Nearly half of Michiganders live in unacceptable smog levels, EPA says

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(Photo: Mandi Wright, Detroit Free Press)

Nearly half of Michigan's population — more than 4.7 million people — live in areas with unacceptable smog levels, the U.S. Environmental Protection Agency has declared.

In an action that has been in the works for years, the EPA on Monday declared seven counties of metro Detroit, and three communities in west Michigan, in non-attainment of tighter standards for ground-level ozone, which mixes with sunshine, typically on hot summer days, to make smog.

Michigan will have three years to develop and implement plans to bring the areas into compliance, or face the potential of EPA officials enacting their own corrective measures.

Ozone pollution is one of the key aspects of unhealthy air facing Michigan residents, said Ken Fletcher, director of advocacy for the American Lung Association in Michigan. The nonprofit organization recently released its 2018 "State of the Air" report, giving all of the non-attainment areas in the state an "F" grade.

"This is important for people with compromised lungs – asthma, COPD, lung cancer, emphysema," he said. "But it also affects the health of people without lung conditions, especially children and the elderly.

"We're having far too many high-ozone days — we've seen an increase over our 2017 report," which looks at three-year averages. "This is something we need to address."

In 2013, southeast Michigan had one day for which ozone levels exceeded EPA standards; west Michigan had two days, according to Michigan Department of Environmental Quality (DEQ) data. In 2016, southeast Michigan had 10 days exceeding the ozone standard; west Michigan had 15 days.

Ozone is a gas composed of three oxygen atoms — unlike the oxygen we rely upon for life, which has two. In the upper atmosphere, ozone forms naturally through the interaction of ultraviolet radiation from the sun with the oxygen we breathe. The ozone layer, up to 30 miles above Earth, is essential in reducing the amount of UV radiation reaching the surface.

But ground-level ozone is a pollutant, formed primarily from reactions between two major classes of air pollutants, volatile organic compounds (VOC) and nitrogen oxides (NOx). Motor vehicle exhaust and factory emissions are the primary sources of those pollutants — making a factory-heavy, high-traffic area like metro Detroit a major smog-maker.

The region had previously failed to meet National Ambient Air Quality Standards for ozone up to the late 1990s, but improving vehicle and factory emissions enabled all of Michigan to meet the standard within a decade, even as it was tightened to 0.075 parts per million in 2008. In 2015, the Obama Administration further lowered allowable ozone levels to 0.07 parts per million, citing "extensive scientific evidence about ozone's effects on public health and welfare" and the need for a more health-protecting threshold.

Air testing done by the Michigan DEQ in recent years shows ozone levels exceeding the new standard in Wayne, Oakland and Macomb counties, which have the highest VOC and NOx emissions in the state. Monroe, Livingston, St. Clair and Washtenaw counties, with their high numbers of vehicle miles traveled and emitting factories, are also considered in non-attainment.

In west Michigan, the communities of Muskegon, Allegan and Berrien face a different challenge: ozone blowing in from air pollution in Chicago, Milwaukee, Gary, Ind., and other communities on the other side of Lake Michigan.

"We definitely support preventive action," said Nicki Britten, health officer with the Berrien County Health Department.

"We are happy there are standards in place. It would be helpful if they were more stringent, bringing some increased accountability to the cities whose pollution is getting transported here."

Michigan now has three years to work its way back to meeting the EPA ozone standard, said Tracey McDonald, acting supervisor of the unit in the Michigan DEQ's Air Quality Division that's working toward compliance.

"That three years may sound like a long time, but we not only have to figure out why we think it’s happening, but think of solutions to correct the problem, implement rules, and have those in effect before we submit" the state's plan back to EPA, he said.

EPA previously cited Obama-era initiatives as helping correct ground-level ozone problem areas, such as the Clean Power Plan to reduce coal-fired power plant emissions, and higher fuel economy standards for motor vehicles. The Trump administration, however, has shelved those actions.

"Everything that is coming out of the EPA policy-wise would actually cause us to have worse pollution, and more bad ozone days," Fletcher said. "We’re going in the wrong direction, not the right direction."

But despite the political wind-shift, positive change is occurring, McDonald said. Utilities in Michigan and throughout the Midwest are transitioning from coal-fired power plants. As older cars live out their usefulness, newer models that better control emissions take their place, he said.

"There are some things in place that will already help us," McDonald said.

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