Iowa Environmental Council

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June 17, 2026

Mr. Brian Hutchins
Air Quality Bureau
Department of Natural Resources – Environmental Services Division
6200 Park Ave Suite 200
Des Moines, IA 50321

Re: Comments on the 2026 Air Monitoring Network Plan

Dear Mr. Hutchins:

The Iowa Environmental Council (IEC) offers the following comments on the 2025 Iowa Ambient Monitoring Network Assessment, noticed for public comment on May 18, 2026.

The Iowa Environmental Council is an alliance of nearly 100 organizations, over 500 individual members, and an at-large board representing our membership. IEC works to build a safe, healthy environment and sustainable future for Iowa. Our members care about air and water quality across the state, and they hike, recreate, and enjoy the outdoors in Iowa and beyond.

Our organization is concerned about the limited monitoring the Iowa Department of Natural Resources (DNR) has proposed for susceptible populations required under the Clean Air Act and request expansion of the state's air monitoring network. The requested expansion includes the PM 2.5 real time and speciation network, and the air toxics network.

Although the Iowa Ambient Air 2026 Network Plan is changing three existing PM2.5 special purpose monitors in Des Moines, Iowa City, and Sioux City to State and Local Air Monitoring Stations (SLAMS) monitors, the 2026 plan, like the 2025 Network Plan, does not call for implementation of those changes until January 1, 2027.

Importantly, it still does not expand the SLAMS network to include ozone and PM 2.5 monitors in the areas identified with asthma rates higher than 80% of the national population, nor add SPM ozone and PM2.5 monitors as IEC had requested in 2024.

The DNR has also indicated that, should the 9.0 $\mu g/m^3$ standard be vacated by the EPA, it will not convert the three PM2.5 special purpose monitors in Des Moines, Iowa City, and Sioux City to SLAMS.[1] Regardless of whether the 9.0 $\mu g/m^3$ rule is vacated, these monitors should be converted from SPM to SLAMS. Additionally, as noted in our 2025 comments, the 2026 plan

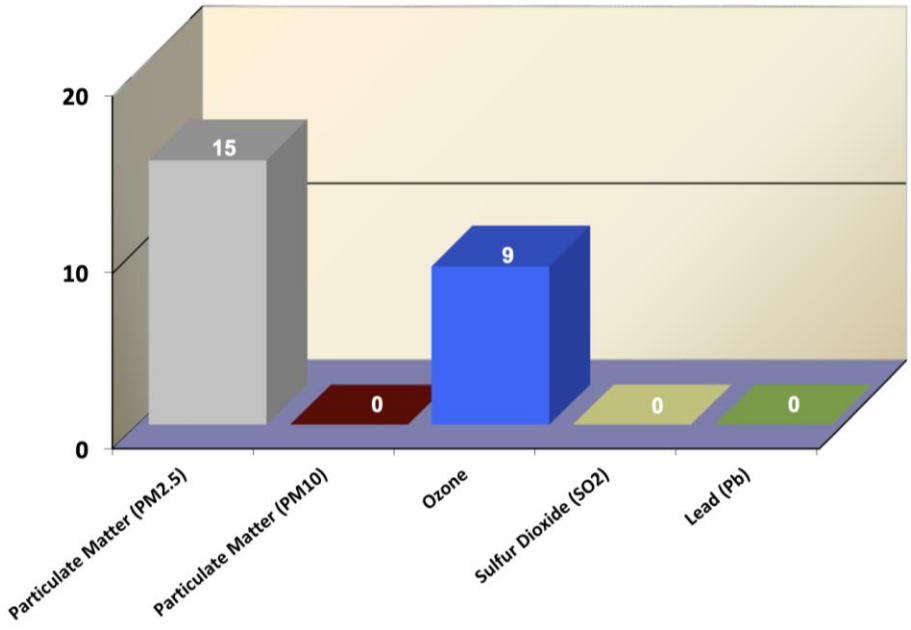
[1] Iowa DNR, "Iowa Ambient Air Monitoring 2026 Network Plan" (hereinafter "Draft Plan") (May 18, 2026), available at https://www.iowadnr.gov/media/7934/download?inline.

still does not expand the SLAMS network to include ozone and PM2.5 monitors in areas identified with asthma rates higher than 80% of the national population. IEC also requests an expansion of the toxics monitoring locations in the state to correlate better with ethanol refineries, as expanded upon below.

