spread of COVID-19 and aggravate humanity’s risk from further zoonotic diseases . . . . The common thread binding all risk factors, however, is our exploitation of both animals and the natural environment we share with them.”).

<sup>47</sup> Hribar, *supra* note 8, 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).

<sup>48</sup> Hribar, *supra* note 8, at 10; see Gilchrist et al., *supra* note 47, at 313 (noting that estimates suggest up to 87% of all antibiotic use in the United States is for livestock animals).

<sup>49</sup> CDC, *supra* note 47, at 11.

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.”<sup>50</sup> 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.<sup>51</sup>

### **3. CAFOs disproportionately harm communities of color and low-income communities.**

Environmental justice communities suffer disproportionately from both the environmental and the economic impacts of factory farms.<sup>52</sup> A study of the vertically integrated hog farm industry in North Carolina, for example, found that there were “18.9 times as many hog operations in the highest quintile of poverty as compared to the lowest,” and that such operations were “5 times as common in the highest three quintiles of the percentage nonwhite population as compared to the lowest.”<sup>53</sup> Individuals suffering adverse health impacts from CAFOs include not only members of local communities of color and low-income communities, but also CAFO workers themselves, of whom a large number are undocumented and/or people of color.<sup>54</sup> And as explained below, these realities are of particular concern with regard to the applicant’s location in Morrow County, Oregon.

### **4. CAFOs harm animals, including those who are members of endangered and threatened species.**

CAFOs harm farmed animals by subjecting them to extreme, high-density confinement. These conditions increase the confined animals’ susceptibility to injury, illness, and disease.<sup>55</sup> For example, chicken crowding causes footpad

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<sup>50</sup> Hribar, *supra* note 8, at 10.

<sup>51</sup> *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)).

<sup>52</sup> Steve Wing and Jill Johnson, *Industrial Hog Operations in North Carolina Disproportionately Impact African-Americans, Hispanics and American Indians*, UNIVERSITY OF NORTH CAROLINA (2014), <http://www.ncpolicywatch.com/wp-content/uploads/2014/09/UNC-Report.pdf>; Wing et al., *supra* note 13, at 225.

<sup>53</sup> Wing et al., *supra* note 13, at 225.

<sup>54</sup> *Factory Farm Workers*, FOOD EMPOWERMENT PROJECT, <https://foodispower.org/factory-farm-workers/> (last visited Sep. 19, 2020).

<sup>55</sup> THE CRITICAL RELATIONSHIP BETWEEN FARM ANIMAL HEALTH AND WELFARE 7 (2018), ANIMAL WELFARE INSTITUTE, <https://awionline.org/sites/default/files/uploads/documents/FA-AWI-Animal-Health-Welfare-Report-04022018.pdf>.



dermatitis, bruising, and other injuries.<sup>56</sup> Likewise, gestation crates, which are not even big enough for a pig to turn around in, cause pigs to experience musculoskeletal problems.<sup>57</sup> In addition, the animals generate massive amounts of waste, causing ammonia emissions to fill the warehouses in which the animals are confined, and causing the animals to suffer painful skin, lung, and eye damage.<sup>58</sup> These are only a small sampling of the ways in which CAFOs harm the animals they confine.

CAFOs also produce pollution and engage in land use practices that harm wildlife, including animals who are members of endangered and threatened species. For example, CAFOs harm aquatic biodiversity by degrading habitat, reducing species fertility, causing species mutation, increasing mortality, changing natural food resources, and generating expansion of nonnative species, often at the expense of native populations.<sup>59</sup> CAFOs harm terrestrial biodiversity by restricting genetic diversity, limiting or eliminating habitat (including forest, grassland, and wetland habitat),<sup>60</sup> “increas[ing] vulnerability to large-scale damage by pests,”<sup>61</sup> and introducing invasive species, including the farmed animals.<sup>62</sup> CAFO air emissions further harm terrestrial and aquatic biodiversity by harming wildlife health and population numbers, and by changing species migration patterns, altering vegetative growth rates, and causing species extinction through climate change.<sup>63</sup>

### C. Threemile Canyon Farms

The applicant is the largest dairy CAFO in the United States.<sup>64</sup> It is permitted to confine more than 90,000 cows on its 93,000-acre property—the same size land footprint as the City of Portland<sup>65</sup>—in Morrow County, Oregon.<sup>66</sup> The

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<sup>56</sup> *Id.*

<sup>57</sup> *Id.*

<sup>58</sup> *Id.*

<sup>59</sup> Pew Comm’n on Industrial Farm Animal Prod., *supra* note 14; U.N. Food and Agri. Org., *supra* note 14, at 196, 209, 273.

<sup>60</sup> U.N. Food and Agri. Org., *supra* note 14, at 187.

<sup>61</sup> Pew Comm’n on Industrial Farm Animal Prod., *supra* note 14, at 30.

<sup>62</sup> U.N. Food and Agri. Org., *supra* note 14, at 197.

<sup>63</sup> *Id.* at 187, 195–96.

<sup>64</sup> Bruce Shultz, *Dairy producers need pricing overhaul plan*, SYDNEY DAILY NEWS (Aug. 5, 2020), <https://www.sidneydailynews.com/news/agriculture/182277/dairy-producers-need-pricing-overhaul-plan>.

<sup>65</sup> Courtney Flatt, *Mega-Dairy Air Pollution Threat Puts Environmentalists On Alert*, OPB (Apr. 11, 2017), <https://www.opb.org/news/article/environmentalists-worry-mega-dairies-will-affect-air-quality/>.

<sup>66</sup> Shultz, *supra* note 64; *Homegrown Stories, The Story of One Oregon Mega-dairy is the Story of America’s Ag Epidemic*, HOMEGROWN STORIES,

applicant is a significant source of environmental degradation—especially fine particulate matter and air pollutants that fuel climate change, harm community health, and degrade the Columbia Gorge National Scenic Area.<sup>67</sup>

In a recently released report, the American Lung Association gave Umatilla County, Oregon, which lies just east and sometimes downwind of the applicant's property, an "F" grade for high ozone days.<sup>68</sup> Ammonia and nitrous oxides are two of the three major components of haze pollution that affect the Columbia River Gorge Scenic Area, and they also contribute to acid rain.<sup>69</sup> The Gorge has long suffered from the effects of persistent air pollution and poor visibility—monitoring studies have documented impaired visibility on 95% of days monitored.<sup>70</sup> The Oregon Department of Environmental Quality (ODEQ) has found that animal manure management, which includes land application, is "by far the most significant source of ammonia" that contributes to regional haze.<sup>71</sup> When operating with 50,000 cows in 2005, the applicant reported ammonia emissions that ranked among the highest of all reported industrial sources in the United States.<sup>72</sup> Today, the applicant is

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<https://www.homegrownstories.org/the-story-of-one-oregon-mega-dairy-is-the-story-of-americas-ag-epidemic> (last visited Sep. 19, 2020).

<sup>67</sup> See, e.g., C. Alan Rotz, *Modeling Greenhouse Gas Emissions from Dairy Farms*, 101 J. OF DAIRY SCI. 6675, 6675 (2018), <https://www.journalofdairyscience.org/action/showPdf?pii=S0022-0302%2817%2931069-X> ("Dairy farms have been identified as an important source of greenhouse gas emissions. Within the farm, important emissions include enteric CH<sub>4</sub> from the animals, CH<sub>4</sub> and N<sub>2</sub>O from manure in housing facilities during long-term storage and during field application, and N<sub>2</sub>O from nitrification and denitrification processes in the soil used to produce feed crops and pasture.").

<sup>68</sup> AMERICAN LUNG ASS'N, STATE OF THE AIR 2019, REPORT CARD: OREGON, <https://www.lung.org/our-initiatives/healthy-air/sota/city-rankings/states/oregon/>.

<sup>69</sup> OREGON DAIRY AIR QUALITY TASK FORCE, TECHNICAL SUPPORT DOCUMENT FOR DAIRY AIR QUALITY TASK FORCE REPORT; OREGON DAIRY AIR QUALITY TASK FORCE, FINAL REPORT TO THE DEPARTMENT OF ENVIRONMENTAL QUALITY AND DEPARTMENT OF AGRICULTURE 6–7 (2008).

<sup>70</sup> ROBERT BACHMAN, USDA FOREST SERVICE, A SUMMARY OF RECENT INFORMATION FROM SEVERAL SOURCES INDICATING SIGNIFICANT INCREASES IN NITROGEN IN THE FORM OF AMMONIA AND AMMONIUM NITRATE IN THE EASTERN COLUMBIA RIVER GORGE AND THE COLUMBIA BASIN 2 (June 24, 2005).

<sup>71</sup> OREGON DEP'T OF ENVTL QUALITY, OREGON REGIONAL HAZE PLAN: 5-YEAR PROGRESS REPORT AND UPDATE i, 21 (Feb. 2016).

<sup>72</sup> The applicant reported to EPA that its ammonia emissions totaled nearly 5.7 million pounds *each year*. Nat'l Ass'n of Clean Air Agencies, Comment on Proposed CERCLA/EPCRA Reporting Exemption 3, Docket ID No. EPA-HQ-SFUND-2007-0469 3 (Mar. 27, 2009), <http://www.4cleanair.org/Documents/>

permitted to have nearly twice that number of cows on its property—thus, it is likely that the applicant also produces nearly twice the amount of ammonia emissions.

In addition to air pollution, the applicant also contributes to the significant degradation of groundwater and surface water resources in the region.<sup>73</sup> As described in ODEQ’s 2012 Nitrate Report, thirteen of the fifteen groundwater wells on the applicant’s mega-dairy reflected nitrate concentrations over the 10mg/LMCL.<sup>74</sup> ODEQ confirmed more recently that the applicant continues to contribute to dangerous nitrate loading in the region.<sup>75</sup>

These environmental effects are not equitably distributed. Morrow County is disproportionately occupied by mega-dairies,<sup>76</sup> which is a manifestation of environmental injustice. Indeed, 37.7% of the population of Morrow County is Hispanic or Latinx, while the statewide population is only 12.4% Hispanic or Latinx, and the population of Multnomah County—home to the City of Portland—is only 12% Hispanic or Latinx.<sup>77</sup>

Despite these facts—and over the objections of the undersigned coalition<sup>78</sup>—ODEQ issued the applicant a Title V permit for its methane digesters and related gas treatment system to produce pipeline quality natural gas from its digester biogas.<sup>79</sup> The permit fails to protect the environment and community health from the applicant’s dangerous air emissions. Emissions from the applicant’s active mega-dairy operations remain entirely unregulated.<sup>80</sup>

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CAFOLetter32708.pdf (citing Letter from Tom Lindley on behalf of Threemile Canyon Farms to EPA Region X, April 18, 2005).

<sup>73</sup> See Food & Water Watch et al., *supra* note 34 (describing nitrate loading in the region due to the extreme number of mega-dairies, including the applicant’s).

<sup>74</sup> *Id.* at 19.

<sup>75</sup> *Id.* at 18 (citing Email from Phil Richerson, DEQ Nonpoint Source Hydrogeologist, to Don Butcher, DEQ (Feb. 14, 2017)).

<sup>76</sup> In addition to the applicant, Lost Valley Farms was also located in Morrow County until the state shut it down. Now, yet another mega-dairy—Easterday Farms Dairy—is attempting to take over the property formerly occupied by Lost Valley Farms.

<sup>77</sup> *QuickFacts*, UNITED STATES CENSUS BUREAU, <https://www.census.gov/quickfacts/morrowcountyoregon> (last visited Sept. 22, 2020).

<sup>78</sup> See Coalition Comments re: WOF PNW Threemile Project, LLC Proposed Oregon Title V Operating Permit (Apr. 25, 2019) (Attach. 2).

<sup>79</sup> See OREGON DEP’T OF ENVTL QUALITY, OREGON TITLE V OPERATING PERMIT NO. 25-0047-TV-01.

<sup>80</sup> Flatt, *supra* note 65.

The applicant’s methane digesters are one of the ways in which it attempts to “greenwash” the environmentally destructive practices inherent in its business model.<sup>81</sup> But methane digesters are ineffective, inefficient, and dirty energy sources, much like the fossil fuels the LCFS program seeks to displace. First, they do nothing to abate the applicant’s unregulated air emissions, including the enteric emissions that comprise approximately half of all dairy emissions.<sup>82</sup> Second, they do not capture all of the methane they produce, and some amount escapes as emissions.<sup>83</sup> Such “fugitive methane” cuts into the reductions in GHG emissions that digesters claim to offer.<sup>84</sup> Third, “when digesters burn methane, they release [other GHGs] like carbon dioxide and nitrogen oxide, which contribute[] to smog” and climate change.<sup>85</sup> Fourth, digesters do nothing to abate the applicant’s water pollution or other adverse environmental impacts. Fifth, “[d]igesters require significant energy to collect, pump and truck manure to and from the digester and to heat the manure once it is in the digester. As much as half of the energy produced from digesters may be needed to operate the digester itself.”<sup>86</sup> Finally, digesters have the potential to spill or leak manure—and they may even explode.<sup>87</sup>

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<sup>81</sup> Bruce Watson, *The troubling evolution of corporate greenwashing*, THE GUARDIAN (Aug. 20, 2016), <https://www.theguardian.com/sustainable-business/2016/aug/20/greenwashing-environmentalism-lies-companies> (explaining that the term “greenwashing” was coined by environmentalist Jay Westerveld in 1986 to describe how corporations “present themselves as caring environmental stewards, even as they [commit] environmentally unsustainable practices”).

<sup>82</sup> Research indicates that “enteric emissions are normally the largest source of greenhouse gas on a dairy farm. On well-managed confinement farms, they contribute about 45% of the total GHG emission of the full farm system. . . .” Rotz, *supra* note 67, at 6677.

<sup>83</sup> See FOOD AND WATER WATCH, *HARD TO DIGEST: GREENWASHING MANURE INTO RENEWABLE ENERGY 3* (Nov. 2016), [https://www.foodandwaterwatch.org/sites/default/files/ib\\_1611\\_manure-digesters-web.pdf](https://www.foodandwaterwatch.org/sites/default/files/ib_1611_manure-digesters-web.pdf).

<sup>84</sup> *Id.*

<sup>85</sup> *Id.*

<sup>86</sup> *Id.*

<sup>87</sup> *Id.* at 2 (“Just like manure lagoons without any methane capture system, digesters may accidentally spill or leak liquid manure and also present environmental risks from explosions associated with methane production. A 1.25 million gallon manure digester in Wisconsin, constructed in part with public funds, spilled 380,000 gallons of manure into nearby waterways in 2013, then another 22,000 gallons in 2014. The digester then experienced a major methane explosion.”).

### III. GRANTING THE APPLICATION—WHICH IS FATALLY FLAWED BECAUSE IT IS FACTUALLY INCOMPLETE AND METHODOLOGICALLY UNSOUND—WOULD UNDERMINE THE PURPOSE OF THE LCFS PROGRAM.

#### A. Important factual information is omitted, redacted, or labeled “confidential” in the application, rendering meaningful stakeholder review of its claims impossible.

Publicly posted application materials “must provide sufficient information to allow for meaningful stakeholder review.”<sup>88</sup> The application fails to conform to this requirement.

The applicant omits information that is necessary for stakeholders to perform a meaningful review of its claims. For example, the applicant fails to include information concerning the number of cows on the property, the number of cows whose manure the applicant is sending to the digesters, the total amount of manure generated on the property, the total amount of manure the applicant is sending to the digesters, GHG emissions from the cows, GHG emissions resulting from manure stored and applied on the property, GHG emissions resulting from operations to feed, water, and transport the cows, etc. Even the number of methane digesters and information related to volume is redacted, as depicted below.

