

# Sulfur Dioxide Attainment Status

## Fact Sheet

The Michigan Department of Environment, Great Lakes, and Energy (EGLE) regulated levels of sulfur dioxide (SO<sub>2</sub>) in the outdoor air by making sure Michigan is meeting or “attaining” United States Environmental Protection Agency (USEPA) national ambient air quality standards. Standards for SO<sub>2</sub> are designed to protect against exposure to the entire group of sulfur oxides (SO<sub>x</sub>). Sulfur dioxide is the component of greatest concern and is used as the indicator for the larger group of gaseous sulfur oxides. When an area is not meeting the standard EGLE takes additional steps to bring that area back into attainment.

### What does nonattainment mean?

Nonattainment is a term applied to an area that has pollutant concentrations above federal air quality standards over a long period. An area may also be considered nonattainment if pollution from that area is contributing to poor air quality in another area. Areas that are meeting the air quality standards are considered attainment areas.

### How are nonattainment areas determined?

The USEPA and EGLE work together to determine whether an area is in attainment or nonattainment. If an area had air quality measurements of high sulfur dioxide for three or more years, EGLE and USEPA staff review further data to determine if the area should be considered nonattainment. Nonattainment is based on a review of air quality measurements, emissions information, and computer air modeling results which provide insight into the dispersion of air pollution, and weather patterns.

### How do nonattainment areas go back to being attainment areas?

Reduce air pollution! Michigan has been working to lower sulfur dioxide levels since 2013 and attain the standard. The state can be redesignated as attainment once the standard is attained, and the required steps are taken. If sulfur dioxide concentrations remain above the standard, the state would not be able to be designated as being in attainment.

## What is the National Ambient Air Quality Standard for Sulfur Dioxide?

The USEPA revised the primary National Ambient Air Quality Standard (NAAQS) for sulfur dioxide on June 2, 2010. The new short-term standard was based on the three-year average of the 99th percentile of the yearly distribution of one-hour daily maximum concentrations. This sounds complicated, but it is just looking at the sulfur dioxide levels in the air over time. This level was set at 75 parts per billion (ppb).

## What areas of Wayne County are in nonattainment for sulfur dioxide?

The map below outlines the areas that are currently designated as being in nonattainment. The map also shows the air monitoring stations that have played a part in EGLE's attainment status. Concentrations of sulfur dioxide in the outdoor air helped determine when the area was not attaining the standard, as well as when the area was measuring concentrations well below the standard.

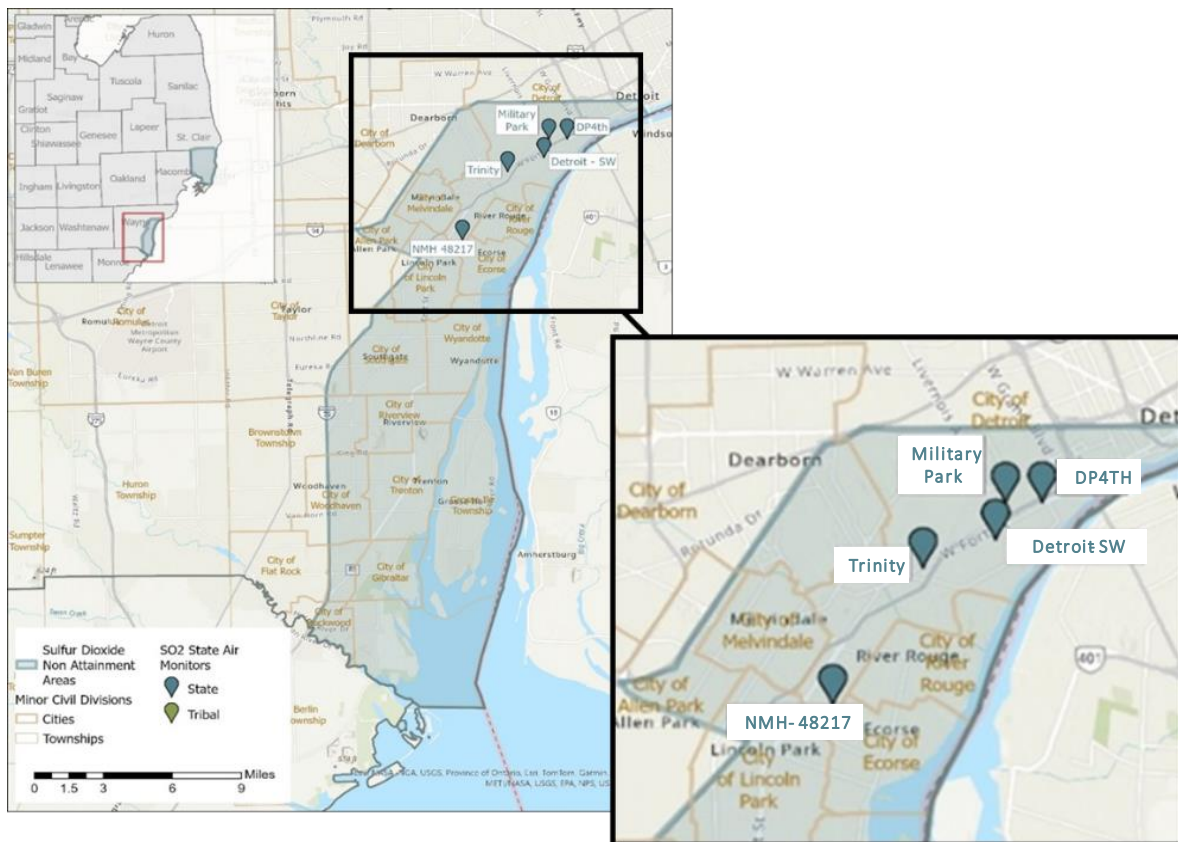


Figure 1: Map of Sulfur Dioxide SW Detroit/Wayne County nonattainment area and air monitoring stations.