I. Ambient Air Standards

As laid out in IEC's comments on the 2025 air monitoring plan, air pollution is a well-recognized threat to public health and environmental quality[2]. In 2025, IEC identified two key criteria air pollutants affecting asthma: ozone (found in smog) and particle pollution (found in haze, smoke, and dust). When ozone and particle pollution are in the air, adults and children with asthma are more likely to have symptoms[3]. The NAAQS for 8-hour ozone is 70 pbb (parts per billion), with an annual PM2.5 standard of 9.0 $\mu g/m^3$ (micrograms per cubic meter), and a 24-hour $PM_{2.5}$ standard of 35 $\mu g/m^3$[4]. In 2025, Iowa air monitoring showed 15 exceedances of the $PM_{2.5}$ and 9 exceedances of the ozone standard. (see chart below).[5]

Iowa NAAQS Exceedances, 2025



[2] Stern, *History of Air Pollution Legislation in the United States*; 32 J. AIR POLLUTION CONTROL ASS'N 44–61 (1982).
[3] U.S. EPA, Asthma and Outdoor Air Pollution," available at https://www.airnow.gov/sites/default/files/2018-03/asthma-flyer.pdf.
[4] U.S. EPA, "Ozone National Ambient Air Quality Standards (NAAQS)," available at https://www.epa.gov/ground-level-ozone-pollution/ozone-national-ambient-air-quality-standards-naaqs (last visited June 15, 2026); U.S. EPA, "National Ambient Air Quality Standards (NAAQS) for PM," available at https://www.epa.gov/pm-pollution/national-ambient-air-quality-standards-naaqs-pm (last visited June 15, 2026).
[5] "Monitoring Ambient Air," DNR, available at https://www.iowadnr.gov/environmental-protection/air-quality/monitoring-ambient-air.

As noted in 2025, the air monitoring network should address "gaps in health protection that can occur for criteria pollutants and HAPs [hazardous air pollutants] near strong local sources" since air monitoring is often insufficient.[6] Inadequate monitoring of emission, air quality, and health relationships can "result in inappropriate SIPs [State Implementation Plans], gaming, or paralysis by analysis."[7] IEC reminds the DNR that a state must act to ensure that its monitoring plan is protective of public health—not to simply "ensure compliance" while failing to look closer at public health concerns.[8]

II. Air Monitoring Network

The Clean Air Act requires every state to establish a network of air monitoring stations for criteria pollutants, using EPA criteria for their location and operation, as part of the State Implementation Plan (SIP).[9] The monitoring stations are called State and Local Air Monitoring Stations (SLAMS). State and local agencies also use another type of monitor, Special Purpose Monitors (SPM), to fulfill specific short-term monitoring goals.[10]

Iowa has a continuing duty to ensure that its air monitoring is consistent with statutory and regulatory obligations. As a part of those obligations, the DNR must complete both network assessments[11] and network plans.[12] These processes detail monitoring purpose and compliance with minimum monitoring requirements. Minimum monitoring requirements rely on population, measured concentrations, and air pollution emissions data.[13] Critically, they establish that Iowa must place monitors to protect at-risk communities.

Iowa must develop monitoring to address at-risk populations – such as populations that experience high levels of environmentally-related diseases like asthma. Monitoring should address at-risk populations—such as populations that experience high levels of environmentally-related disease like asthma and cancer. Iowa must develop sites in at-risk communities to monitor fine particulate matter. In network plans, Iowa must submit to the EPA by the 2025 planning year a "PM2.5 network design to address at-risk communities."[14]

III. The Proposed Air Monitoring Network Fails to Adequately Address the Research Objective.

Federal regulation at 40 CFR Part 58, Appendix D requires that monitoring networks for criteria pollutants be designed for three basic monitoring objectives:

- provide air pollution data to the public in a timely manner;
- support compliance with ambient air quality standards (primary and secondary) and emission strategy development; and

[6] Chow et al., *Critical Review Discussion: Will the Circle Be Unbroken: A History of the U.S. National Ambient Air Quality Standards*, 57 J. AIR & WASTE MANAG. ASS'N. 1151, 1160 (2007).
[7] *Id*. At 1159
[8] 40. C.F.R. pt. 58, Appendix D at 1.1.1).
[9] 42 U.S.C. § 7410(a)(2)(B).
[10] *Id.* at 1159.
[11] 40 C.F.R. § 58.10(d).
[12] 40 C.F.R. § 58.10(a) (1).
[13] 40 C.F.R. pt. 58, Appendix D.
[14] 40 C.F.R. 58.10(b) (14).

• support air pollution research studies.[15]

The research requires that monitoring points be located so that the resulting data will represent the population group under evaluation. Therefore, the monitoring stations are established in the centers of small, well-defined residential areas within a community. Data correlations are made between observed health effects and observed air quality exposures.[16]

a. *Iowa Asthma*

Given the high asthma rates in Iowa communities as discussed in Section IV below, PM 2.5 and ozone monitors should be placed in these areas. The lack of PM 2.5 and ozone monitors in these communities, and a single PM 2.5 speciation monitor at the Davenport NCore site, is inadequate for researchers in understanding the cause of the high asthma rates in Iowa.