## II. Project Description

### 1. General

Three Mile Farm, including the Columbia River Dairy (CRD) and Six Mile Dairy (SMD), are located in Boardman, Oregon and send manure from the dairy operations to onsite digesters for biogas production. Dairy manure is currently processed through [REDACTED] anaerobic digesters, with a combined volume of [REDACTED] gallons. A [REDACTED] will be brought online in Spring 2020, increasing total digesting volume to [REDACTED] gallons. All [REDACTED] digesters are enclosed and heated vessels. The anaerobic digesters provide an oxygen-free environment for microorganisms to break down the organics in the manure feedstock. Once broken down, the microorganisms produce biogas. When the feedstock has been fully processed by the anaerobic digester, the digester liquid waste stream is separated into fiber and liquid through a series of screens, screw presses, and conveyor belt feeders. The fiber is used as a soil amendment or as bedding for the dairy cows, and the liquid waste stream is used as fertilizer on their agricultural fields. The raw biogas is sent to a gas upgrading system which upgrades the incoming methane into pipeline quality renewable natural gas.

The carbon intensity analysis is similarly opaque. The applicant states that it used a modified version of the Tier 1 Simplified CI Calculator for Biomethane from Anaerobic Digestion of Dairy and Swine Manure. But this information is useless—

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<sup>88</sup> CAL. AIR. RES. BD., LOW CARBON FUEL STANDARD (LCFS) GUIDANCE 20-05 1 (Apr. 2020), [https://ww2.arb.ca.gov/sites/default/files/classic/fuels/lcfs/guidance/lcfsguidance\\_20-05\\_ADA.pdf](https://ww2.arb.ca.gov/sites/default/files/classic/fuels/lcfs/guidance/lcfsguidance_20-05_ADA.pdf).

the applicant admits that it departed from the standard inputs and parameters in its calculations but withholds information about exactly *how* it departed from them. Moreover, the application obscures the actual value of the inputs and parameters used, claiming that such information is confidential business information. Similarly, information in the carbon intensity analysis is almost entirely redacted, as depicted below.

Exhibit 4. Total Carbon Intensity (gCO<sub>2</sub>e/MJ) for Dairy Manure RNG Pathway

| Process Stage                   | Carbon Intensity<br>gCO <sub>2</sub> e/MJ |
|---------------------------------|---|
| Raw Biogas Production           | [REDACTED]                                |
| Biogas Upgrading                | [REDACTED]                                |
| Biomethane Transmission         | [REDACTED]                                |
| Compression to CNG              | 3.50                                      |
| Tailpipe - CNG                  | 60.73                                     |
| Methane Avoided Credit          | [REDACTED]                                |
| CO <sub>2</sub> Diverted Credit | [REDACTED]                                |
| Conservative Margin of Safety   | [REDACTED]                                |
| Certified CI                    | -188.78                                   |

Without these basic pieces of information, it is impossible for stakeholders—such as the undersigned coalition, or CARB if it similarly lacks access—to meaningfully review the claims in the application and evaluate the environmental impact of the project.

**B. The application fails to employ a methodologically sound life cycle analysis that accounts for the GHG emissions that result from the applicant’s production of biomethane.**

As previously discussed,<sup>89</sup> the bedrock of the LCFS program is “the principle that each fuel has ‘*life cycle*’ [GHG] emissions that include CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, and other GHG contributors.”<sup>90</sup> Contrary to this bedrock principle, the applicant’s methodology assumes the preexistence of the vast quantity of manure and GHG emissions that the applicant produces from its regular business of raising cows for milk and proceeds from that pseudo baseline. But in reality, the biomethane that the applicant produces begins with the cows, and a methodologically sound life cycle analysis would also begin with them.

The applicant is permitted to keep more than 90,000 cows on its property, and these cows produce the manure that the methane digesters convert to

<sup>89</sup> See *supra* section II.A.

<sup>90</sup> Cal. Air. Res. Bd., *supra* note 5 (emphasis added).

biomethane. The cows require enormous volumes of food, water, and transportation in order to be profitable to the applicant, but none of the significant emissions<sup>91</sup> associated with these activities are accounted for or even acknowledged in the application. Nor are the significant emissions that come directly from the bodies of the cows.<sup>92</sup> The GHG emissions from the cows and the CAFO as a whole—including methane released from manure, enteric emissions, and other dairy operations—are unregulated. These emissions must be calculated and applied to the lifecycle GHG analysis for this project.

The applicant's failure to employ a methodology that accounts for the life cycle of the biomethane it produces is a fatal flaw because, in its current state, the application disregards the bedrock principle of the LCFS program. But if the applicant revised the application such that it complied with this bedrock principle by accurately representing the *life cycle* GHG emissions that result from production of the applicant's biomethane, it would reveal that there is nothing sustainable, renewable, or "green" about mega-dairies or methane digesters. In other words, if the application were methodologically sound, it would become more obvious that the applicant undermines the purpose of the LCFS program, and that CARB should not allow the applicant to exploit and profit from the program.

**C. Granting the application would incentivize the applicant to expand, which would increase air pollution, accelerate climate change, further degrade water quality and quantity, and harm community health.**

The applicant uses methane digesters for one reason and one reason only: to increase its own profits. The applicant profits from the methane digesters by using them to greenwash its destructive business model and by using and selling the biomethane. The single biggest revenue stream available from the methane digesters, however, "come[s] from taking advantage of incentive structures like Oregon's Clean Fuels Program and California's Low Carbon Fuel Standard . . . ."<sup>93</sup>

By allowing the applicant to take what is really a costly liability to its business—vast quantities of manure—and turn it into yet another source of profit,

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<sup>91</sup> "Emissions occur during the production of electricity, fuel, fertilizer, purchased feed, and so on, and they must be included in the life cycle . . . ." Rotz, *supra* note 67, at 6684.

<sup>92</sup> Enteric emissions are the largest source of GHG emissions from dairies. *Id.* at 6677.

<sup>93</sup> Tracy Leow, *Manure is big business at Oregon's largest dairy with conversion to natural gas*, STATESMAN JOURNAL (Mar. 31, 2019), <https://www.statesmanjournal.com/story/tech/science/environment/2019/03/31/oregon-threemile-canyon-farms-dairy-natural-gas-manure/3247197002/>.

CARB would incentivize the applicant to continue expanding its operations and emitting ever-larger quantities of dangerous and climate change inducing GHG—*especially* methane. This stands in direct violation of the California Global Warming Solutions Act, which, as discussed above,<sup>94</sup> specifies that efforts to reduce GHG emissions should not compromise or conflict with efforts to reduce air pollution.<sup>95</sup>

Allowing the applicant to participate in the LCFS program would also encourage the applicant to continue expanding, which would worsen the applicant's other forms of environmental degradation and the associated community health impacts.

#### **IV. CONCLUSION**

The application should be rejected because it is fatally flawed, both factually and methodologically, and because there is no place for CAFOs like Threemile Canyon Farms in the LCFS program. The program exists to address climate change and pollution—not prop up the businesses responsible for causing climate change and pollution in the first place.

Sincerely,

**STAND UP TO FACTORY FARMS**

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<sup>94</sup> See *supra* section II.A.

<sup>95</sup> See Cal. Health & Safety Code § 38570(b).



*Attach. 1*

**BEFORE THE  
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

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Petition for Emergency Action Pursuant to )  
the Safe Drinking Water Act § 1431, 42 )  
U.S.C. § 300i, to Protect Citizens of the )  
Lower Umatilla Basin in Oregon from )  
Imminent and Substantial Endangerment to )  
Public Health Caused by Nitrate )  
Contamination of Public Water Systems and )  
Underground Sources of Drinking Water )

EPA Docket No. \_\_\_\_\_  
January 16, 2020

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**Submitted on Behalf of Petitioners Food & Water Watch, Columbia Riverkeeper, Eileen Laramore, Friends of Family Farmers, Humane Voters Oregon, WaterWatch of Oregon, Animal Legal Defense Fund, Center for Biological Diversity, and Center for Food Safety**

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To: Administrator Andrew R. Wheeler  
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Administrator Chris Hladick  
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## I. INTRODUCTION

The undersigned Petitioners respectfully petition the United States Environmental Protection Agency (“EPA”) to exercise its emergency powers established in Section 1431 of the Safe Drinking Water Act (“SDWA” or “the Act”), 42 U.S.C. § 300i, to address groundwater contamination that has presented, and continues to present at ever-increasing levels, an imminent and substantial endangerment to the health of the residents of the Lower Umatilla Basin (“LUB”) in Oregon. This petition is based primarily on data that have been compiled by the Oregon Department of Environmental Quality (“DEQ”), the Oregon Health Authority (“OHA”), Oregon Department of Agriculture (“ODA”), Umatilla and Morrow County Soil and Water Conservation Districts, and the Lower Umatilla Basin Ground Water Management Area Committee (“LUBGWMA Committee”), all of which demonstrate that nitrate concentrations in public water systems and underground sources of drinking water have routinely exceeded both federal and state drinking water standards, putting the health of area residents at serious risk. Every methodology employed by Oregon officials confirms that not only have past, voluntary measures relied on by the State been unsuccessful at reducing nitrate concentrations in crucial drinking water sources to below federal and state standards, but also that the unambiguous and unabated trend is towards ever greater levels of nitrate contamination. Instead of changing tack based on these findings and mandating actions necessary to improve water quality, Oregon officials recently doubled down on their voluntary-only approach, as outlined in the now-operative Second Lower Umatilla Basin Groundwater Management Area Local Action Plan (“Second Action Plan”).<sup>1</sup>

As explained in this Petition, the well-documented nitrate contamination of eastern Oregon’s LUB drinking water necessitates prompt and decisive EPA emergency action under the SDWA. Elevated levels of nitrate in drinking water is known to increase the risk of a wide range of very serious health problems, including birth defects, “blue-baby syndrome,” various cancers, thyroid disease, and other maladies.<sup>2</sup> This contamination poses an imminent and substantial threat to human health, and the problem is only getting worse. Despite Oregon applying for and being granted “primacy” under the SDWA, state and local officials have failed to do what is needed to remediate this contamination and instead have allowed nitrate concentrations in the area’s drinking water to rise over the span of three decades. Oregon officials have effectively abandoned their responsibility to protect Oregon’s citizens by merely repackaging their failed voluntary-only approach, which continues to put control in the hands of the very polluters that have turned a once pristine source of drinking water into a pervasive threat to human health. EPA is fully empowered under the SDWA to take emergency action to protect human health in the LUB given present circumstances.

Therefore, Petitioners request that EPA act to protect human health and effectuate the goals of the SDWA in the LUB. Specifically, Petitioners request that EPA, at a minimum, provide a safe alternative source of drinking water for the impacted communities so long as dangerous nitrate contamination persists, further monitor drinking water quality and identify the

<sup>1</sup> Lower Umatilla Basin Groundwater Management Committee, *Second Lower Umatilla Basin Groundwater Management Area Local Action Plan* (updated Feb. 12, 2019) (hereinafter “Second Action Plan, App A”) (included here as Appendix A).

<sup>2</sup> See *infra* Section IV.D.1.

specific entities and land use practices causing the contamination, and issue orders necessary to begin reducing nitrate loadings and eventually return the area's underground aquifers to a safe and drinkable condition.

## **II. INTERESTS OF PETITIONERS**

Food & Water Watch (“FWW”) is a national, nonprofit membership organization that mobilizes regular people to build political power to move bold and uncompromised solutions to the most pressing food, water, and climate problems of our time. FWW uses grassroots organizing, media outreach, public education, research, policy analysis, and litigation to protect people's health, communities, and democracy from the growing destructive power of the most powerful economic interests.

Columbia Riverkeeper's (“Riverkeeper”) mission is to protect and restore the water quality of the Columbia River and all life connected to it, from the headwaters to the Pacific Ocean. Riverkeeper works with people in dozens of communities—rural and urban—with the same goals: protecting the health of their families and the places they love. Riverkeeper enforces environmental laws to stop illegal pollution, protect salmon habitat, and challenge harmful fossil fuel terminals. Riverkeeper uses policy advocacy, litigation, and community organizing, partnering with Columbia River communities to protect clean water.

Eileen Laramore in her individual capacity. Ms. Laramore is a resident of Umatilla County who has a long history of engagement in the area. Her activities in Umatilla County include: founder and Executive Director of Friends of the Oxbow Property, Umatilla County, which works on a 222-acre restoration site on the Umatilla River near Hermiston, Oregon; founder and Executive Director of Tour of Knowledge, a grassroots citizen group that toured area facilities and sites that affected regional natural resources (disbanded in 2017); Master Gardner in Marion and Umatilla counties; and member of Friends of the Columbia River Gorge. Ms. Laramore also has an extensive history of civic service in the area that includes being Public Representative on the Umatilla Basin Critical Groundwater Area Task Force; Co-Chair of the Rural, Residual and Open Spaces Committee for the Lower Umatilla Basin Groundwater Management Area; Board Member on the Umatilla County Invasive Weed Committee (represented Hermiston, Oregon); and an attendee of Oregon Hanford Cleanup board meetings for two years.

Friends of Family Farmers (“FoFF”) is a grassroots, nonprofit organization based in Oregon with more than 8000 supporters from across the state. FoFF brings together farmers and citizens to shape and support socially and environmentally responsible family-scale agriculture in Oregon. We build a strong and united voice for Oregon's independent family farmers, food advocates, and concerned citizens who are working to foster an approach to agriculture that respects the land, treats animals humanely, and sustains local communities. It is our belief that every person — urban and agrarian, farmer and eater — has the ability to make choices that can help regenerate our food system.

Humane Voters Oregon (“HVO”) is an Oregon non-profit organization advocating in Oregon's political process and elections for improved animal welfare. HVO also participates in

selected administrative and legal proceedings, and promote policies, that improve human health and the environment while also improving animal welfare.

WaterWatch of Oregon protects and restores natural flows in Oregon rivers and advocates for wise and equitable management of all Oregon water resources, including groundwater.

The Animal Legal Defense Fund is a national nonprofit organization founded in 1979 in Cotati, California. ALDF's mission is to protect the lives and advance the interests of animals through the legal system. Advocating for effective oversight and regulation of CAFO development, expansion, and pollution across the United States is one of ALDF's central goals, which it achieves by filing lawsuits, administrative comments, and rulemaking petitions to increase legal protections for animals and communities affected by CAFOs. ALDF conducts this work on behalf of itself and more than 235,000 members and supporters throughout the United States, including over 50 in Eastern Oregon. Through these efforts, ALDF seeks to ensure transparency in the CAFO system, which is paramount to its ability to protect farmed animals and ALDF members from CAFOs' immensely harmful effects.

The Center for Biological Diversity ("the Center") is a non-profit, public interest environmental organization with more than 1.6 million members and online activists that is dedicated to the protection of native species and their habitats through science, policy, and environmental law. For decades the Center has worked to protect imperiled plants and wildlife, open spaces, and air and water quality, as well as to preserve the overall quality of life for people and animals. The Center and its members and supporters are concerned about the fate of imperiled species, including water-dependent species and their habitats, and alarmed by the increasing rate of extinction and loss of biological diversity across the United States.

Center for Food Safety ("CFS") is a national non-profit organization with a mission to empower people, support farmers, and protect the environment from industrial agriculture. CFS represents nearly 1 million members and supporters nationwide and tens of thousands in the Pacific Northwest, including Oregon. CFS uses education, policy and legislation, and impact litigation to address the negative effects to public health and the environment from harmful food production technologies, and supports ecological food production, like organic and beyond. CFS's regional program in the Pacific Northwest and Oregon specifically focuses on the negative impacts to community health, farmers, and wildlife from animal factories.

### **III. LEGAL BACKGROUND OF THE SAFE DRINKING WATER ACT AND EPA'S EMERGENCY POWERS**

Congress enacted the SDWA as a powerful tool for protecting drinking water resources throughout the United States. Under the Act, EPA and state authorities are encouraged to work together to ensure access to safe drinking water. On the federal level, the SDWA "requires EPA to protect the public from . . . drinking water contaminants."<sup>3</sup> States may apply for and EPA may grant "primacy" to states, which shifts significant authority and responsibility to state officials to

<sup>3</sup> *City of Portland v. EPA*, 507 F.3d 706, 709 (D.C. Cir. 2007).

implement the SDWA.<sup>4</sup> To assume primacy, the state is supposed to adopt regulations at least as stringent as EPA's national requirements, develop adequate procedures for enforcement and levying penalties, conduct inventories of water systems, maintain records and compliance data, and develop a plan for providing safe drinking water under emergency conditions.<sup>5</sup> While a state granted primacy has responsibility to implement the SDWA's provisions in that state, EPA retains emergency powers under Section 1431 of the Act to take actions necessary to abate imminent and substantial endangerment to the health of persons caused by drinking water contamination when state officials have failed to effectively do so on their own.