## Have levels of Sulfur Dioxide lowered since the area was designated as nonattainment?

Yes! The area has been measured in compliance with the standard since 2014. See Figure 2 for an overview of the reductions measured at the air monitoring stations shown in Figure 1.

However, just measuring lower concentrations is not enough to redesignate an area into attainment. To do that, the state needed to show that the area had legally enforceable limits on how much sulfur dioxide could be emitted. Getting those enforceable limits takes time.

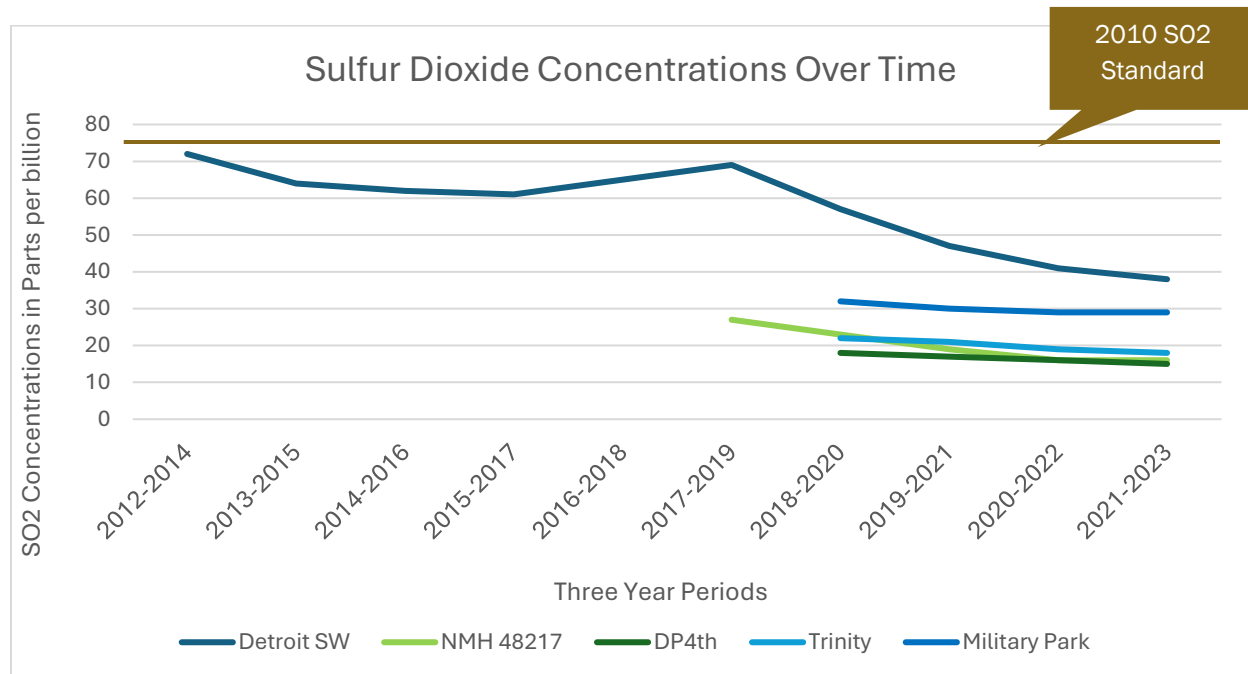


Figure 2: Sulfur Concentrations measured at SW Detroit/Wayne County air monitoring stations over time.

## Summary of the Proposed Request:

EGLE believes all the necessary steps have been taken to prove that concentrations in the air are meeting the standard. The concentrations at the air monitors have been measuring attainment for years, computer modeling has indicated attainment of the standard, and large emitters of SO<sub>2</sub> have taken legally enforceable limits on their emissions. With this evidence, EGLE is proposing to request that USEPA redesignate (rename) the partial Wayne County nonattainment area back to attainment for sulfur dioxide (SO<sub>2</sub>).

## Background Timeline

Once an area is designated as nonattainment with a national ambient air quality standard, like the Sulfur Dioxide Nonattainment Area of Wayne County, many steps are taken to return to attainment. A high-level list of the steps taken in this case is listed below.

- USEPA lowered the SO<sub>2</sub> standard to 75 parts per billion (ppb) in 2010
- A portion of Wayne County was not meeting the SO<sub>2</sub> air standard in 2010 and was identified by USEPA as being in nonattainment in 2013.
- EGLE was required to submit a plan to bring the area back within an acceptable SO<sub>2</sub> level, (below 75 ppb).
- EGLE developed a plan requiring SO<sub>2</sub> reductions from large facilities.
- A facility successfully sued EGLE to stop the plan.
- USEPA could not approve the plan, so USEPA developed a federal plan to bring the area back within acceptable SO<sub>2</sub> levels.
- The federal plan required additional controls at facilities.
- Affected facilities: US Steel, EES Coke, Cleveland-Cliffs Steel Corporation, Carmeuse Lime, DTE's Trenton Channel and River Rouge power plants.
- Air quality computer modeling shows the Wayne County area meeting the SO<sub>2</sub> standard.
- Air monitors show SO<sub>2</sub> levels in the area are much lower than the 75 ppb standard
- EGLE must continue to ensure that SO<sub>2</sub> levels remain low in the future
- EGLE must impose more controls if SO<sub>2</sub> levels increase above the standard in the future
- EGLE's proposed action to request to redesignate the area to attainment means the air is cleaner and concentrations of SO<sub>2</sub> are lower.

## Contact:

Questions about SO<sub>2</sub> attainment should be directed to Erica Shuff at [ShuffE@Michigan.gov](mailto:ShuffE@Michigan.gov) or 517-897-0791.

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