b. *Iowa Cancer Rate*

Another research area in Iowa is the high rate of cancer. Iowa continues to have the second highest age-adjusted rate of new cancers diagnosed and is one of only three states with a rising age-adjusted rate of new cancers.[17] The 2026 Cancer in Iowa report projects 6400 Iowans will die from cancer, and 21,700 Iowans will develop cancer, in Iowa in 2026 as shown below by cancer type.[18]

[15] Quality Assurance Handbook for Air Pollution Measurement Systems, Volume II, section 1.1, p.1 of 12, https://www3.epa.gov/ttnamti1/files/ambient/pm25/qa/Final%20Handbook%20Document%201_17.pdf.
[16] *Id.* at Volume II, section 6.0, p.3 of 15.
[17] Cancer in Iowa 2026, https://shri.public-health.uiowa.edu/wp-content/uploads/2026/03/2026-Cancer-in-Iowa.pdf.
[18] *Id*.

ESTIMATED CANCER DEATHS AMONG IOWA RESIDENTS, ALL AGES, 2026					
TYPE	COUNT	% OF TOTAL	TYPE	COUNT	% OF TOTAL
Lung	1,460	22.8	Esophagus	200	3.1
Colon and rectum	550	8.6	Kidney and renal pelvis	200	3.1
Pancreas	530	8.3	Bladder	170	2.7
Breast	380	5.9	Brain	170	2.7
Prostate	370	5.8	Uterus	130	2.0
Liver and intraheptic bile duct	270	4.2	Myeloma	110	1.7
Leukemia	250	3.9	Ovary	110	1.7
Non-Hodgkin lymphoma	240	3.8	All others	1,260	19.7
TOTAL COUNT: 6,400					

ESTIMATED NEW CANCERS AMONG IOWA RESIDENTS, ALL AGES, 2026					
TYPE	COUNT	% OF TOTAL	TYPE	COUNT	% OF TOTAL
Prostate	3,100	14.3	Leukemia	720	3.3
Breast	3,050	14.1	Uterus	680	3.1
Lung	2,600	12.0	Pancreas	630	2.9
Colon and rectum	1,630	7.5	Oral cavity and pharynx	620	2.9
Skin melanoma	1,500	6.9	Thyroid	550	2.5
Kidney and renal pelvis	950	4.4	Liver and intrahepatic bile duct	370	1.7
Bladder	900	4.1	Myeloma	300	1.4
Non-Hodgkin lymphoma	870	4.0	All others	3,230	14.9
TOTAL COUNT: 21,700					

Research on public health has concluded that "Exposure to outdoor air pollution poses an urgent public health challenge worldwide because it is ubiquitous, affecting everyone, and has numerous serious adverse human health effects, including cancer. Major primary air pollutants, those emitted directly into the environment largely as a result of combustion of fossil and biomass fuels, include gaseous pollutants (such as sulfur dioxide [SO2], nitrogen dioxide [NO2], carbon monoxide [CO], and volatile organic compounds [VOCs]) and particulate matter (PM) (including carbonaceous aerosol particles, such as black soot)."[19]

Researchers in 1993 published the landmark Six Cities Study establishing an association between fine particulate matter and mortality. In 2013, air pollution was classified as a human carcinogen by the International Agency for Research on Cancer of the World Health Organization (WHO).[20]

In 2021, the WHO guideline lowered the annual mean PM 2.5 limit from 10 µg/m³ to 5 µg/m³. This change reflected over a decade of new research showing significant health effects at concentrations previously considered safe. The halving of the guideline to 5 µg/m³ was not a

[19] Lelieveld J, Evans J, Fnais M, et al. The contribution of outdoor air pollution sources to premature mortality on a global scale. Nature. 2015;525:367-371.
[20] "Air Pollution and Your Health," National Institute of Environmental Health Sciences, available at https://www.niehs.nih.gov/health/topics/agents/air-pollution.

cautious incremental change. It reflected a growing body of evidence that there is no safe threshold for PM2.5 exposure. The 2021 guidelines were endorsed by a broad coalition of medical societies, public health organizations, and scientific groups as a necessary response to this evidence.[21]

While some environmental carcinogens, like cigarette smoke and excessive sun exposure, can be avoided, others—such as air pollutants and contaminants in drinking water—are much harder to escape. This makes it essential to identify which environmental factors are linked to cancer, where they are prevalent, and how they contribute to its development. Achieving this requires accurate measurement of environmental exposures, collecting data from affected populations, and designing experiments to study their biological effects.[22]

c. *PM 2.5 Monitors*

Air pollution contributes to an estimated 8.1 million deaths annually from non-communicable diseases and is increasingly recognized as a major cancer risk factor. Nearly 374,000 lung cancer deaths a year – about one in five globally – air attributed to air pollution. Additional links have been identified with brain, liver, kidney, and bladder cancers, reinforcing the need to address air quality. Findings show notably that exposure to PM 2.5 raises the risk of developing a range of cancers: 11% of overall cancer risk, 63% for brain cancer, 31% for liver, 19% for colorectal, and 9% for kidney. Pollutants such as black carbon and nitrogen oxides are associated with even higher risks for malignant brain tumors and lung cancer.[23]

Given the high cancer rates in Iowa communities, and the evidence of increased risk due to PM 2.5, the number of PM 2.5 monitors should be increased beyond the minimum required. This should include increasing the number of PM 2.5 speciation monitors beyond the single PM 2.5 speciation monitor at the Davenport NCore site, which is inadequate for researchers in understanding the cause of the high cancer rates in Iowa.