For EPA to exercise its Section 1431 authority, two conditions must be met. First, the EPA must have received "information that a contaminant which is present in or likely to enter a public water system or an underground source of drinking water, ... may present an imminent and substantial endangerment to the health of persons."<sup>6</sup> Second, EPA must have received information that "appropriate State and local authorities have not acted to protect the health of such persons" in a timely and effective manner.<sup>7</sup>

The SDWA defines a contaminant as "any physical, chemical, biological, or radiological substance or matter in water."<sup>8</sup> While this broad definition does not require a substance to be regulated under the Act in order to be classified as a "contaminant," nitrate is listed as a contaminant with an established maximum contaminate level ("MCL") of 10 mg/L.<sup>9</sup> Establishing nationwide, health-based MCLs is central to EPA's role in protecting drinking water in the U.S. under the SDWA.<sup>10</sup> An MCL is the "maximum permissible level of a contaminant in water which is delivered to any user of a public water system."<sup>11</sup> MCLs are promulgated after a determination by EPA based on the best available, peer-reviewed science and data that regulating the contaminant will reduce a threat to public health.<sup>12</sup>

An endangerment from a contaminant is "imminent" if conditions that give rise to it are present, even if the actual harm may not be realized for years.<sup>13</sup> Congress intended that EPA's exercise of its emergency powers "must occur early enough to prevent the potential hazard from

<sup>4</sup> 42 U.S.C. § 300g-2.

<sup>5</sup> MARY TIEMANN, CONG. RESEARCH SERV., RL31243, SAFE DRINKING WATER ACT (SDWA): A SUMMARY OF THE ACT AND ITS MAJOR REQUIREMENTS 7 (Mar. 1, 2017).

<sup>6</sup> 42 U.S.C. § 300i; EPA Memorandum, Updated Guidance on Emergency Authority under Section 1431 of the Safe Drinking Water Act 8 (May 30, 2018), <https://www.epa.gov/sites/production/files/2018-09/documents/updatedguidanceonemergencyauthorityundersection1431sdwa.pdf> (last visited Nov. 4, 2019) (hereinafter "Emergency Authority Guidance, App. B") (included here as Appendix B).

<sup>7</sup> 42 U.S.C. § 300i; Emergency Authority Guidance, App. B at 12-13.

<sup>8</sup> 42 U.S.C. § 300f(6).

<sup>9</sup> 40 C.F.R. § 141.62(b).

<sup>10</sup> 42 U.S.C. § 300g-1(b)(4)(B). Before establishing an MCL, EPA first identifies a "maximum contaminant level goal" (MCLG) indicating the level at which no known adverse health consequences will occur. *Id.* § 300g-1(b)(4)(A). The MCL is then set as close to the MCLG as is feasible when using "the best technology, treatment techniques and other means which the Administrator finds . . . are available (taking cost into consideration)." *Id.* § 300g-1(b)(4)(D).

<sup>11</sup> *Id.* § 300f(3).

<sup>12</sup> *Id.* § 300g-1(b)(1)(A), 300g-1(b)(3)(A).

<sup>13</sup> SDWA Emergency Authority Guidance, App. B at 8 (citing *U.S. v. Conservation Chemical Co.*, 619 F. Supp. 162, 193-194 (W.D. Mo. 1985)).

materializing.”<sup>14</sup> Courts have established that an “imminent hazard” may be declared at any point in a chain of events that may ultimately result in harm to the public.<sup>15</sup> Information presented to EPA need not demonstrate that residents are actually drinking contaminated water and becoming ill to warrant EPA exercising its Section 1431 emergency authority.<sup>16</sup> In other words, an actual injury need not have occurred for EPA to act, and to wait for such actual injury to befall the public would be counter to the protectionary intent behind the SDWA. Thus, while the threat or risk of harm must be “imminent” for EPA to act, actual and documented harm itself need not be.<sup>17</sup> While endangerments are readily determined to be imminent where MCL violations expose sensitive populations to a contaminant, contaminants that lead to chronic health effects may also be considered to cause “imminent endangerment.”<sup>18</sup> In such cases, it is appropriate to consider the length of time a population has been or could be exposed to a contaminant.<sup>19</sup>

An endangerment is “substantial” “if there is a reasonable cause for concern that someone may be exposed to a risk of harm.”<sup>20</sup> Congress determined that an endangerment may be regarded as sufficiently substantial where there is “a substantial likelihood that contaminants capable of causing adverse health effects will be ingested by consumers if preventative action is not taken.”<sup>21</sup> As with imminence, EPA has made clear that actual reports of human illness resulting from contaminated drinking water are not necessary to establish substantial endangerment.<sup>22</sup>

EPA granted Oregon primacy under the SDWA in 2009, and Oregon has promulgated a framework similar to EPA’s MCLs as well as threshold triggers pursuant to the Oregon Groundwater Protection Act of 1989.<sup>23</sup> These triggers, when met or exceeded at least partly because of nonpoint source activities, require the state to investigate and declare a “groundwater management area” (“GWMA”) to address the contamination.<sup>24</sup> For most contaminants, Oregon law sets the trigger level at 50% of the national MCL, but for nitrate contamination it established a less protective 70% threshold.<sup>25</sup> Therefore, when nitrate levels meet or exceed 7 mg/L (70% of the 10 mg/L MCL), Oregon officials are required to establish a GWMA.

Because water quality testing has consistently found concentrations of nitrates in excess of the state trigger level, Oregon officials designated the Lower Umatilla Basin Groundwater Management Area (“LUBGWMA”) in 1990.<sup>26</sup> The LUBGWMA “was established to allow for the identification and implementation of practices that will reduce nitrate loading and ultimately

<sup>14</sup> H. Rpt. 93-1185, pp. 35-36 (1974).

<sup>15</sup> SDWA Emergency Authority Guidance, App. B at 8 n.15 (citing cases).

<sup>16</sup> See *Trinity Am. Corp. v. EPA*, 150 F.3d 389, 399 (4th Cir. 1998).

<sup>17</sup> Emergency Authority Guidance, App. B at 8.

<sup>18</sup> SDWA Emergency Authority Guidance, App. B at 8.

<sup>19</sup> *Id.*

<sup>20</sup> See SDWA Emergency Authority Guidance, App. B at 11.

<sup>21</sup> H. Rpt. 93-1185, p. 36 (1974).

<sup>22</sup> See SDWA Emergency Authority Guidance, App. B 11 (citing *United States v. North Adams*, 777 F. Supp. 61, 84 (D. Mass. 1991)).

<sup>23</sup> DEQ, *SDWA Regulatory Overview*, <https://www.oregon.gov/deq/wq/programs/Pages/DWP-Regulatory-Overview.aspx> (last visited Nov. 4, 2019).

<sup>24</sup> Second Action Plan, App. A at 2.

<sup>25</sup> ORS 468B.180.

<sup>26</sup> LUBGWMA Committee, <https://lubgwma.org/> (last visited Nov. 4, 2019).



reduce groundwater nitrate concentrations below 7 mg/L.”<sup>27</sup> The designation has remained in effect ever since because the state has been unable to reduce nitrate contamination to within safe levels.

Oregon also established the LUBGWMA Committee to accomplish the task of bringing the area’s drinking water back below the 7 mg/L trigger level. The Committee is an official body comprising local residents and government officials that represent certain interests within the basin,<sup>28</sup> and is responsible for implementation of Action Plans intended to achieve various goals that, if met, should bring water quality within target nitrate concentrations. DEQ designated the Morrow and Umatilla County Soil and Water Conservation Districts to lead development of the First Action Plan, and then the Morrow County Soil and Water Conservation District to develop the Second Action Plan.<sup>29</sup> The First Action Plan was finalized in 1997, and dictated LUBGWMA efforts for more than twenty years. The Second Action Plan, which Morrow County and DEQ finalized in early 2019, is now the operative Action Plan for the LUBGWMA.<sup>30</sup>

Yet, even where, as in Oregon, EPA has granted a state primacy, it retains permanent emergency powers to abate present or likely contamination of public water systems (“PWSs”) or underground sources of drinking water (“USDWs”) when such contamination poses an imminent and substantial threat to human health and the state “ha[s] not acted to protect the health of [endangered] persons.”<sup>31</sup>

EPA’s Section 1431 authority extends to contaminated PWSs or USDWs that pose a threat to human health,<sup>32</sup> including sources that supply private wells.<sup>33</sup> EPA defines a USDW as an aquifer or part of an aquifer “(1) [w]hich supplies any public water systems; or (2) which contains a sufficient quantity of ground water to supply a public water system; and (i) currently supplies drinking water for human consumption.”<sup>34</sup> A PWS is one that provides water for human consumption and “has at least fifteen service connections or regularly serves at least twenty-five individuals.”<sup>35</sup>

Groundwater supplies almost all of the drinking water in the LUBGWMA, where numerous private wells and 59 public water systems serve tens of thousands of residents.<sup>36</sup> Therefore, these underground aquifers qualify as USDWs, and both the USDWs and PWSs in the area are within the purview of the SDWA.

<sup>27</sup> *Id.*

<sup>28</sup> *Id.*

<sup>29</sup> Second Action Plan, App. A at 6.

<sup>30</sup> LUBGWMA Committee, Action Plans and Annual Reports, <https://lubgwma.org/draft-action-plan/> (last visited Nov. 4, 2019).

<sup>31</sup> 42 U.S.C. § 300i(a).

<sup>32</sup> 42 U.S.C. § 300i.

<sup>33</sup> Emergency Authority Guidance, App. B at 7-8.

<sup>34</sup> 40 C.F.R. § 144.3.

<sup>35</sup> 42 U.S.C. § 300f(4)(A).

<sup>36</sup> See DEQ Water Quality Division, Analysis of Groundwater Nitrate Concentrations in the Lower Umatilla Basin Groundwater Management Area 44 (Feb. 23 2012) (hereinafter “2012 Nitrate Report, App. C”) (included here as Appendix C) (noting that 58 of the 59 active public water systems rely on groundwater, and that the City of Hermiston is almost entirely supplied by groundwater but for one food processing operation that uses surface water).

To abate endangerment to human health that arises despite a state's efforts to curtail it, Congress authorized EPA, among other things, to issue "such orders as may be necessary to protect the health of persons who are or may be users of" the affected drinking water supplies and to commence civil enforcement actions against entities causing threats to public health by contaminating drinking water supplies.<sup>37</sup>

#### **IV. DRINKING WATER CONTAMINATION IN THE LUBGWMA CONSTITUTES AN ENDANGERMENT UNDER THE SDWA AND NECESSITATES EMERGENCY ACTION BY EPA**

Widespread nitrate contamination of critical drinking water resources in the LUBGWMA is ongoing and is found at increasing concentrations with each new round of water quality testing. The region's hydrogeology, paired with pervasive nitrogen-intensive land use practices, has created a dangerous situation where tens of thousands of people are using and depending on drinking water that may be dangerously polluted. The cause of the ongoing endangerment is no mystery; Oregon officials know that large-scale animal agriculture and nutrient management practices in the LUBGWMA are primarily to blame for the region's nitrate problem.

EPA emergency action is necessary in the LUBGWMA because nitrate levels in the area's drinking water pose an imminent and substantial risk to human health, which Oregon officials have been unable or unwilling to remedy almost 30 years after becoming aware of the contamination.<sup>38</sup> Dangerous levels of nitrate pollution are present and are likely to increase in PWSs and USDWs absent emergency action by EPA. Congress enacted, and later strengthened, the SDWA so that EPA could protect public health in just these types of situations.<sup>39</sup> While state and local authorities have attempted to address nitrogen pollution through outreach, public education, and voluntary measures, the area's continually rising levels of contamination pose an increasing risk to public health, demonstrating that these actions are insufficient. Furthermore, Oregon's officials are in the process of permitting yet another massive concentrated animal feeding operation ("CAFO") in the LUBGWMA. This facility is likely to exacerbate the current public health crisis by introducing even more nitrogen pollution into the area.<sup>40</sup> Therefore, EPA action is appropriate and necessary.<sup>41</sup>

<sup>37</sup> Emergency Authority Guidance, App. B at Attachment 2.

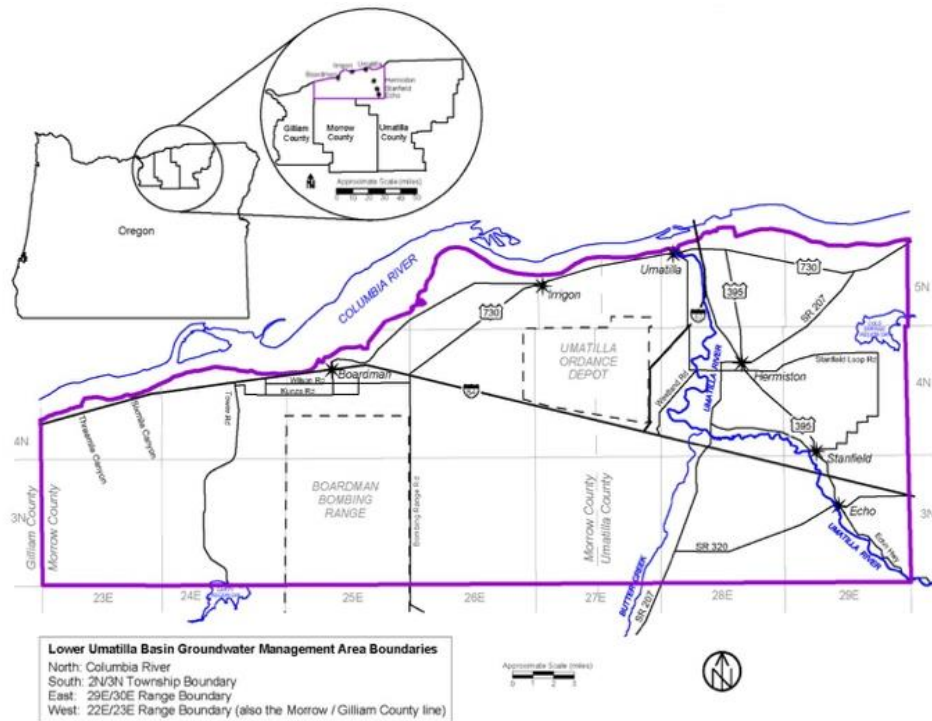
<sup>38</sup> See, e.g., Second Action Plan, App. A at 26, 30, 33, 34, 36 (acknowledging that nitrate levels are generally on the rise and that the state has not met the First Action Plan's goals of reducing nitrate levels to within the standards required by EPA and Oregon law to protect human health).

<sup>39</sup> See 42 U.S.C. § 300i; P.L. 99-339, 100 Stat. 642 (extending EPA's emergency authority to cover contamination of USDW as well as PWS, and adding to the actions EPA can take to remedy imminent and substantial endangerments).

<sup>40</sup> See *infra* pp. 13, 16-17.

<sup>41</sup> See *Cnty. Ass'n for Restoration of the Env't v. George & Margaret LLC*, 954 F.Supp. 2d 1151, 1154 ("EPA Administrator may 'take action necessary to protect the public's health from an imminent and substantial endangerment created by contaminants in a public water system or an underground source of drinking water'" (quoting *W.R. Grace & Co. v. EPA*, 261 F.3d 330, 338-39 (3d Cir. 2001))).