IV. Air Monitor Locations and Asthma in Iowa

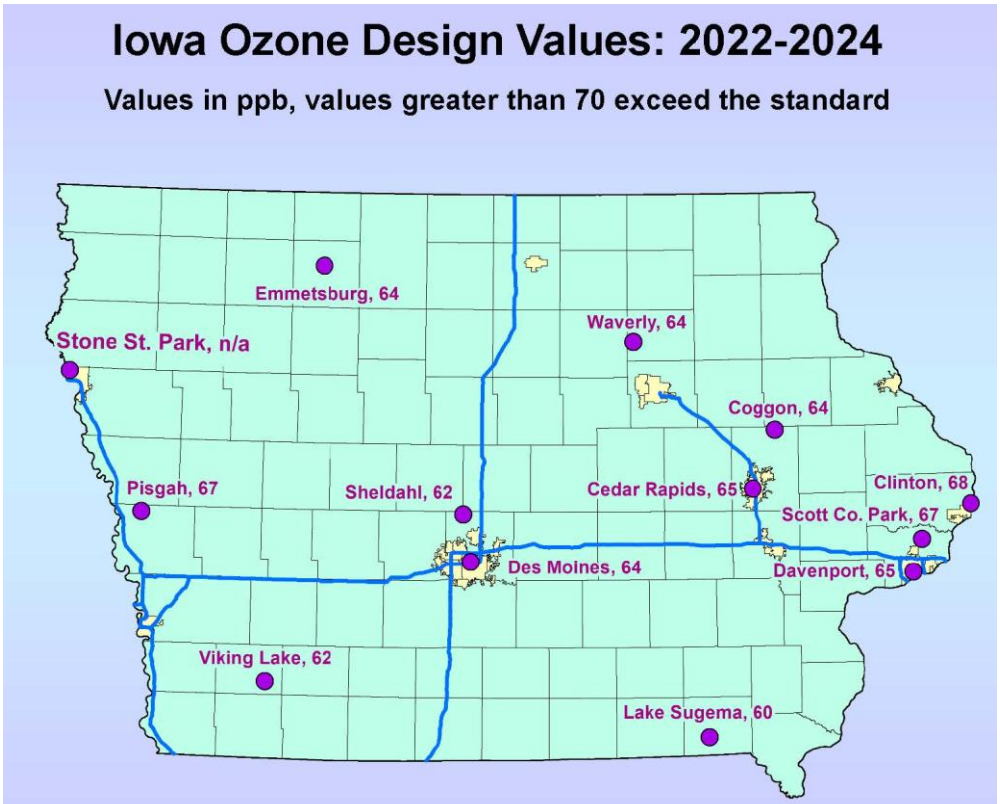
In 2025, IEC identified 13 communities with at-risk populations in the state with high rates of asthma. The at-risk populations in these communities have asthma rates higher than 80% of the population nationally. Four of these communities have at-risk populations with asthma rates higher than 95% of the population nationally, including Ames at 99%, Iowa City at 96%, Cedar Falls at 95%, and Waterloo at 97%.