**Fig. 1, Location and Boundaries of the LUBGWMA**



**A. The LUBGWMA’s Hydrogeology Makes the Area’s Drinking Water Particularly Vulnerable to Nitrate Pollution**

The widespread groundwater contamination in the LUBGWMA can be attributed in part to the hydrogeology of the region, which is particularly susceptible to nitrate pollution. The principal aquifers of the LUBGWMA occur in alluvial sands and gravels, which overlie a sequence of basalt lavas collectively known as the Columbia River Basalt Group.<sup>42</sup> The alluvial aquifer and two or three upper basalt aquifers are the principal sources of domestic and municipal drinking water in the basin.<sup>43</sup> Above these shallow aquifers lie porous, sandy soils, which are subject to high rates of permeability when exposed to moisture. While the region receives relatively low amounts of rainfall (only 8 to 10 inches annually), widespread irrigation of agricultural lands brings large volumes of water to these permeable soils, allowing contaminants to reach groundwater in a matter of months.<sup>44</sup> These conditions create a significant risk of nitrate leaching into and contaminating groundwater; 88% of the area has high or moderately high nitrate leaching potential under irrigated conditions.<sup>45</sup>

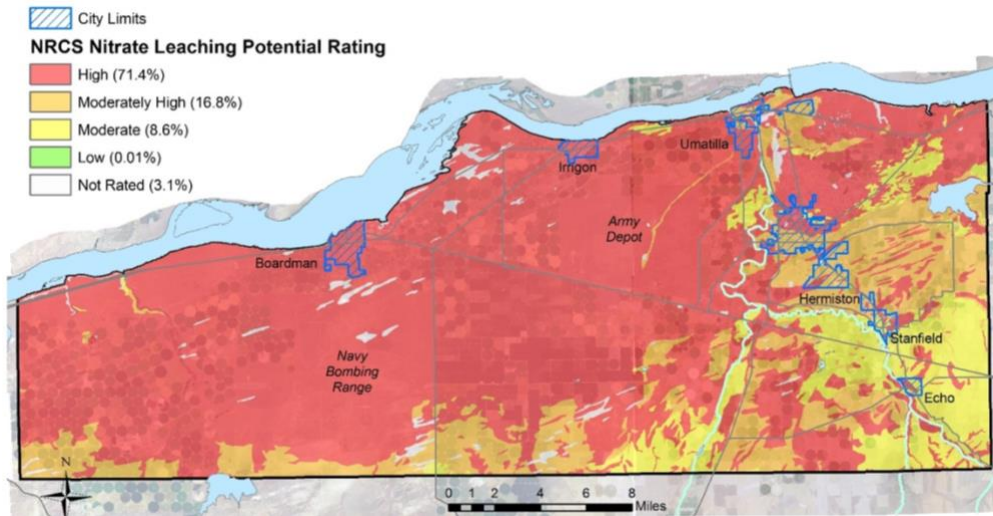
<sup>42</sup> Gerald H. Grondin et al., Hydrogeology, Groundwater Chemistry and Land Uses in the Lower Umatilla Basin Groundwater Management Area 1-9 (hereinafter “1995 Hydrogeology Report, App. D”) (included here as Appendix D).

<sup>43</sup> *Id.*

<sup>44</sup> *Id.* at ES-2-3.

<sup>45</sup> Second Action Plan, App. A at 11.

**Fig. 2, Nitrate Leaching Potential in LUBGWMA<sup>46</sup>**



As noted by Oregon DEQ, these stark figures “highlight[] the vulnerability of the shallow aquifer to contamination.”<sup>47</sup> Once present in groundwater, nitrate can remain and accumulate in the aquifers for decades before eventually discharging into the Columbia River.<sup>48</sup>

Pairing this vulnerability with nitrogen-intensive land use practices is an obvious recipe for disaster, and Oregon officials have consistently failed to take the situation seriously enough to remedy the ongoing and increasing threat to area residents.

### **B. The LUBGWMA Has a Well-Documented History of Nitrate Contamination in Its Groundwater**

The LUBGWMA has an extensive and well-documented history of nitrate contamination in its groundwater aquifers, which are the sole source of drinking water for much of the area’s population of approximately 46,000 individuals.<sup>49</sup> Spanning 550 square miles of northern Umatilla and Morrow Counties, the region has been plagued with high nitrate concentrations dating back to at least the mid-1980s, when groundwater sampling first revealed the problem.<sup>50</sup> In response, DEQ designated the LUBGWMA in 1990 with the intention that it would address nitrate contamination and mitigate nitrogen pollution so that groundwater concentrations would fall below the 7 mg/L state trigger level.<sup>51</sup> Unfortunately, the designation has not resulted in improved water quality as intended; to the contrary, dangerous levels of nitrates in drinking water persist, and are in fact increasing, in the LUBGWMA.

<sup>46</sup> *Id.*

<sup>47</sup> *Id.*

<sup>48</sup> 1995 Hydrogeology Report, App. D at ES-2.

<sup>49</sup> See 2012 Nitrate Report, App. C at Table 6-1; Second Action Plan, App. A at 8 (providing population estimates).

<sup>50</sup> 1995 Hydrogeology Report, App. D at ES-1 & 6.

<sup>51</sup> Second Action Plan, App. A at 1.

Testing conducted in the 1990s found nearly a third (30%) of groundwater samples from monitoring wells exceeded the state trigger level.<sup>52</sup> Samples from areas dominated by CAFOs and agricultural fields where CAFO waste is land applied were showing nitrate levels that reached and exceeded 70 mg/L<sup>53</sup> – seven times the 10 mg/L MCL for nitrate.<sup>54</sup> A 1996 study showed that 23% of the surveyed population were drinking private well water with nitrate concentrations over the 10 mg/L MCL.<sup>55</sup> Of the households with nitrate levels over the MCL, 72% were not taking measures to effectively remove the nitrates before human consumption.<sup>56</sup>

More recent figures suggest that the problem has only worsened. The 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.<sup>57</sup> 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.<sup>58</sup>

In fact, DEQ found that some of the largest water systems in the LUBGWMA are not just susceptible to contamination, but already face substantial nitrate risks. In 2011, DEQ conducted a survey considering the factors influencing nitrate risks at the area’s PWSs, and examined the extent to which these systems were compromised. The report focused solely on Community and Non-Transient, Non-Community systems,<sup>59</sup> and found that at least ten LUBGWMA systems had substantial nitrate problems or risks.<sup>60</sup> The at-risk systems included Boardman, Hermiston, and Irrigon, three of the five municipal water systems within the region. In total, the known substantial risk systems serve approximately 25,023 LUBGWMA residents (58% of all residents served by public water systems in the LUBGWMA).<sup>61</sup>

<sup>52</sup> 1995 Hydrogeology Report, App. D at ES-1 & 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.

<sup>53</sup> *Id.* at ES 6-7.

<sup>54</sup> 40 C.F.R. § 141.11(d).

<sup>55</sup> Thomas J. Mitchell & Anna K. Harding, *Who Is Drinking Nitrate in Their Well Water? A Study Conducted in Rural Northeastern Oregon*, J. ENVTL. HEALTH 14, 14 (Oct. 1996) (included here as Appendix E).

<sup>56</sup> *Id.* at 18.

<sup>57</sup> Section Action Plan, App. A at 33-34. The sampling data included 17 alluvial aquifer public supply wells, 56 private domestic water supply wells, 10 irrigation wells, 171 monitoring wells, and 1 stock well. *Id.* at 34.

<sup>58</sup> *Id.* at 73.

<sup>59</sup> “Community Water Systems” are ones “that supply water to the same population year-round,” and “non-transient non-community water systems” are ones “that regularly suppl[y] water to at least 25 of the same people at least six months per year[, such as] schools, factories, office buildings, and hospitals.” EPA, *Information about Public Water Systems*, <https://www.epa.gov/dwreginfo/information-about-public-water-systems> (last visited Nov. 13, 2019).

<sup>60</sup> DEQ, *Factors Influencing Nitrate Risks at Oregon Public Water Systems 6-7* (updated Jan. 1, 2012) (hereinafter “Factors Influencing Nitrate Risk Report, App. F”) (included here as Appendix F). DEQ defined “substantial” as either having a nitrate-N measurement at or above 10 mg/L or by having the 90<sup>th</sup> percentile of the nitrate-N measurements greater than 5 mg/L. *Id.* at 6.

<sup>61</sup> *Id.* at 6-7.

**Table 1, C & NTNC Public Water Systems at “Substantial Nitrate Risk”<sup>62</sup>**

| <b>PWS Name</b>              | <b>Population</b> | <b>System Type</b> | <b>Location</b>     | <b>County</b> |
|------------------------------|-------------------|--------------------|---------------------|---------------|
| Boardman, City of            | 3500              | C                  | Boardman, OR 97818  | Morrow        |
| Country Garden Estates MHP   | 175               | C                  | Irrigon, OR 97844   | Morrow        |
| Hat Rock Mobile Court        | 60                | C                  | Hermiston, OR 97838 | Umatilla      |
| Hat Rock Water Company       | 96                | C                  | Hermiston, OR 97838 | Umatilla      |
| Hermiston, City of           | 17107             | C                  | Hermiston, OR 97838 | Umatilla      |
| Irrigon, City of             | 1885              | C                  | Irrigon, OR 97844   | Morrow        |
| North Hill Water Corporation | 100               | C                  | Hermiston, OR 97838 | Umatilla      |
| Port of Morrow               | 1350              | NTNC               | Boardman, OR 97818  | Morrow        |
| River Point Farms LLC        | 250               | NTNC               | Hermiston, OR 97838 | Umatilla      |
| Conagra Lamb Weston          | 500               | NTNC               | Hermiston, OR 97838 | Umatilla      |

Indeed, actual PWS contamination has already occurred and been documented. Since declaration of the LUBGWMA, many of the area’s PWSs have exceeded the 10 mg/L MCL or the 7 mg/L trigger level at least once—and in most cases, have done so repeatedly.

**Table 2, LUBGWMA PWS Exceedances from 2002 to 2019<sup>63</sup>**

| <b>PWS Name</b> | <b>Population Served</b> | <b>System Type</b> | <b>Highest Recorded Nitrate Level</b> | <b>Contamination Frequency</b> | <b>County</b> |
|-----------------|--------------------------|--------------------|---------------------------------------|--------------------------------|---------------|
| Alive and Well  | 50                       | NC                 | 10.2 mg/L                             | 1 sample > MCL                 | Umatilla      |

<sup>62</sup> *Id.* (list derived from those systems listed at page 7, after removing systems located outside the LUBGWMA). Updated population numbers gathered at: Oregon Health Authority, *Inventory List for Oregon Drinking Water Systems*, <https://yourwater.oregon.gov/inventorylist.php> (last accessed Oct. 20, 2019) (providing updated population numbers for the following PWS, searching by PWS name: Boardman, Hermiston, North Hill Water Corp, Irrigon, County Garden Estates MHP, Hat Rock Water Co., Port of Morrow, Hat Rock Mobile Court, Lamb Weston, and River Point Farms).

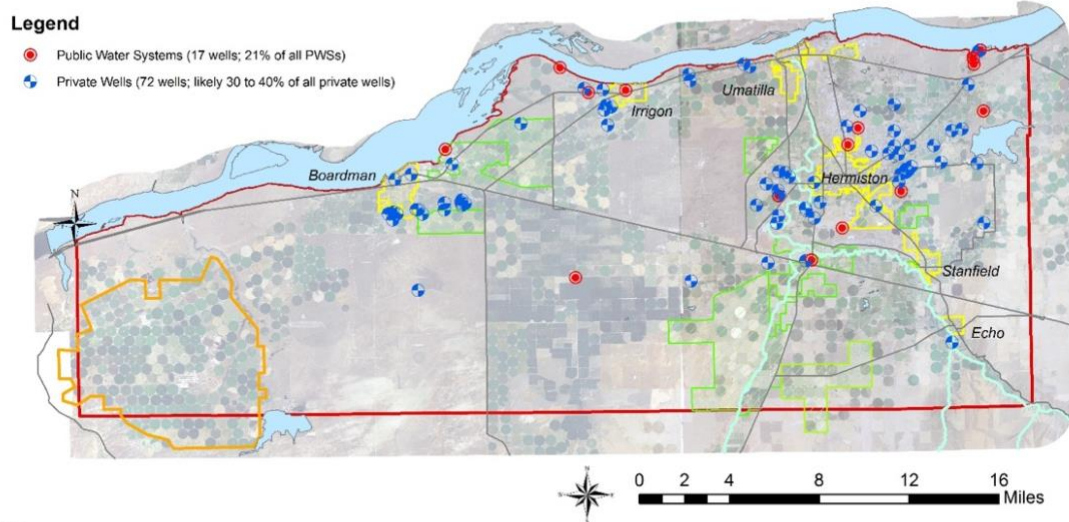
<sup>63</sup> Derived from *Oregon Public Health Drinking Water Data Online*, Oregon Health Authority, <https://yourwater.oregon.gov/index.html> (last accessed Nov. 5, 2019) (included here as Appendix G). Individual entry details can be found by following the “WS Name Look Up” link, then submitting the PWS’s name as shown above. Then follow “Alerts” link under “For further information on this public water system, click on the area of interest below” and review those alerts for nitrate contamination. Even more exceedances are recorded in Oregon’s archived records from before 2002, which are also available at the above website.

|                                    |       |      |           |                                      |          |
|------------------------------------|-------|------|-----------|--------------------------------------|----------|
| Bellinger Produce                  | 100   | NC   | 60.8 mg/L | 32 samples > MCL,<br>44 samples > TL | Umatilla |
| Boardman, City of                  | 3,500 | C    | 7.5 mg/L  | 1 sample > TL                        | Morrow   |
| Comfort Inn & Suites-<br>Hermiston | 100   | NC   | 37 mg/L   | 16 samples > MCL,<br>63 samples > TL | Umatilla |
| Lamb Weston                        | 500   | NTNC | 12 mg/L   | 2 samples > MCL,<br>5 samples > TL   | Umatilla |
| Country Garden Estates<br>MHP      | 175   | C    | 9.8 mg/L  | 4 samples > TL                       | Morrow   |
| Hat Rock Mobile Court              | 60    | C    | 10 mg/L   | 2 samples = MCL,<br>5 samples > TL   | Umatilla |
| Hat Rock Water<br>Company          | 96    | C    | 14 mg/L   | 11 samples > MCL,<br>26 samples > TL | Umatilla |
| Herrerias Park                     | 20    | NP   | 8.9 mg/L  | 6 samples > TL                       | Morrow   |
| Irrigon, City of                   | 1,885 | C    | 18 mg/L   | 26 samples > MCL,<br>42 samples > TL | Morrow   |
| JR Simplot/Calpine                 | 22    | NP   | 9.9 mg/L  | 9 samples > TL                       | Umatilla |
| North Hill Water<br>Corporation    | 100   | C    | 9 mg/L    | 1 sample > TL                        | Umatilla |
| ODF/WL Irrigon Fish<br>Hatchery    | 18    | NP   | 40.9 mg/L | 21 samples > MCL,<br>48 samples > TL | Morrow   |
| OPRD Hat Rock State<br>Park        | 500   | NC   | 19.4 mg/L | 9 samples > MCL,<br>15 samples > TL  | Umatilla |
| Port of Morrow                     | 1,350 | NTNC | 10.4 mg/L | 2 samples > MCL,<br>47 samples > TL  | Morrow   |
| River Point Farms LLC              | 250   | NTNC | 28.5 mg/L | 16 samples > MCL,<br>23 samples > TL | Umatilla |
| Short Stop #1                      | 200   | NC   | 9.2 mg/L  | 5 samples > TL                       | Umatilla |
| Space Age Fuel                     | 950   | NC   | 28.5 mg/L | 11 samples > MCL,<br>17 samples > TL | Umatilla |
| Sunridge Water Inc.                | 200   | C    | 14 mg/L   | 1 sample > MCL,<br>31 samples > TL   | Umatilla |
| Upper Columbia Mill                | 70    | NTNC | 14 mg/L   | 14 samples > MCL,<br>18 samples > TL | Umatilla |

Furthermore, Oregon officials have documented nitrate contamination in both public and private drinking wells used by residents of the LUBGWMA.