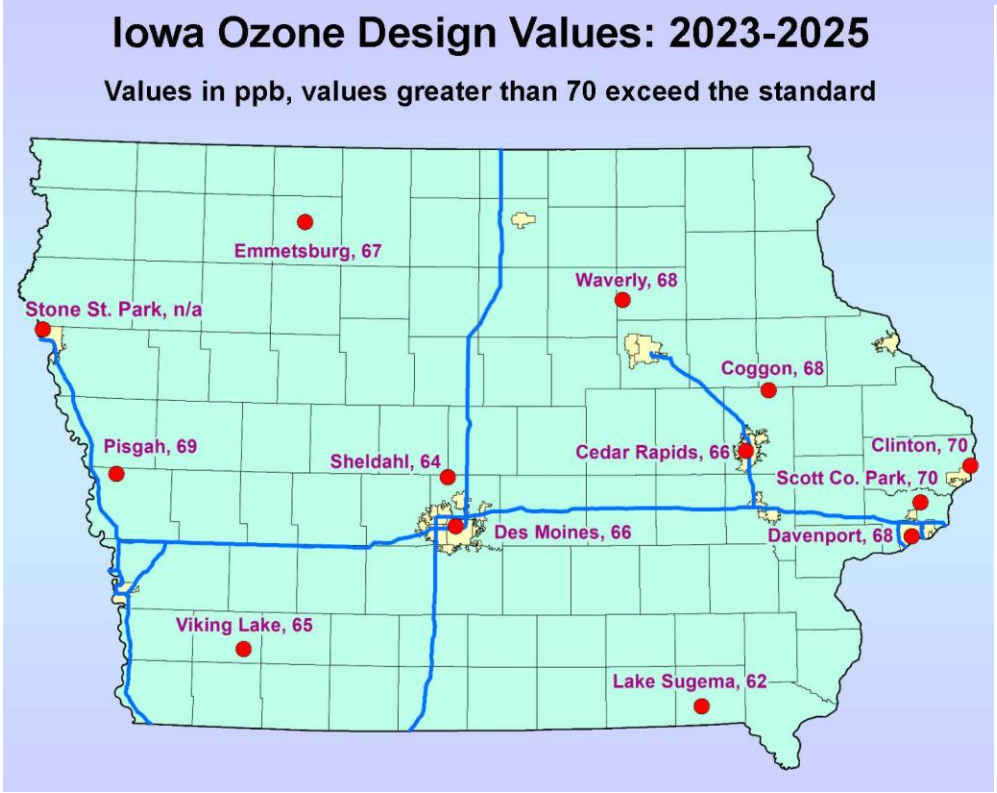
[21] "What Is the WHO PM2.5 Standard for Air Quality?," ScienceInsights; https://scienceinsights.org/what-is-the-who-pm2-5-standard-for-air-quality/.
[22] How the Air You Breathe Could Affect Your Cancer Risk, available at https://scitechdaily.com/how-the-air-you-breathe-could-affect-your-cancer-risk/.
[23] "Why clean air matters for cancer care and people living with cancer," UICC, available at https://www.uicc.org/news-and-updates/news/why-clean-air-matters-cancer-care-and-people-living-cancer.

City	Site	Address	County	Ozone Monitor	PM 2.5 Monitor	Ozone Monitor in >80%	PM 2.5 Monitor in >80%
Ames				No	No	No	No
Burlington				No	No	No	No
Cedar Rapids	Public Health	500 11th St. NW	Linn	Yes	Yes	No	No
Council Bluffs	Franklin School	3130 C Ave.	Pottawattamie	No	Yes	No	No
Davenport	Jefferson School	10th St. & Vine St.	Scott	Yes	Yes	Yes	Yes
Davenport	Hayes School	622 South Concord St	Scott	No	Yes	No	No
Des Moines	Health Dept.	1907 Carpenter	Polk	Yes	Yes	No	No
Des Moines	Public Works	5885 NE 14th	Polk	No	Yes	No	No
Dubuque				No	No	No	No
Fort Dodge	Day Park			No	Yes	Yes	No
Iowa City	Hoover School	2200 East Court	Johnson	No	Yes	No	No
Ottumwa				No	No	No	No
Sheldahl	Southern Crossroads	15795 NW 58th St	Polk	Yes	No	No	No
Sioux City	Irving School	901 Floyd Blvd.	Woodbury	Yes	Yes	No	No
Waterloo/Cedar Falls	Water Tower	Vine St. & Steely	Black Hawk	No	Yes	No	Yes

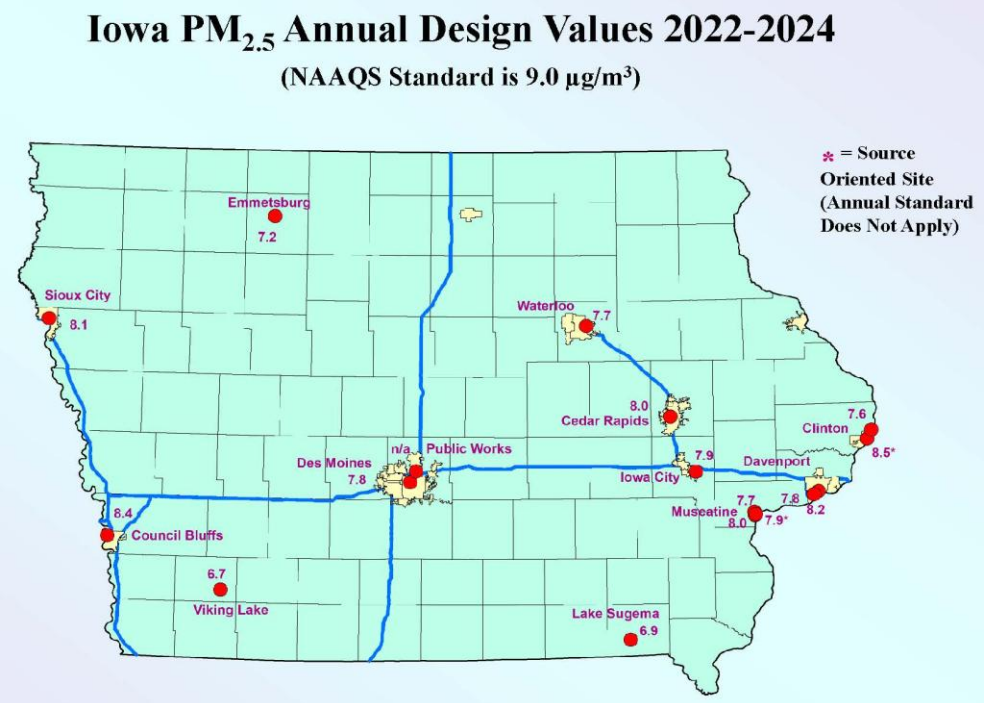
Of these 13 communities, only one received $PM_{2.5}$ monitoring in 2025: Fort Dodge, which still does not have ozone monitoring.

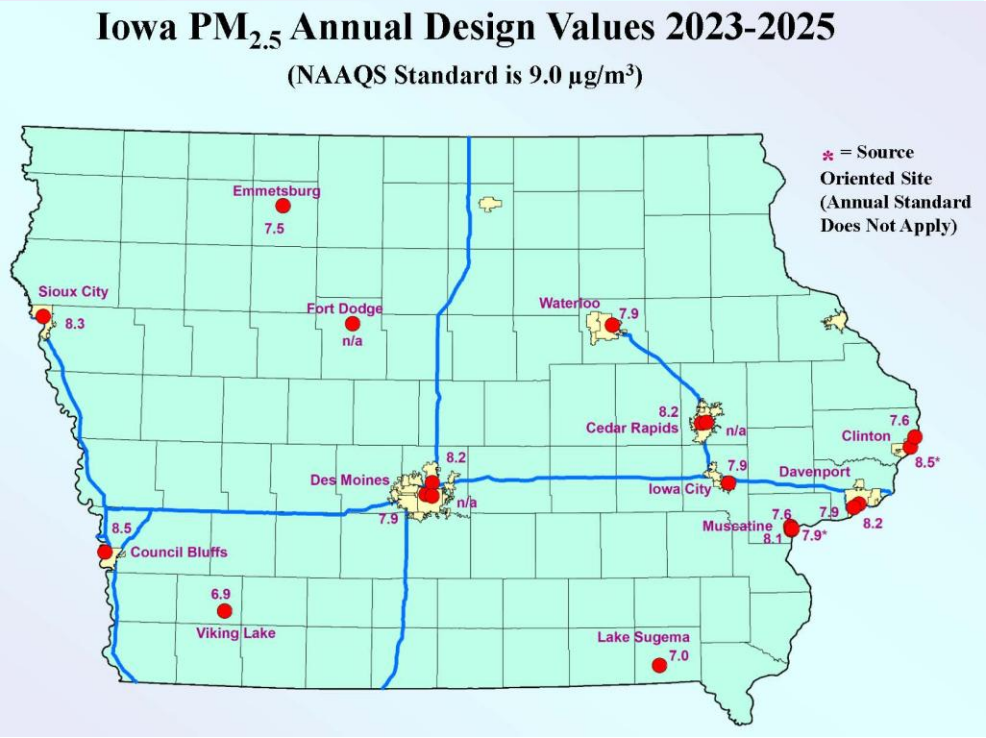
Iowa's ozone design values for the three-year period from 2023-2025 compared to the 2022-2024 ozone design values shows ozone pollution increasing in Iowa.





Similarly, Iowa's $PM_{2.5}$ design values for the three-year period from 2023-2025 compared to the 2022-2024 $PM_{2.5}$ design values shows $PM_{2.5}$ pollution increasing in Iowa.





IEC requests that the DNR expand its ozone and PM $_{2.5}$ monitoring networks, particularly in the 13 communities identified in 2025 with asthma rates higher than 80% of the population.

With the increasing value of ozone and $PM_{2.5}$ in the atmosphere, Iowa's air monitoring should be expanding to continue monitoring and work to address the increasing rate of ozone and $PM_{2.5}$, not merely stay stagnant, particularly in the 13 communities identified by IEC in 2025.

V. DNR Must Expand the Monitoring Network to Monitor Vulnerable Populations

IEC remains concerned that the current air monitoring network is insufficient to adequately address vulnerable populations in the state. Sioux City has a $PM_{2.5}$ design value of 8.3 ug/m^3, equal to 92 percent of the ambient standard.[24] This ranks among the highest in the state and has increased in the last year. The monitor in Sioux City being converted from SPM to SLAMS will operate on a "1 in 3" basis, meaning that it samples one out of every three days rather than on a continuous basis.[25] DNR indicates no plan to add ozone and $PM_{2.5}$ monitors.