**Fig. 3, Drinking Water Sources with Documented Nitrate Exceedances<sup>64</sup>**

**Public and Private Drinking Water Wells that Have Exceeded the Nitrate Drinking Water Standard  
Lower Umatilla Basin Groundwater Management Area**



**Notes:**  
Public wells include both active and inactive Public Water Systems monitored by Oregon Health Authority. Of the 181 PWSs in Umatilla and Morrow County, 18 (10%) have exceeded the nitrate drinking water standard at least once. 17 of these wells (94%) are within the LUBGWMA. Of the 81 PWSs in the LUBGWMA, 17 (21%) have exceeded the standard at least once. These percentages do not take into account which aquifer these wells tap. Because some PWS wells are likely completed in the basalt aquifer, the percentage of PWS wells with high nitrate that utilize only the alluvial aquifer is likely higher than 21%.  
Private wells on this map include 50 wells from the Real Estate Transaction database, 14 wells from the regular LUBGWMA Network wells, 7 domestic wells that were included in the 2009 Synoptic Sampling Event, and the Navy Bombing Range well. Approximately 10% of the RET results show nitrate values over the standard. Because the RET database is known to contain results from treated samples and basalt wells, it is likely not a good indicator of the magnitude or extent of nitrate contamination. Approximately 42% of the domestic wells in the LUBGWMA network show nitrate values over the standard. Approximately 30% of the domestic wells sampled during the 2009 Synoptic Sampling Event showed nitrate values over the standard.

Given that the region is and will remain particularly susceptible to groundwater contamination, this nitrate contamination in the LUBGWMA’s drinking water will persist and is likely to get worse without significant changes to current, nitrogen-intensive land use practices.

**C. CAFOs and Irrigated Agriculture Are the Dominant Land Use Activities and Are the Predominant Cause of Nitrate Contamination in the LUBGWMA**

Two related land use activities make up the vast majority of nitrate pollution in the LUBGWMA’s groundwater: CAFOs and irrigated agriculture.<sup>65</sup> The primary source of nitrogen in the LUBGWMA is the region’s CAFOs.<sup>66</sup> There are currently ten permitted CAFO facilities—including one of the nation’s largest dairy CAFOs—operating within the borders of the LUBGWMA.<sup>67</sup> Together, these permitted CAFOs have been housing over 148,000 animals, with state issued permits allowing expansion up to 179,000 animals.<sup>68</sup> For comparison, cows

<sup>64</sup> Second Action Plan, App. A at 73.

<sup>65</sup> Second Action Plan, App. A at 16.

<sup>66</sup> Estimation of N Sources at ii, 11.

<sup>67</sup> Second Action Plan, App. A at 62.

<sup>68</sup> Derived from information obtained by Food & Water Watch from ODA, collected by ODA in 2018 and 2019. Data included here as Appendix H.



outnumber residents by a ratio of 3:1, and cows living in the area as of June 2019 were producing over 4.3 billion pounds of manure annually—516 times more than the human population of the area.<sup>69</sup>

Over half of the land in the LUBGWMA is used to cultivate crops on irrigated fields.<sup>70</sup> CAFOs are also responsible for much of the nitrate leached from irrigated agricultural lands because much of this irrigated crop production is controlled by the area’s CAFOs (approximately 42,000 acres of crop and pasture lands),<sup>71</sup> which are used to land apply animal waste generated at the CAFOs. Additionally, CAFOs sell or give away animal waste as fertilizer to other farmers as part of standard manure management practices.<sup>72</sup> Oregon estimates that 90% of the animal waste from CAFOs in the LUBGWMA is land applied to irrigated agriculture.<sup>73</sup> In total, irrigated agriculture applies nearly 23 million pounds of nitrogen to fields each year.<sup>74</sup> According to Oregon officials, nitrogen loading from CAFOs and irrigated agriculture combined accounts for an estimated 82% of the nitrogen imported into the LUBGWMA, and 81.6% of the nitrate that leaches into the LUBGWMA’s vulnerable aquifers.<sup>75</sup>

**Table 3, CAFOs Operating in LUBGWMA<sup>76</sup>**

| <b>Facility</b>                              | <b>Designation</b> | <b>Date Permitted</b> | <b>Permitted Animals</b> | <b>Actual Animals</b> |
|--|--------------------|-----------------------|--------------------------|-----------------------|
| Beef Northwest Feeders                       | Large Concentrated | 6/29/2009             | 38,500                   | 42,046                |
| Threemile Heifer Facility                    | Large Concentrated | 7/14/2000             | 32,000                   | 8,944                 |
| Threemile Canyon Farms’ Sixmile Dairy        | Large Concentrated | 6/7/2000              | 36,100                   | 35,295                |
| Threemile Canyon Farms’ Columbia River Dairy | Large Concentrated | 6/1/2000              | 28,000                   | 26,340                |

<sup>69</sup> Food & Water Watch calculations based on the following: EPA, EPA/600/R-04/042, Risk Assessment Evaluation for Concentrated Animal Feeding Operations 9 (May 2004); USDA National Resources Conservation Service, Agricultural Waste Management Field Handbook, Chapter 4 at 4-12 to 4-20 (March 2008), <https://www.wcc.nrcs.usda.gov/ftpref/wntsc/AWM/handbook/ch4.pdf> (last visited Nov. 4, 2019); Appendix H. Local values used: 75,060 beef cattle (producing 1,382,680,260 lbs of waste) and 73,814 dairy cows (producing 2,992,493,374 lbs of waste), compared with 46,320 humans (producing 8,476,560 lbs of waste).

<sup>70</sup> Second Action Plan, App. A at 12.

<sup>71</sup> Second Action Plan, App. A at 62.

<sup>72</sup> See, e.g., DEQ Water Quality Division, Estimation of Nitrogen Sources, Nitrogen Applied, and Nitrogen Leached to Groundwater in the Lower Umatilla Basin Groundwater Management Area 6 (Jun. 13, 2011) (hereinafter “Estimation of N Sources, App. I”) (included here as Appendix I); DEQ & ODA, Oregon Confined Animal Feeding Operation National Pollutant Discharge Elimination System General Permit Number 01-2016, at 12, 19 (allowing for transfers of animal waste, litter, and process wastewater to non-CAFO operators under NPDES general permit for CAFOs),

<https://www.oregon.gov/ODA/shared/Documents/Publications/NaturalResources/NPDESGeneralPermit.pdf> (last visited Nov. 13, 2019).

<sup>73</sup> Estimation of N Sources, App. I at 6, 11.

<sup>74</sup> See *id.* at 11, 15-16; Second Action Plan, App. A at 42, 62.

<sup>75</sup> Estimation of N Sources, App. I at 11, 15.

<sup>76</sup> See Appendix H for data received from Oregon Department of Agriculture.

|                    |                     |            |                |                |
|--------------------|---------------------|------------|----------------|----------------|
| Double M Ranch     | Large Concentrated  | 10/17/2018 | 6,000          | 5,960          |
| Columbia Feeders   | Large Concentrated  | 10/30/2018 | 4,000          | 2,109          |
| Beef City          | Small Concentrated  | 10/5/2018  | 299            | 85             |
| GT Land & Cattle   | Large Concentrated  | 10/5/2018  | 10,000         | 10,615         |
| Top Cut Cattle     | Medium Concentrated | 11/9/2018  | 908            | 410            |
| H3 Feeders         | Large Concentrated  | 10/30/2018 | 8,000          | 6,065          |
| Meenderinck Dairy  | Large Concentrated  | 9/4/2001   | 3,000          | 203            |
| Sage Hollow Ranch  | Large Concentrated  | 11/19/2009 | 8,700          | 7,770          |
| Cold Springs Dairy | Large Concentrated  | 10/11/2018 | 3,600          | 3,032          |
| <b>Total:</b>      |                     |            | <b>179,107</b> | <b>148,874</b> |

In addition to these CAFOs, Oregon is moving towards permitting yet another massive dairy CAFO in the LUBGWMA that has the potential to bring up to 28,300 more cows to the area, along with over 173 million gallons of waste needing disposal annually (40,882,123.64 gallons of liquid manure; 44,224,120.52 gallons of solid manure/litter; and 88,172,845.714 gallons of wastewater).<sup>77</sup> The prevalence and proposed expansion of CAFOs and other livestock production in the LUBGWMA virtually ensures that contamination is likely to continue and worsen without a change in approach.

The reason CAFOs have such potential to introduce massive quantities of nitrogen into the environment and the LUBGWMA’s drinking water is simple: managing and disposing of the overwhelming quantities of nitrogen-laden animal waste is an unavoidable part of their everyday operating procedures. Under these facilities’ Animal Waste Management Plans (“AWMPs”), a requirement for coverage under Oregon’s general Clean Water Act National Pollutant Discharge Elimination System (NPDES) permit for CAFOs in the state,<sup>78</sup> CAFOs typically manage the enormous amounts of animal waste they produce by storing it in “lagoons” or other storage facilities and then land applying it to nearby agricultural lands.<sup>79</sup> While Oregon’s permitting of CAFOs ostensibly provides for conditions that restrain land applications to within appropriate agronomic rates,<sup>80</sup> data confirming widespread nitrate contamination tell a very different story. Oregon DEQ admits that the greatest increases in nitrate contamination it has found are on lands subjected to CAFO manure land applications. And the most recent data available show test wells on lands utilized by the state’s largest dairy, Threemile Canyon Farms, contain nitrate levels over 60 mg/L.<sup>81</sup> Oregon’s AWMPs do not require CAFOs to monitor surface water or groundwater, even though monitoring is an exceedingly valuable tool in a situation like the one facing the LUBGWMA, unless the facility “discharges to waters twice in a 24-month period.”<sup>82</sup> Given that land application runoff is generally considered stormwater rather than a discharge, which ignores

<sup>77</sup> See Easterday Application to Register to the Oregon CAFO General Permit, at 3 (July 1, 2019) (hereinafter Easterday CAFO Application, App. J) (included here as Appendix J). Cubic feet converted to gallons using 1:7.48052 conversion ratio.

<sup>78</sup> DEQ, Oregon’s Nutrient Management Program (June 2014) 13-14 (included here as Appendix K).

<sup>79</sup> See, e.g., *id.*

<sup>80</sup> EPA’s description of “agronomic rates” can be found here: EPA, Managing Manure Nutrients at Concentrated Animal Feeding Operations at App. I (Dec. 2004), [https://www.epa.gov/sites/production/files/2015-08/documents/cafo\\_manure\\_guidance.pdf](https://www.epa.gov/sites/production/files/2015-08/documents/cafo_manure_guidance.pdf) (last visited Nov. 5, 2019).

<sup>81</sup> Second Action Plan, App. A at 33-34.

<sup>82</sup> DEQ, Oregon’s Nutrient Management Program at 14, App. K.

leaching into groundwater rather than runoff to surface water, CAFOs will rarely trigger this requirement.

CAFOs in the LUBGWMA have a history of causing concern about drinking water quality in the area. For example, the region previously was home to the Lost Valley Farm megadairy, which ODA cited for hundreds of violations of its Clean Water Act NPDES permit within 18 months of opening.<sup>83</sup> Oregon officials approved the facility despite DEQ and ODA acknowledging that the CAFO was “a new potential source of nitrate in the [LUB]GWMA.”<sup>84</sup> Among these violations were consistent, unauthorized discharges over the top of lagoon liners, repeated overflow of wastewater onto permeable surfaces, storage of wastewater in improperly lined and unlined lagoons, failure to install leak detection systems, and land application of waste exceeding agronomic rates.<sup>85</sup> The Lost Valley Farm dairy was permitted to house up to 30,000 cows, despite being sited on top of the LUB’s especially vulnerable groundwater aquifer and the area’s preexisting nitrate contamination problems.<sup>86</sup> In a display of apparent disregard for the implications of another Lost Valley Farm debacle, Oregon legislators rejected several pieces of proposed legislation designed to protect public health and avert a repeat of this kind of situation in the future.<sup>87</sup>

This problem is not limited to Lost Valley Farms. DEQ employees’ analysis indicates that current practices at Threemile Canyon Farms, unrelated to any AWMP or permit violations, are likely contributing to the area’s nitrate pollution.<sup>88</sup> Yet the Second Action Plan does not require or even suggest any changes to Threemile Canyon’s or other CAFOs’ waste management practices.

Furthermore, DEQ only tracks the leaching potential of land-applied CAFO waste, and does not account for leaching directly from CAFO manure lagoons or other waste storage facilities. The lagoons that are used to store manure prior to land application can leach nitrogen-heavy waste into the underlying soil and subsequently the aquifers below. In fact, even when “properly” constructed according to standards set by the USDA’s Natural Resources

<sup>83</sup> See, e.g., Tracy Loew, *Troubled Oregon Megadairy Lost Valley Farm to Be Shut Down and Sold*, STATESMAN JOURNAL (Oct. 24, 2018) (included here as Appendix L).

<sup>84</sup> *In the Matter of Greg de Velde, dba, Lost Valley Farm*, Notice of Revocation of Individual Permit No. OR995129 and Notice of Right to a Contested Case Hearing at 5 (Jun. 27, 2018) (hereinafter “Lost Valley Notice of Revocation, App. M”) (included here as Appendix M).

<sup>85</sup> *Id.* at 12-13, 17, 26-30.

<sup>86</sup> See *id.* at 31 (noting that the CAFO is located over “porous soils ... in an area where the aquifer is on average approximately 33 feet below land surface” and “ODA generally treats aquifers of depths less than 100 feet as being vulnerable to surface contaminants”); DEQ & ODA, Lost Valley Farm CAFO Permit FAQs (included here at Appendix N) (noting the 30,000 permitted limit and attempting to justify approval of the facility to a concerned public, before eventually having to close the facility due to repeated and consistent violations).

<sup>87</sup> Lynne Terry, *Is Oregon Paving the Way for More Mega-Dairies?*, CIVIL EATS (June 13, 2019) (included here as Appendix O) (discussing the failure of Senate Bill 876); Tracy Loew, *Megadairy Regulation Proposals Die in Oregon Legislature as Key Deadline Passes*, STATESMAN JOURNAL (Apr. 11, 2019) (included here as Appendix P) (discussing three failed legislative attempts to protect public health from future CAFO failures).

<sup>88</sup> Email from Phil Richerson, DEQ Nonpoint Source Hydrogeologist, to Don Butcher, DEQ (Feb. 14, 2017) (included here as Appendix Q) (obtained through an Oregon Public Records Law request).

Conservation Service and in compliance with Oregon requirements for storage of CAFO wastes, lagoons are actually *designed* to leak.<sup>89</sup>

Even this is not the full story. DEQ acknowledges that nitrate pollution from CAFOs is higher than estimated because the state has not looked at or accounted for several additional ways that CAFOs contaminate the environment with nitrogen pollution.<sup>90</sup> These unaccounted for sources include the re-deposition of the approximately 50% of nitrogen excreted by CAFO animals that is lost to the atmosphere during waste handling and storage, and spills and leaks of animal waste (of which there are several documented cases).<sup>91</sup> If DEQ had factored these other sources of nitrate pollution into its estimates, the agency acknowledges the nitrate contamination attributable to CAFOs would be even larger.<sup>92</sup>

Thus, even while not fully accounted for, the unavoidable conclusion is that CAFOs and irrigated agriculture's use of CAFO waste are primarily responsible for nitrate pollution of drinking water in the LUBGWMA. The consequences of this failure to control CAFOs' contributions to elevated nitrate levels are shown by on-the-ground data and trends. For example, DEQ's 2012 Nitrate Report looked specifically at well samples from the Threemile Canyon Farms CAFO. Of the 15 wells examined, 13 had nitrate concentrations over the 10 mg/L MCL.<sup>93</sup> And unfortunately, the data trends show that nitrate pollution on lands receiving CAFO waste is only getting worse. The most recent sampling data from 2015 and 2016 found multiple wells located within CAFO land application areas with nitrate concentrations over 60 mg/L, and "[t]he single largest increase [of nitrate pollution] was at a CAFO monitoring well."<sup>94</sup>

Yet, despite this stark and unavoidable reality, Oregon officials are moving towards approval of yet another massive CAFO in the LUBGWMA to replace the failed Lost Valley Farm.<sup>95</sup> The proposed new owner/operator of the site, Easterday Farms, intends to reopen the

<sup>89</sup> See, e.g., *Cnty. Ass'n for Restoration of the Env't. v. Cow Palace, LLC*, 80 F. Supp. 3d 1180, 1223 (E.D. Wash. 2015) ("even assuming the lagoons were constructed pursuant to NRCS standards, these standards specifically allow for permeability and, thus, the lagoons are *designed to leak*" (emphasis added)); EPA, EPA/600/R-04/042, Risk Assessment Evaluation for Concentrated Animal Feeding Operations 24 (May 2004) (noting that nitrate contamination can be caused by manure lagoons that are known to leak into groundwater for a variety of reasons); Food & Water Watch et al., Public Comments on Proposed NPDES Permit for Lost Valley Ranch Dairy CAFO at 11 (Aug. 4, 2016) (included here as Appendix R) (noting that even the engineers hired by Lost Valley Ranch estimated the potential for 1,480 gallons of leakage per day when using the most protective type of lagoon liners); NRCS, Agricultural Waste Management Field Handbook, Chapter 10 at 10D-4 (Aug. 2009), <https://www.wcc.nrcs.usda.gov/ftpref/wntsc/AWM/handbook/ch10.pdf> (last visited Nov. 5, 2019) (recognizing that even the more protective synthetic liners can only "reduce seepage," not eliminate it).

<sup>90</sup> Estimation of N Sources, App. I at 7.

<sup>91</sup> *Id.*

<sup>92</sup> *Id.*

<sup>93</sup> 2012 Nitrate Report, App. C at v.

<sup>94</sup> Second Action Plan, App. A at 33-34.

<sup>95</sup> DEQ, Director's Report Memorandum (Sept. 26-27, 2019) at 4-5,

[https://www.oregon.gov/deq/EQCdocs/09272019\\_ItemI\\_DirectorsReport.pdf](https://www.oregon.gov/deq/EQCdocs/09272019_ItemI_DirectorsReport.pdf) (last visited Oct. 23, 2019) (discussing the reopening of the site under new ownership, and stating that "DEQ will continue to keep the commission updated on developments as this project moves forward."); ODA, Easterday Farms Dairy, LLC: Talking Points (July 16, 2019) (included here as Appendix S) (obtained through an Oregon Public Records Law request) (discussing where the CAFO "will be located," implying that a permit will issue once ODA approves clean-up efforts at the site to address the previous Lost Valley mismanagement, and outlining "talking points" for agency personnel to use to

facility as another CAFO with up to 28,300 animals under a new NPDES permit.<sup>96</sup> If allowed to proceed as planned, the Easterday Farms CAFO will have the potential to introduce hundreds of millions of pounds of additional nitrogen-laden waste to the area<sup>97</sup>—enough waste to fill over 262 Olympic sized swimming pools each year.<sup>98</sup> Operating a CAFO on this site “presents serious concerns for water quality and safe drinking water” because any new CAFO is a source of nitrates further endangering the area’s groundwater.<sup>99</sup> Being upgradient of a large part of the LUBGWMA, with five PWS and many private wells near the site, “any groundwater pollutant emanating from the dairy could potentially impact” these crucial sources of drinking water.<sup>100</sup> The Easterdays intend to land apply the animal waste to be generated at the CAFO to surrounding agricultural fields.<sup>101</sup>

As long as CAFOs and other agricultural operations are allowed to continue polluting the LUBGWMA with excessive nitrogen, the imminent and substantial endangerment to human health will continue and will only worsen, leaving local populations at ever increasing risk to their health in direct contravention of the SDWA.

#### **D. Conditions in the LUBGWMA Constitute an Imminent and Substantial Endangerment to Human Health Under the SDWA**

The present and increasing nitrate contamination in the LUBGWMA presents an imminent and substantial endangerment to human health because nitrate contamination creates a known and significant health risk and there is a reasonable cause for concern that individuals are and will be exposed to this risk at ever increasing concentrations.

##### *1. Nitrate Contamination in the LUBGWMA Drinking Water Constitutes an Endangerment*

Nitrate is plainly an endangerment to public health under the SDWA because EPA not only categorizes it as a “contaminant,”<sup>102</sup> but as an “acute contaminant” known to pose significant health risks.<sup>103</sup> EPA previously found that nitrate levels above the MCL of 10 mg/L present an imminent and substantial endangerment to human health.<sup>104</sup> Drinking water

defend their authorizing the new Easterday CAFO); George Plaven, *Easterday Family Plans to Re-Open State’s Second-Largest Dairy*, CAPITOL PRESS (July 9, 2019) (included here as Appendix T) (describing the new owner’s intent to open another dairy on the Lost Valley site).

<sup>96</sup> See Easterday CAFO Application, App. J.

<sup>97</sup> See Easterday CAFO Application, at 3, App. J; *supra* note 77 and accompanying text.

<sup>98</sup> Using 660,253.09 gallon swimming pool volume. See Jeremy Hoefs, *Measurements for an Olympic Size Swimming Pool*, <https://www.livestrong.com/article/350103-measurements-for-an-olympic-size-swimming-pool/> (last accessed Nov. 4, 2019).

<sup>99</sup> See Lost Valley Notice of Revocation at 4, App. M.

<sup>100</sup> See *id.* at 31.

<sup>101</sup> See Plaven, App. T; Easterday CAFO Application, App. J at 3.

<sup>102</sup> 42 U.S.C. § 141.62(b).

<sup>103</sup> See DEQ, *Fact Sheet: Nitrate in Drinking Water* (Aug 15, 2017) (hereinafter “DEQ, *Fact Sheet*, App. U”) (included here as Appendix U); Mary H. Ward et al., *Drinking Water Nitrate and Human Health: An Updated Review*, 15(7) INT’L J. ENVTL. RESEARCH PUB. HEALTH 1557 (July 2018) (included here as Appendix V); Oregon Health Authority, *Nitrate in Drinking Water – Frequently Asked Questions* (included here at Appendix W).

<sup>104</sup> In the Matter of: Yakima Valley Dairies, SDWA-10-2013-0080, at 7 (EPA Mar. 19, 2013).

contaminated with nitrate has well-documented adverse health risks including a variety of cancers, thyroid disease, “blue-baby syndrome,” and reproductive and gestational problems.<sup>105</sup> EPA’s categorization of nitrate as an “acute contaminant” indicates that “one exposure can affect a person’s health,” and that “[t]oo much nitrate in your body makes it harder for red blood cells to carry oxygen.”<sup>106</sup>

Moreover, nitrate-contaminated drinking water is especially dangerous for sensitive populations such as infants and pregnant women. High levels of nitrate in drinking water are “a serious health concern for infants and pregnant or nursing women,” and are known to cause methemoglobinemia, or “blue-baby syndrome,” a potentially fatal condition in which an infant’s skin turns blue from lack of oxygen in the blood.<sup>107</sup> Nitrate in water supplies has also been linked to spontaneous miscarriages and birth defects.<sup>108</sup>

According to the census estimates for the LUBGWMA region, significant populations that are especially sensitive to nitrate—infants and pregnant and nursing women—reside in the LUBGWMA. Census data show that 12.3% of women between the age of 15 and 50 living in Morrow County gave birth to a child from 2016 to 2017.<sup>109</sup> Six and a half percent of the same demographic living in Umatilla County gave birth to a child between 2017 and 2018.<sup>110</sup>

Nitrate contamination is already present and will continue to be present at increasingly elevated levels in USDWs for the LUBGWMA without EPA action. The fact that a contaminant known to cause disease and illness is present at unsafe levels in the LUBGWMA’s private wells and PWS, which are used by tens of thousands of residents, demonstrates an unambiguous SDWA “endangerment.”

## 2. *The Public Health Endangerment Is Imminent*

Since the present contamination of the region’s drinking water is thoroughly documented, endangerment is clearly imminent. As explained above, an endangerment is “imminent” if conditions that give rise to it are present, even if actual harm has not already been documented in the contaminated area.<sup>111</sup>

Unsafe levels of nitrate contamination in the LUBGWMA’s water supply were first identified over 30 years ago, and data trends indicate that nitrate contamination overall is increasing in the LUBGWMA, despite Oregon’s 20 plus years of implementing mitigation

<sup>105</sup> See DEQ, *Fact Sheet*, App. U; JoAnn Burkholder et al., *Impacts of Waste from Concentrated Animal Feeding Operations on Water Quality*, 115 ENVTL. HEALTH PERSPECTIVE 308, 310 (2008) (hereinafter “Burkholder, *Impacts of Waste*, App. X”) (included here as Appendix X)

<sup>106</sup> EPA Region 10, *Lower Yakima Valley Groundwater: Why is Nitrate a Concern?* (included here as Appendix Y).

<sup>107</sup> DEQ, *Fact Sheet*, App. U.

<sup>108</sup> *Id.*; Burkholder, *Impacts of Waste*, App. X at 310.

<sup>109</sup> Census Reporter, Morrow County, OR, <https://censusreporter.org/profiles/05000US41049-morrow-county-or/> (last visited Nov. 5, 2019).

<sup>110</sup> Census Reporter, Umatilla County, OR, <https://censusreporter.org/profiles/05000US41059-umatilla-county-or/> (last visited Nov. 5, 2019).

<sup>111</sup> SDWA Emergency Authority Guidance, App. B at 8 (citing *U.S. v. Conservation Chemical Co.*, 619 F. Supp. 162, 193-194 (W.D. Mo 1985)).

measures meant to decrease nitrates under the GWMA designation. The greatest increases in nitrate levels have been found at wells located where CAFOs land apply their animal waste.<sup>112</sup> This further demonstrates that endangerment is imminent and that CAFO operations and the waste they introduce to the area are the primary culprit. This upward trend increases both the likelihood that individuals will be exposed to nitrate at harmful levels and the severity of those exposures. Oregon's Nitrate Report demonstrated that 55% of the wells tested showed increasing concentrations of nitrate.<sup>113</sup>

Finally, the endangerment caused by nitrate contamination in the LUBGWMA is imminent because the likely primary causes of the contamination—CAFOs and their high-risk waste management practices—are present and increasingly dominant in the area, with 10 permitted CAFOs already in operation and the Easterday Farms mega-dairy threatening to open in the near future. Of these 10 existing facilities, four are dairies and six are cattle feedlots. These CAFOs manage approximately 42,000 acres of crop and pasture land in the LUBGWMA where they dispose of animal wastes, and this is in addition to any non-CAFO owned irrigated agriculture lands that nonetheless utilize CAFO waste as fertilizer.<sup>114</sup>

Existing concentrations of irrigated agriculture and CAFOs in the LUBGWMA make clear that an endangerment to human health is imminent. Data collected over the span of decades confirm this. Oregon officials' plan to permit another 28,300 cow CAFO in the area atop a particularly vulnerable aquifer pushes the needle off the scale, leaving no question as to imminence.

### *3. The Public Health Endangerment Is Substantial*

The health risks associated with nitrate contamination in the LUBGWMA constitute a substantial endangerment under the SDWA. Several PWSs and many private wells within the LUBGWMA have already been found to exceed drinking water standards for nitrate contamination, and thus residents of the LUBGWMA have been and are currently being “exposed to a risk of harm.”<sup>115</sup> This alone demonstrates that the endangerment is substantial.

Moreover, because nitrate levels are on the rise in the LUBGWMA and the state's ineffective, voluntary-only plan remains practically unchanged, there is currently no realistic potential for fewer PWSs and private wells to be contaminated or contaminated at lower levels than they currently are, absent emergency action by EPA. Petitioners have reasonably concluded (and Oregon officials have themselves implied) that more people's drinking water will become contaminated over time, and that the level of contamination will continue to increase. These exposures constitute a serious risk of harm, indicating that the substantial endangerment that already exists will only become more substantial and in need of emergency EPA action.

<sup>112</sup> Second Action Plan, App. A at 33.

<sup>113</sup> See 2012 Nitrate Report, App. C at 5.

<sup>114</sup> Second Action Plan, App. A at 62.

<sup>115</sup> See SDWA Emergency Authority Guidance, App. B at 11 (explaining that an endangerment is substantial “if there is a reasonable cause of concern that someone may be exposed to a risk of harm”).

## V. OREGON OFFICIALS HAVE FAILED TO ACHIEVE SAFE DRINKING WATER QUALITY DESPITE DECADES OF ATTEMPTING TO IMPLEMENT MITIGATION PLANS

EPA should exercise its emergency authority under Section 1431 of the SDWA because users of USDWs and PWSs in the LUBGWMA face imminent and substantial endangerment, and whatever action Oregon officials have taken or are taking is obviously not timely or effective.<sup>116</sup>

Nearly thirty years after designation of the LUBGWMA, the endangerment to public health has worsened. As of 2016, the area's USDWs were exhibiting increasing contamination trends, with nearly half (48%) of tested wells exceeding the federal standard and 60% of wells surpassing the state action level standard of 7 mg/L.<sup>117</sup> Moreover, the threat extends to communities well beyond those living in purely agricultural areas: Oregon considers at least ten community and non-transient, non-community PWSs in the LUBGWMA, which serve approximately 25,000 residents, "substantial nitrate risks."<sup>118</sup> More than half of the LUBGWMA population is at substantial risk from nitrate-contaminated drinking water, with a number of water systems testing positive for unsafe nitrate levels. Thus, Oregon officials are and have been fully aware of the ongoing threat to human health that exists in the LUBGWMA.

Oregon's agencies and officials have proven ineffective at dealing with this imminent and substantial endangerment. After designation of the LUBGWMA, the primary tools for bringing drinking water quality back within safe levels have been the LUBGWMA Committee's First and Second Action Plans. The Committee finalized the First Action Plan and began implementation in 1997.<sup>119</sup> It finalized the Second Action Plan in 2019.<sup>120</sup>

Several Oregon agencies have failed to execute their responsibility to address the LUBGWMA's dangerous nitrate problems. The Oregon Health Authority ("OHA") has primary responsibility for implementing the SDWA in Oregon.<sup>121</sup> The Oregon Department of Environmental Quality ("DEQ") is responsible for regulating and addressing pollutants that affect waterways under the Clean Water Act. The Oregon Department of Agriculture ("ODA") is responsible for developing those portions of the GWMA's Action Plan that deals with farming practices.<sup>122</sup> These agencies work together to implement drinking water protections in Oregon.<sup>123</sup> The LUBGWMA Committee is the body tasked with implementing and overseeing the Action Plans. While Oregon officials have clear authority to adopt the mandatory regulations necessary to solve this problem, they have consistently refused to take such action, instead relying on voluntary-only plans in the past and again in the Second Action Plan.

<sup>116</sup> See *supra* Section III.

<sup>117</sup> Second Action Plan, App. A at 37.

<sup>118</sup> Factors Influencing Nitrate Risk Report, App. F at 6-7; Table 2, *supra*.

<sup>119</sup> DEQ, Lower Umatilla Basin Groundwater Management Area Action Plan (Dec. 8, 1997) (hereinafter "First Action Plan, App. Z") (included here as Appendix Z).

<sup>120</sup> Second Action Plan, App. A.

<sup>121</sup> See ORS 448.277.

<sup>122</sup> Second Action Plan, App. A at 6.

<sup>123</sup> *Oregon's Water Quality Programs Regulatory Overview* (included here as Appendix AA).