VI. The Current Toxics Monitoring Network is Insufficient

The 2026 Air Monitoring plan notes that there is no intention to expand the toxics monitoring network before submission of the next air monitoring plan. There are currently 42 ethanol biorefineries in Iowa. During the fermentation of ethanol, compounds such as formaldehyde, acetaldehyde, hexane, and acrolein are created. According to a study by the Environmental Integrity Project, in 2022 80 biofuel plants released 234,515 pounds of formaldehyde, a known human carcinogen, along with 2,115,467 pounds of acetaldehyde, a probable human carcinogen.[26]

The EPA classifies formaldehyde, acetaldehyde, hexane, and acrolein as "hazardous air pollutants" under the clean air act, and they are common byproducts to all ethanol refineries.[27] With 42 of these ethanol plants in Iowa, there is likely a large gap in what emissions are being produced, and what is being monitored by DNR. IEC calls on DNR to expand its toxic air monitoring to capture more data on the release of these volatile organic compounds (VOCs) to increase monitoring of these hazardous pollutants from ethanol refineries. With many emissions sources and only 4 toxics monitoring sites in Iowa, underreporting is extremely likely.

Nationwide, EIP quantified hazardous emissions from ethanol and industry as shown below.[28]

Table 1. Hazardous air pollution released from biofuel plants vs. petroleum refineries (2022)

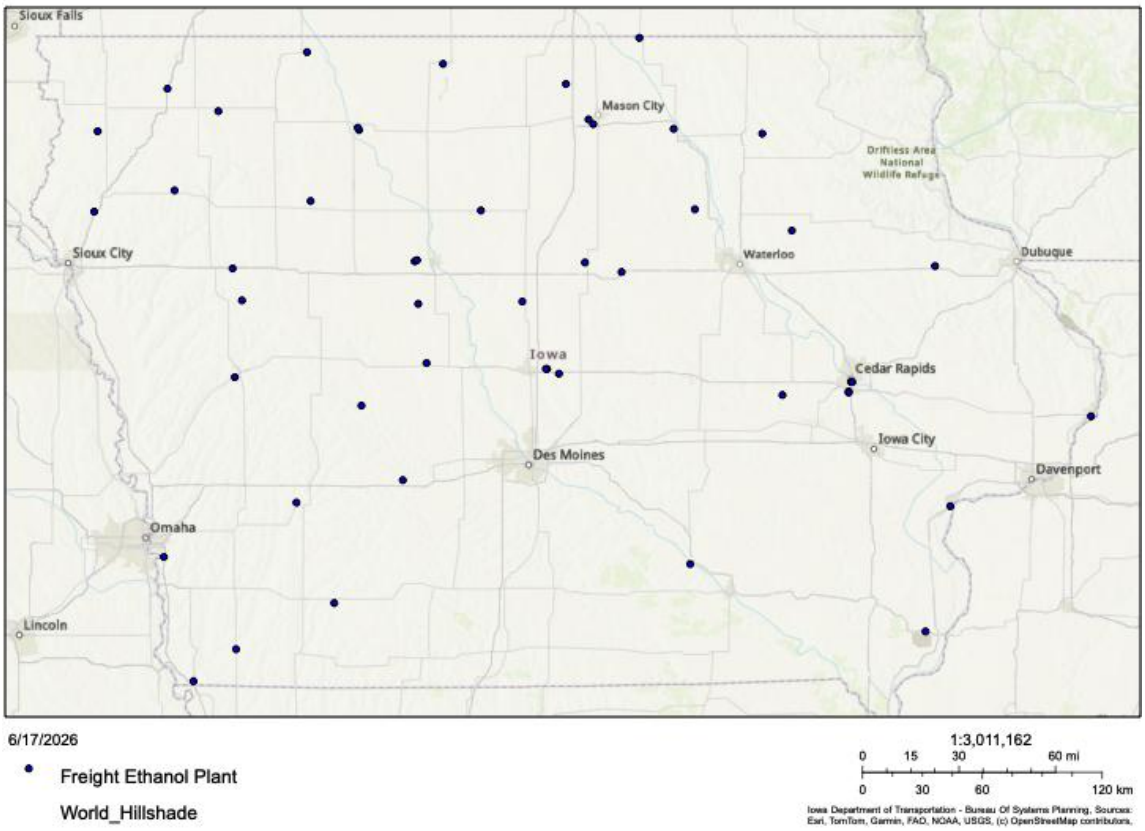
Pollutants	Pounds reported in 2022 (number of facilities reporting pollutant)			
	Ethanol	Biodiesel	Total Biofuels	Petroleum Refineries
Acetaldehyde	2,115,467 (164)	2,486 (2)	**2,117,953 (166)**	**10,420 (2)**
Acrolein	357,564 (92)	-	**357,564 (92)**	-
Formaldehyde	234,515 (80)	610 (1)	**235,125 (81)**	**67,774 (5)**
Hexane	3,351,096 (164)	4,336,426 (10)	**7,698,860 (180)**	**2,630,758 (128)**

[24] "Iowa Fine Particulate Monitoring Network Design Values 2023-2025," Iowa DNR, available at https://www.iowadnr.gov/media/9643/download?inline.
[25] Draft Plan Appendix D at 8.
[26] Environmental Integrity Project, *Farm to Fumes: Hazardous Air Pollution from Biofuel Manufacturing* (June 12, 2024), https://environmentalintegrity.org/wp-content/uploads/2024/06/EIP_Report_FarmtoFumes_06.12.2024.pdf.
[27] *Id., see also* https://www.epa.gov/haps/initial-list-hazardous-air-pollutants-modifications,
[28] *Id.* at 4.