The Action Plans suggest, but do not mandate, practices that could begin to abate the ongoing endangerment to human health.<sup>124</sup> Since declaration of the LUBGWMA, state and local officials have been operating under the assumption that “once businesses, organizations, governments and individuals are aware of the environmental consequences of certain practices, they will seek alternatives to reduce the likelihood of groundwater contamination.”<sup>125</sup> Consequently, the LUBGWMA Committee has taken a purely “voluntary approach” to combatting groundwater contamination rather than implementing mandatory or regulatory measures to reduce nitrates in the area’s groundwater.<sup>126</sup> Additionally, while DEQ and the LUBGWMA Committee memorialized a number of mitigation goals, recommendations, and strategies in the 1997 Action Plan, Oregon allocated no funding to actually execute the Plan.<sup>127</sup> Instead, the state placed the implementation burden on local jurisdictions that were admittedly plagued by “resource constraints” and already “under great pressure to complete many mandatory activities prior to implementing voluntary and non-regulatory tasks.”<sup>128</sup> Oregon again has failed to provide a dedicated funding source for implementation of the Second Action Plan, instead merely noting several disparate potential funding sources that it encourages local and state agencies to seek out.<sup>129</sup>

In addition to the tools available to DEQ and the LUBGWMA Committee, ODA has authority to address the pervasive nitrate pollution in the region, which it refuses to meaningfully implement. Under the Agricultural Water Quality Management Act,<sup>130</sup> ODA develops Agricultural Water Quality Management Area (“WQMA”) Plans and Rules.<sup>131</sup> While Area Plans are “neither regulatory nor enforceable,” ODA’s Area Rules are regulatory and contain enforcement provisions. The Umatilla Agricultural WQMA, which the Second Action Plan points to for ODA authority to help improve water quality in the LUBGWMA,<sup>132</sup> and the Willow Creek WQMA provide the operative set of Area Plans and Rules relevant to the LUBGWMA. The Umatilla Agricultural WQMA covers the eastern portion of LUBGWMA,<sup>133</sup> while the Willow Creek WQMA covers the western portion.<sup>134</sup> Both Area Plans rely on voluntary measures and refer back to the LUBGWMA’s Action Plan in circular, and predictably impotent, ways.<sup>135</sup>

While the LUBGWMA’s Second Action Plan relies on the potential “regulatory backstops [in the form of WQMA Rules] to the voluntary efforts described in the area plans,” that “backstop” is no more than a paper tiger since the Area Rules lack any degree of specificity and have not been implemented in a manner that has reduced or could actually reduce nitrate

<sup>124</sup> LUBGWMA Committee, <https://lubgwma.org/> (last visited Nov. 5, 2019).

<sup>125</sup> First Action Plan, App. Z at 28.

<sup>126</sup> First Action Plan, App. Z at 11.

<sup>127</sup> *Id.* at 30.

<sup>128</sup> Second Action Plan, App. A at 82.

<sup>129</sup> *See* Second Action Plan, App. A.

<sup>130</sup> ORS 568.900-.933

<sup>131</sup> Second Action Plan, App. A at 4.

<sup>132</sup> *Id.*

<sup>133</sup> ODA, Umatilla Agricultural Water Quality Management Area Plan 17 (Dec. 6, 2018) (included here as Appendix AB).

<sup>134</sup> ODA, Willow Creek Water Quality Management Area Plan 17 (Mar. 2019) (included here as Appendix AC).

<sup>135</sup> Umatilla WQMA Plan, App. AB at 23-24, 41; Willow Creek WQMA Plan, App. AC at 37, 41.

levels in the area. In fact, ODA is open about the fact that Area Rules, unlike actual rules, “don’t specify” how each agricultural landowner must avoid further contaminating drinking water.<sup>136</sup> The Area Rules for the Umatilla and Willow Creek Agricultural WQMA lay out cursory and generalized requirements that are supposedly enforceable by ODA, but given that drinking water contamination in the area has increased over time despite the Rules clearly shows their ineffectiveness. The Umatilla Area Rules purport to require that land application of nutrients, “including manure . . . , must be done at a time and in a manner that does not pollute waters of the state.”<sup>137</sup> The Willow Creek Area Rules lack even this vague requirement, instead requiring only that “irrigation must be done in a manner that *limits* the amount of pollutants in the runoff from the irrigated area or that leaches into groundwater.”<sup>138</sup> Thus, the Willow Creek Rules on their face *allow for* continued groundwater contamination. The Area Rules do not provide any requirements regarding how to avoid contaminating drinking water in this particularly vulnerable area, and their overarching mandates have never been enforced, as proven by data showing long-standing and increasing nitrate pollution to USDWs. Given the decades of dangerous nitrate contamination in the LUBGWMA, these two sets of vague and poorly-enforced WQMA Plans and Rules fall far short of what is needed, and far short of what would constitute action to protect public health precluding EPA from taking its own emergency action under the SDWA.

Without the necessary funding or regulatory mandates that are clear and enforceable, the First Action Plan was left largely unimplemented and predictably failed to bring nitrate levels within state and federal standards. The plan articulated eight goals to be met by December 2009, the most important of which was achieving a downward trend in nitrate levels throughout most of the region. Not only was this goal not met, even 10 years after intended, only three of the other goals were actually met. Additionally, of the eighteen recommended tasks, only five were implemented in full.

**Table 4, Attainment of First Action Plan Goals<sup>139</sup>**

| <b>Goal</b>   | <b>Status</b> |
|---|---------------|
| Data indicates a downward trend in nitrate levels throughout most of the GWMA   | Not Met       |
| 95% of irrigated acreage is implementing an accepted system of BMPs or are covered by an implementation plan and the recommendations are in place and being used  | Not Met       |
| 80% of residents are still aware of the nitrate problem and are aware of at least one activity which contributes to the problem. 75% can cite at least one activity they have changed because of their awareness of the issue | Not Met       |
| All local area governments can cite procedures, requirements, and/or practices they have instituted as a result of the GWMA declaration   | Partially Met |

<sup>136</sup> ODA, A Landowner’s Guide to Oregon’s Agricultural Water Quality Management Program 4 (included here as Appendix AD).

<sup>137</sup> OAR 603-095-0340(7)(a); OAR 603-095-2840; *see also* OAR 603-095-0340(2) & 603-095-2480(2) (cross-referencing to ORS 468B.25 (prohibiting any person from “[c]aus[ing] pollution of any waters of the state”) and 468B.050 (requiring facilities to obtain coverage under state water quality permits)).

<sup>138</sup> OAR 603-095-2840(5) (emphasis added).

<sup>139</sup> Second Action Plan, App. A.

|  |               |
|--|---------------|
| Methods to address and reduce the impact of septic systems have been adopted in all areas considered high risk for nitrate loading from high densities of septic systems | Partially Met |
| Monitoring data show no violation of permit specific concentration limits imposed on Food Processors   | Met           |
| 90% of CAFOs are implementing an accepted system of BMPs or are covered by an implementation plan  | Met           |
| The Umatilla Chemical Depot Washout treatment system is working as expected and reinjection water is not migrating beyond the capture zone of the treatment system       | Met           |

Importantly, even though the goal that “90% of CAFOs are implementing an accepted system of [Best Management Practices] or are covered by an implementation plan” was met, the greatest increases in nitrate levels were found at test wells where CAFOs land apply manure, as discussed above. Thus, it appears that the referenced BMPs for CAFO’s manure management were unsuccessful at actually reducing or stopping the increase in nitrate contamination despite successful “implementation” at 90% or more of the area’s CAFOs. Despite this, “accepted BMPs” have not been strengthened by state agencies.

Now in 2019, after more than 20 years of voluntary-only BMPs and implementation measures failing to reduce nitrate levels or even stop the ongoing increases in nitrate concentrations, Oregon *again* refused to adopt a single mandatory measure to reduce existing or future nitrate pollution in the area’s groundwater. The Second Action Plan does not discuss this glaring fact, much less provide an explanation why Oregon officials believe more of the same will yield different results. At most, the Second Action Plan provides that “[i]f progress in implementing strategies (that lead to reductions [sic] the groundwater nitrate levels) is not accomplished” when the Committee conducts its annual assessments, it “*may* include mandatory actions or regulatory changes to address protection of groundwater.”<sup>140</sup>

Tellingly, this is precisely what the First Action Plan said over 20 years ago in 1997: “If the voluntary approach does not result in satisfactory progress towards reducing nitrate contamination in the groundwater, mandatory requirements will be considered as part of the action plan. The Groundwater Protection Act (ORS 468.183) provides for inclusion of mandatory requirements as part of the action plan.”<sup>141</sup> The First Action Plan also relied on ODA to take mandatory action if such action was “deemed necessary.”<sup>142</sup> After 22 years, state and local officials have demonstrated their unwillingness to enact the mandatory measures required to end the endangerment to human health in the LUBGWMA, and have again kicked the can down the road indefinitely rather than taking necessary action.

This is not an abstract exercise in public-private partnership building that voluntary-only measures may help foster; real people have been expecting change, apparently in vain, for decades. As stated by the East Oregonian newspaper in 2004, “The [LUBGWMA] committee must submit an evaluation of its progress to the state every four years. As long as the group is

<sup>140</sup> Second Action Plan, App. A at 6 (emphasis added).

<sup>141</sup> First Action Plan, App. Z at 8.

<sup>142</sup> First Action Plan, App. Z at 6.

making improvements, water quality control stays in its hands. If the group is unable to encourage citizens to voluntarily solve water quality concerns, the state government will mandate what must be done.”<sup>143</sup> Then again in 2009, the East Oregonian wrote that, after testing data showed that nitrate contamination “remain[ed] stubbornly high” despite past voluntary efforts, new regulations and rules “concern[ing] how and when farmers apply nitrogen to their fields” may be necessary.<sup>144</sup> Over ten years later, with nitrate levels at all-time highs, meaningful action is necessary, and Oregon officials have proven themselves unable and unwilling to deliver.

Petitioners and those living in the LUB who rely on the area’s groundwater for everyday life can no longer depend on DEQ, OHA, ODA, or the local officials in charge of implementing corrective measures in the LUBGWMA to fix the ongoing and worsening endangerment to human health caused by nitrate contamination. Decades of objective failure to rein in nitrate pollution from the area’s CAFOs and irrigated agricultural practices have been left unaddressed by the now-operative Second Action Plan, which gives no more than a passing nod to the possibility of imposing the past due mandatory measures necessary to improve water quality. EPA must not let another 20 years pass as the problem continually gets worse and Oregon officials continue to sit on the sidelines while the threat to the health of Oregon citizens grows.

## **VI. EPA EMERGENCY ACTION IS NECESSARY TO ABATE ONGOING AND EVER-INCREASING ENDANGERMENT TO HUMAN HEALTH FROM NITRATE CONTAMINATION**

EPA’s SDWA guidance states that if EPA knows state or local agencies are going to act, EPA must decide if the actions are timely and effective.<sup>145</sup> And if they are insufficient, EPA should proceed with emergency action necessary to protect human health.<sup>146</sup> EPA action is necessary here because although state and local authorities have taken various actions to try and address nitrate contamination in the LUBGWMA over the past decades, such as testing, monitoring, and establishing action plans, these actions have not been timely or effective.<sup>147</sup> State and local officials have failed to protect public health from nitrate contamination, and their latest plan doubles down on the failed voluntary-only approach. Meanwhile, other state actions such as the continued approval and permitting of CAFO operations with inadequate protections directly undermine any efforts at improving the region’s groundwater quality. The state has its head in the sand, and is only digging itself deeper. Thus, EPA has the authority to take emergency action because although the state and local agencies have already started to act, they have not done so in a timely or effective way.

<sup>143</sup> *Women Sound Nitrate Warning*, EAST OREGONIAN (Mar. 8, 2004) (included here as Appendix AE).

<sup>144</sup> *Stubbornly High Nitrate Numbers Could Lead to DEQ Regulation*, EAST OREGONIAN (Nov. 28, 2009) (included here as Appendix AF).

<sup>145</sup> See SDWA Emergency Authority Guidance, App. B at 9, 13.

<sup>146</sup> *Id.*

<sup>147</sup> See H.R. Rep. No. 1185, 93rd Cong., 2d Sess., 35-36 (1974) (discussing the legislative intent to “direct the Administrator to refrain from precipitous preemption of effective State or local emergency abatement efforts” unless action is not timely or effective); see also SDWA Emergency Authority Guidance, App. B at 9.

The endangerment in the LUBGWMA therefore meets all of the criteria for EPA action. As discussed in detail above, the statutory prerequisites for emergency action under 42 U.S.C. § 300i are satisfied here.<sup>148</sup> First, nitrate, which is a “contaminant” under the SDWA,<sup>149</sup> is present in and continues to leach into USDWs in the LUBGWMA. Moreover, nitrate contamination has been present in and continues to be a problem for LUBGWMA’s PWSs. Second, the presence of nitrate contamination in groundwater is causing an imminent and substantial endangerment to public health; an alarming number of LUB residents rely on USDWs and PWSs that have been identified as carrying substantial nitrate risks for users. Finally, neither the State of Oregon nor Umatilla and Morrow County Soil and Water Conservation Districts have taken timely or effective action to abate the public health endangerment. Though DEQ and ODA have taken some steps to investigate the nature and scope of the threat, Oregon officials have failed to exercise their authority to effectively regulate the predominant sources of contamination, instead relying on public outreach and voluntary measures that have consistently failed to protect groundwater quality from further deterioration. And while county and city authorities have engaged in public education and research related to groundwater quality, their limited action has similarly proven insufficient to remedy the problem.

EPA has broad authority to investigate and remediate threats to public health under the SDWA in these circumstances. “Once EPA determines that action under Section 1431 is needed, a very broad range of options is available” as necessary to protect users of USDWs.<sup>150</sup> The tools available to EPA include conducting studies, halting the disposal of contaminants that may be contributing to the endangerment, and issuing orders such as mandatory changes to manure generation, handling, and land application practices.<sup>151</sup> In fact, “EPA may take such actions notwithstanding any exemption, variance, permit, license, regulation, order, or other requirement that would otherwise apply.”<sup>152</sup>

EPA should prioritize investigating and abating nitrate contamination caused by CAFOs and land application of CAFO wastes to irrigated agriculture in the LUBGWMA. As explained, these interrelated land use activities constitute the vast majority of nitrogen pollution in the region—approximately 82%—and this contamination has degraded the area’s USDWs for decades.<sup>153</sup>

Specifically, Petitioners request EPA take at least the following measures under its Section 1431 SDWA emergency powers:

- Supply a free source of clean drinking water to residents of the LUBGWMA whose wells or PWSs exceeds safe limits for nitrate;
- Conduct additional investigation and monitoring throughout the LUBGWMA to more accurately trace the sources and quantities of nitrate-nitrogen pollution, and

<sup>148</sup> See also SDWA Emergency Authority Guidance, App. B.

<sup>149</sup> 40 C.F.R. §§ 141.11(d); 141.62(b).

<sup>150</sup> SDWA Emergency Authority Guidance, App. B at 10.

<sup>151</sup> See *id.* at 10-11.

<sup>152</sup> *Id.* at 9.

<sup>153</sup> See *supra* Section IV.C.

work to identify which CAFOs and manure management practices are causing nitrate contamination;

- Issue orders requiring CAFOs and irrigated agriculture land applying CAFO waste or other nitrogen fertilizers to modify their practices so that these operations will cease overburdening the area with nitrogen pollution via lagoon leaching, land application of manure, and/or spills and leaks;
- Issue an order prohibiting the proposed Easterday Farms CAFO or any other new CAFO from opening on the failed Lost Valley Farm site or elsewhere in the LUBGWMA unless and until nitrate concentrations in the area consistently fall below the established, health-based MCL of 10 mg/L;
- Investigate Oregon's BMPs for CAFO nutrient management to determine why they have been unsuccessful at protecting groundwater in the LUBGWMA and what more effective BMPs are necessary; and
- Determine what enforcement measures should be implemented to effectively reduce nitrogen pollution from these sources, and initiate those enforcement actions as soon as practicable.

## VII. CONCLUSION

In conclusion, for the reasons and upon the bases stated above, the undersigned Petitioners respectfully request that EPA invoke its emergency authority under section 1431 of the Safe Drinking Water Act, 42 U.S.C. § 300i, to address the imminent and substantial endangerment to public health within the LUBGWMA caused by ongoing and increasing nitrate contamination. Please contact Tarah Heinzen by email at [theinzen@fwwatch.org](mailto:theinzen@fwwatch.org) or phone at (202) 683-2457 with questions or for more information regarding this petition or the basis of our request.

Respectfully Submitted January 16, 2020



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*Attach. 2*

April 25, 2019

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**RE: WOF PNW Threemile Project, LLC Proposed Oregon Title V Operating Permit**

Ms. Swofford:

Thank you for the opportunity to comment on WOF PNW Threemile Project, LLC's (Threemile Canyon) proposed Oregon Title V Operating Permit (Title V Permit or Permit), application number 30204. These comments are submitted on behalf of Columbia Riverkeeper, Friends of Family Farmers, Friends of the Columbia Gorge, Humane Voters Oregon, Food & Water Watch, Center for Food Safety, Center for Biological Diversity, Animal Legal Defense Fund, Farm Forward, and Factory Farm Awareness Coalition (Commenters). Commenters have tens of thousands of members and supporters throughout Oregon, and support a statewide moratorium on all new and expanded mega-dairies. We are deeply concerned with the state's proposal to approve this Permit, which will allow Threemile Canyon to build a publicly subsidized gas treatment system and pipe manure biogas to fuel vehicles in California, while its substantial dairy emissions continue unabated and unregulated.

For the following reasons, DEQ should deny the Permit. However, if DEQ denies this request, at the very least it must consider Threemile Canyon's emissions in their entirety when determining what Clean Air Act (CAA) requirements apply.

**I. DEQ Should not Authorize Threemile Canyon's Biogas Expansion Project**

*a. Threemile Canyon is a Significant Source of Air Pollution, including Pollution Harming the Columbia Gorge*

Threemile Canyon is a significant source of air pollution. Yet the Permit, as currently written, does not address the full suite of air pollutants produced by this operation, nor does it address the fact that Threemile Canyon is contributing to the creation of fine particulate matter that is damaging to public health as well as to visibility in the Columbia Gorge National Scenic Area. Mega-dairies like Threemile Canyon continuously emit numerous air pollutants, including particulate matter, ammonia, hydrogen sulfide, methane, volatile organic compounds (VOCs), nitrogen oxides, and odors.<sup>1</sup> These pollutants can cause significant public health risks and environmental impacts, including contributing to climate change. Ammonia and hydrogen sulfide exposure, for example, irritates the respiratory system, and both chemicals can be fatal at

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<sup>1</sup> See, e.g., Oregon Dairy Air Quality Task Force, Technical Support Document for Dairy Air Quality Task Force Report 32-38 (2008).

high concentrations.<sup>2</sup> Hydrogen sulfide releases from factory farms have been associated with respiratory and digestive symptoms. As a result, workers in these facilities and neighboring communities can experience high levels of asthma-like symptoms, bronchitis, and other respiratory diseases.<sup>3</sup> Both pollutants also contribute to the odors associated with mega-dairies. The U.S. Government Accountability Office has reported that storing large quantities of livestock manure on mega-dairies and other industrial livestock operations could cause emissions of “unsafe quantities” of ammonia, hydrogen sulfide, and particulate matter.<sup>4</sup> VOCs contribute to the formation of ground-level ozone, which leads to respiratory symptoms and eye irritation as well as harming ecosystems.<sup>5</sup> In a just-released report, the American Lung Association gave Umatilla County, which is just east of and sometimes downwind of Morrow County and Threemile Canyon, an “F” grade for high ozone days.<sup>6</sup>

These pollutants are also harming Oregon’s environment. Ammonia and nitrous oxides are two of the three major components of haze pollution that affect the Columbia River Gorge Scenic Area, and also contribute to acid rain.<sup>7</sup> The Gorge has long suffered from the effects of persistent air pollution and poor visibility. Monitoring studies have documented impaired visibility on 95% of days monitored.<sup>8</sup> DEQ has found that livestock manure management, which includes field applications of manure, is “by far the most significant source of ammonia” contributing to regional haze.<sup>9</sup> When operating with just over 50,000 cows in 2005, Threemile Canyon Farms reported ammonia emissions that ranked among the highest of all reported industrial sources in the nation.<sup>10</sup> Methane digesters do nothing to reduce these emissions or the threats they pose to the environment and public health.

*b. Mega-Dairy Biogas is not Clean, Renewable Energy and Threemile’s Proposal is Contrary to the Public Interest*

Because the production of methane for manure-to-energy projects like the Threemile Canyon proposal is dependent on the continuous generation of massive amounts of industrial animal waste by livestock operations, these technologies are inherently dirty sources of energy production and should not be considered to produce clean or renewable energy. Biogas projects

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<sup>2</sup> *Id.* at 36; U.S. EPA, Toxicological Review of Hydrogen Sulfide, CAS No. 778-06-4 10 (Jun. 2003).

<sup>3</sup> Donham, Kelly J. et al., Community Health and Socioeconomic Issues Surrounding Concentrated Animal Feeding Operations, *Environmental Health Perspectives* Vol. 115, Iss. 2 317-18 (Feb. 2007).

<sup>4</sup> U.S. Gov’t Accountability Office, Concentrated Animal Feeding Operations, GAO-08-044 7 (Sept. 2008).

<sup>5</sup> U.S. EPA, Ground-Level Ozone Pollution, <https://www.epa.gov/ground-level-ozone-pollution>.

<sup>6</sup> American Lung Ass’n, State of the Air 2019, Report Card: Oregon, <https://www.lung.org/our-initiatives/healthy-air/sota/city-rankings/states/oregon/>.

<sup>7</sup> Oregon Dairy Air Quality Task Force, Technical Support Document for Dairy Air Quality Task Force Report at 41-42; Oregon Dairy Air Quality Task Force, Final Report to the Department of Environmental Quality and Department of Agriculture 6-7 (2008).

<sup>8</sup> Robert Bachman, USDA Forest Service, A summary of recent information from several sources indicating significant increases in nitrogen in the form of ammonia and ammonium nitrate in the Eastern Columbia River Gorge and the Columbia Basin, at 2 (June 24, 2005).

<sup>9</sup> Oregon DEQ, Oregon Regional Haze Plan: 5-Year Progress Report and Update i, 21 (Feb. 2016).

<sup>10</sup> See Nat’l Ass’n of Clean Air Agencies, Comment on Proposed CERCLA/EPCRA Reporting Exemption, Docket ID No. EPA-HQ-SFUND-2007-0469 3 (Mar. 27, 2009), <http://www.4cleanair.org/Documents/CAFOLetter32708.pdf>.

are a false solution to climate change, and permits that authorize mega-dairies like Threemile Canyon to connect their digesters to existing gas pipeline infrastructure undermine real solutions.

The Permit is a key part of Threemile Canyon’s plan to effectively transition from an industrial dairy that utilizes some of its methane to power part of its operations into a gas production facility that raises animals as a means to produce liquefied manure for the purpose of methane production. This new source of revenue will incentivize expansion, leading to increased emissions, including greenhouse gases, from the facility over time. Moreover, the digester and gas treatment facility will do nothing to abate the water pollution, unregulated air emissions, uncaptured enteric methane emissions,<sup>11</sup> or other adverse impacts from the facility.

The Permit will also undermine other efforts to address climate change by increasing reliance on fossil fuel infrastructure and making it easier for other polluters to avoid emissions reductions. By piping biogas south for use in California, Threemile Canyon’s biogas project will enable other industrial polluters to claim credit for use of “renewable” energy, rather than reducing their emissions through the use of actual renewable energy or improvements in energy efficiency. Moreover, because Threemile’s biogas will be mixed with fossil fuel-derived natural gas in the pipeline, the effect of this approval will be to further reinforce Oregon’s and the entire West Coast’s reliance on fossil fuels when we must instead prioritize rapidly decarbonizing our energy system.

Mega-dairy methane digesters are also notoriously inefficient, uneconomical, and difficult to operate.<sup>12</sup> Because they are not profitable on their own, they are typically heavily subsidized. Threemile Canyon is no exception. Threemile has long been the beneficiary of a host of public and private funding streams, and now intends to use tax-exempt bonds intended for publicly beneficial initiatives for a dirty biogas project that will undermine, rather than serve, the public interest.<sup>13</sup>

DEQ should deny this Permit and any other permit that entrenches both this unsustainable model of dairy production and Oregon’s reliance on fossil fuel pipeline infrastructure.

## **II. DEQ Must Consider all of Threemile Canyon’s Facilities as a Single Source for purposes of Title V**

Oregon regulations define a “source” as “any building, structure, facility, installation or combination thereof that emits or is capable of emitting air contaminants to the atmosphere, is located on one or more contiguous or adjacent properties and is owned or operated by the same

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<sup>11</sup> Research indicates that “enteric emissions are normally the largest source of greenhouse gas on a dairy farm.” C. Alan Rotz, Modeling Greenhouse Gas Emissions from Dairy Farms, *Journal of Dairy Science* Vol. 101 Iss. 7 6677 (Jul. 2018).

<sup>12</sup> Food & Water Watch, *Hard to Digest: Greenwashing Manure into Renewable Energy* (Nov. 2016), [https://www.foodandwaterwatch.org/sites/default/files/ib\\_1611\\_manure-digesters-web.pdf](https://www.foodandwaterwatch.org/sites/default/files/ib_1611_manure-digesters-web.pdf).

<sup>13</sup> *See, e.g.*, Tracy Loew, Salem Statesman Journal, Manure is big business at Oregon’s largest dairy with conversion to natural gas (Mar. 31, 2019), <https://www.statesmanjournal.com/story/tech/science/environment/2019/03/31/oregon-threemile-canyon-farms-dairy-natural-gas-manure/3247197002/>.

person or by persons under common control. The term includes all air contaminant emitting activities that belong to a single major industrial group, i.e., that have the same two-digit code, as described in the Standard Industrial Classification Manual, U.S. Office of Management and Budget, 1987, or that support the major industrial group.” OAR 340-200-0020(166). The entire Threemile operation, including the dairies and the existing and proposed digester infrastructure, is a single source under this definition.

As discussed above, Threemile Canyon emits, and its new infrastructure will emit, air contaminants into the atmosphere. Moreover, the dairies and the digester infrastructure are on contiguous property. The Permit lists the plant site location as 75906 Threemile Road, which is the same address as the dairy facility<sup>14</sup> and adjoins the rest of the dairy operation.

These parts of the Threemile facility are also operated by the same person and are under common control. The Permit lists Marty Myers as WFO PNW Threemile Project, LLC’s CFO and General Manager, and the Oregon Secretary of State lists WOF PNW Threemile Project, LLC’s principal place of business as “C/O TMF Biofuels LLC,” 759 Threemile Road, Boardman, OR 97818.<sup>15</sup> TMF Biofuels LLC, in turn, is managed by Marty Myers.<sup>16</sup> Marty Myers also manages Threemile Canyon Farms.<sup>17</sup> Furthermore, the anaerobic digester operated by WFO PNW Threemile Project, LLC receives manure from the dairy operation as a feedstock, and then returns digestate to the dairy operation for use as a fertilizer.<sup>18</sup> The gas treatment system, digester, and dairies are thus a single source for purposes of Title V permitting, and DEQ should not allow Threemile to avoid comprehensive permitting by dividing its facility into multiple corporate entities. DEQ has failed to provide a source determination in the proposed permit, and as discussed above, the source for permitting under Title V is the entire dairy operation including every component of its manure management system.

### **III. When Properly Considered as a Single Source, Threemile Canyon Farms is Likely a CAA Major Source**

DEQ does not appear to have considered whether Threemile Canyon Farms as a whole is subject to any other CAA requirements, as the Permit considers the gas treatment facility in isolation and makes no mention of Threemile Canyon’s other emissions. Emission factors developed by the San Joaquin Valley Air Pollution Control District in California, a region where numerous industrial dairies have contributed significantly to very poor air quality, indicate that Threemile is a major source of VOCs. The Air Pollution Control District has calculated that dairy confinements emit approximately 20 pounds of VOC emissions per head per year, not including emissions from feed storage facilities and feed available for consumption in feed

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<sup>14</sup> Oregon Secretary of State, [http://egov.sos.state.or.us/br/pkg\\_web\\_name\\_srch\\_inq.login](http://egov.sos.state.or.us/br/pkg_web_name_srch_inq.login) (search “Threemile Canyon Farms LLC”).

<sup>15</sup> *Id.* (search “WOF PNW Threemile Project LLC”).

<sup>16</sup> *Id.* (search “TMF Biofuels LLC”).

<sup>17</sup> Tracy Loew, Salem Statesman Journal, Manure is big business at Oregon’s largest dairy with conversion to natural gas.

<sup>18</sup> George Plaven, East Oregonian, Boardman: State’s largest dairy runs on closed loop (Oct. 21, 2016), [https://www.eastoregonian.com/news/local/boardman-state-s-largest-dairy-runs-on-closed-loop/article\\_f8ba13bc-6373-5ea8-bc89-15cc521be618.html](https://www.eastoregonian.com/news/local/boardman-state-s-largest-dairy-runs-on-closed-loop/article_f8ba13bc-6373-5ea8-bc89-15cc521be618.html).

lanes.<sup>19</sup> According to this emission factor, a dairy confinement housing more than 25,000 dairy cows is likely a major source and subject to permitting under OAR 340-218-0020(1)(a).

| <b>Uncontrolled Per Cow Dairy VOC Emission Factors</b>     |                             |
|--|-----------------------------|
| <b>Process or Constituent</b>                              | <b>Emissions (lb/hd-yr)</b> |
| 1. Enteric Emissions from Cows                             | 4.3                         |
| 2. Milking Parlor(s)                                       | 0.04                        |
| 3. Freestall Barns   | 1.9                         |
| 4. Corrals/Pens  | 10.0                        |
| 5. Liquid Manure Handling (Lagoons, Storage Ponds, Basins) | 1.5                         |
| 6. Liquid Manure Land Application                          | 1.6                         |
| 7. Solid Manure Land Application                           | 0.39                        |
| 8. Separated Solids Piles                                  | 0.06                        |
| 9. Solid Manure Storage                                    | 0.16                        |
| <b>Total not including Feed</b>                            | <b>20.0</b>                 |

With approximately 70,000 total cows, Threemile Canyon far surpasses this size,<sup>20</sup> and the VOC emissions from the proposed gas treatment system (6.99 tons per year) in combination with the VOC emissions from the existing dairy infrastructure that it is being built to support exceed the CAA’s major source threshold. DEQ must consider these dairy emissions and determine whether Threemile Canyon is a major source subject to additional CAA requirements.

**IV. DEQ Must also Consider any Potential Expansions at Threemile Canyon in Calculating its Potential to Emit**

Because it only considers the digester-related emissions, the Permit also fails to consider the increase in emissions that will occur if and when Threemile Canyon increases its herd size to feed the digester and gas treatment system. The proposed gas treatment facility and connection to existing pipeline infrastructure appears to indicate that Threemile Canyon has a larger plan to become, in effect, a gas company first and a dairy second. Once Threemile is connected to pipelines and can sell its biogas off-site, it will have a far greater financial incentive to expand as much as possible to profit from its gas sales, despite slumping dairy prices. Consequently, even though DEQ and the Oregon Department of Agriculture have not yet authorized Threemile Canyon to expand its herd size through a revision to the facility’s Clean Water Act National Pollutant Discharge Elimination System permit, DEQ should consider the maximum emissions the digester and gas treatment facility could emit based on the maximum herd size the biogas

<sup>19</sup> San Joaquin Valley Air Pollution Control District, Air Pollution Control Officer’s Revision of the Dairy VOC Emission Factors 5 (Feb. 2012), [https://www.valleyair.org/busind/pto/emission\\_factors/2012-Final-Dairy-EE-Report/FinalDairyEFReport\(2-23-12\).pdf](https://www.valleyair.org/busind/pto/emission_factors/2012-Final-Dairy-EE-Report/FinalDairyEFReport(2-23-12).pdf).

<sup>20</sup> Tracy Loew, Salem Statesman Journal, Manure is big business at Oregon’s largest dairy with conversion to natural gas.

facility could support, and also consider all of the VOC, methane, particulate matter, and other emissions the dairy would emit at that size.

Mega-dairy methane digesters and manure-to-gas facilities, and specifically Threemile Canyon's proposal, do not address the many environmental and other problems these facilities cause, are a false solution to climate change, and are contrary to the public interest. In fact, the Permit will likely lead to overall emissions increases of methane, VOCs, and other harmful air pollutants by Threemile Canyon over time. Moreover, the proposed Permit fails to address the vast majority of Threemile Canyon's VOC emissions, impermissibly ignoring most of the relevant source for purposes of Title V permitting. Commenters therefore urge DEQ to deny the requested Permit.

Thank you for the opportunity to comment.

Sincerely,

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Food & Water Watch

Hannah Connor  
Center for Biological Diversity

Lauren Goldberg  
Columbia Riverkeeper

Cristina Stella  
Animal Legal Defense Fund

Steve McCoy  
Friends of the Columbia Gorge

Erin Eberle  
Farm Forward

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Friends of Family Farmers

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