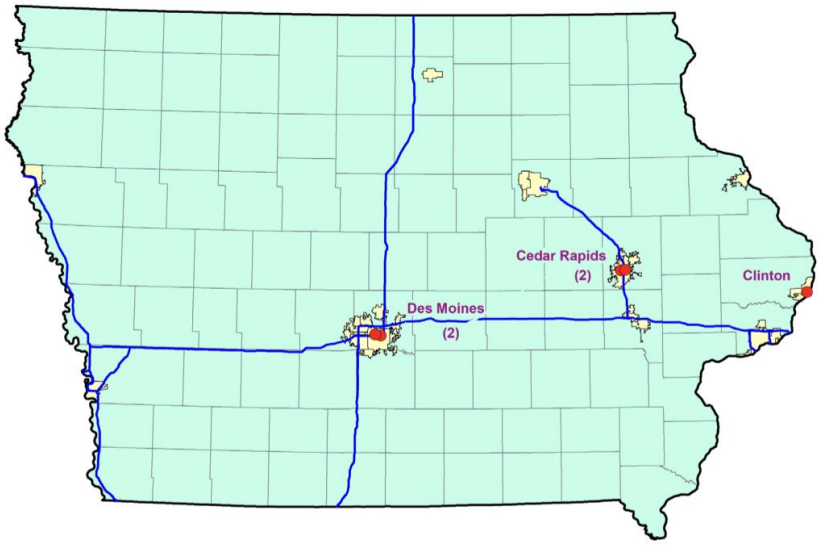
Additionally, EIP identified that, between 2021 and 2024, 41% (98 of 240) of biofuels plants across the United States violated their air pollution control permits at least once, per the EPA's Enforcement and Compliance History Online (ECHO) database.

In Iowa specifically, the Grain Processing Corporation's ethanol refinery in Muscatine has failed its stack tests 16 times over the last five years, per the EPA's ECHO database, indicating that the current strategy of self-reporting emissions and semiannual compliance checks should be reevaluated, and higher monitoring should be placed to track how these refineries are impacting Iowa's air.[29] As shown below, DNR's compliance points do not closely align with the ethanol facilities in the state.

map of ethanol plants, Iowa.



[29] Map of Ethanol Plants in Iowa, IEC, *available at* https://sigcfe.maps.arcgis.com/apps/mapviewer/index.html?layerId=0&layers=0e3ecc23ea994b6fb907219a4b696a03.



Toxics Monitoring Sites

VII. Recommendations

At-risk, susceptible populations often cluster together and tend to be closest to sources of pollution. As IEC documented in previous comments using the EPA's former EJSCREEN, an environmental justice screening tool, Iowa has areas of the state with at-risk populations experiencing extremely high asthma rates. Federal regulations require the network assessment to "consider the ability of existing and proposed sites to support air quality characterization for areas with relatively high populations of susceptible individuals (e.g., *children with asthma*) and other at-risk populations."[30]

Numerous communities in Iowa have susceptible populations, but not air quality monitoring stations. Locations such as Sioux City have exceeded the 24-hour standard based on local monitoring. As such, Iowa needs to expand the ozone and PM 2.5 monitoring network to accurately characterize air quality for these at-risk populations.

Iowa also has the second highest cancer rate in the country. Exposure to outdoor air pollution poses an urgent public health challenge because it is ubiquitous, making it essential that air quality monitoring accurately characterize the PM 2.5 and Volatile Organic Compounds in Iowa communities. As such, Iowa needs to expand the PM 2.5 speciation monitoring network, and the toxics monitoring to accurately characterize air quality for at-risk populations.

[30] 40 C.F.R. § 58.10(d) (emphasis added).

IEC requests that the SLAMS network be expanded to include ozone and PM 2.5 monitors in all of the areas identified with asthma rates higher than 80% of the national population. In the alternative, SPM ozone and PM 2.5 monitors need to be located in these areas with high rates of asthma.

Thank you for the opportunity to comment. If you have questions or we can clarify these comments further, please feel free to contact us.

/s/ Kyle Finn
Kyle Finn
Law Clerk

/s/ Michael Schmidt
Michael Schmidt
General Counsel

/s/ Steve Guyer
Steve Guyer
Senior Energy Policy Counsel