



2016
West Virginia
Air Quality Annual Update

2016 Air Quality Annual Update

**West Virginia Department of Environmental Protection
Division of Air Quality**

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Introduction

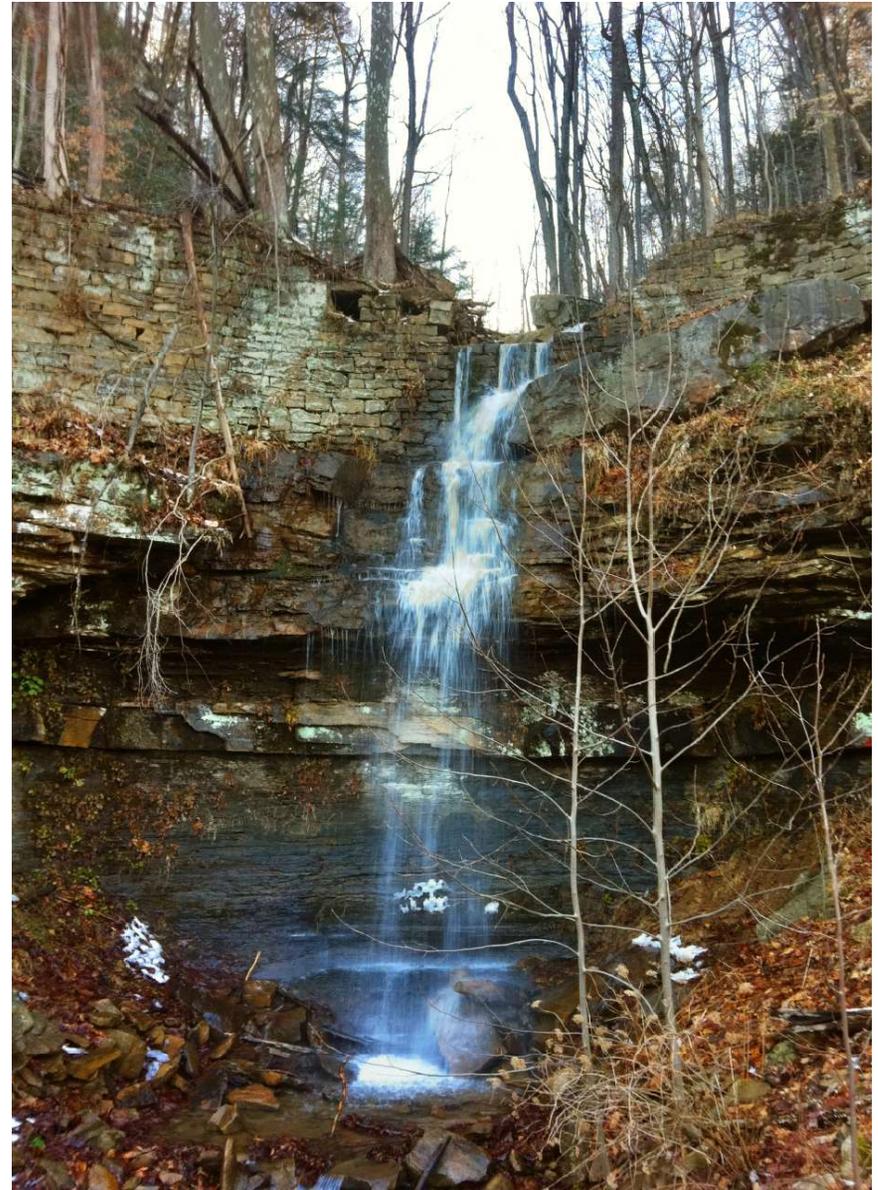
The Division of Air Quality (DAQ) has issued an Annual Report since 2002. This report has provided snapshots of West Virginia's air quality over the years. This year, based on the feedback we have received, we decided that in addition to the annual report we would issue a companion document, *Introduction to West Virginia Air Quality*.

Introduction to West Virginia Air Quality provides an overview of the DAQ, its history and responsibilities; and an overview and history of the National Ambient Air Quality Standards (NAAQS). We do not attempt to answer all questions about air quality, however, we hope we have provided a basic explanation of air quality, air quality regulation, and the function of the DAQ.

This document, *2016 West Virginia Air Quality Annual Update*, highlights the work of the Division of Air Quality for the calendar year 2016, and provides data on the air quality monitoring network, attainment status with the various NAAQS; summary data of permitting actions, compliance and enforcement actions, and small business assistance activities; emissions trends in air toxics; and highlights of outreach events.

The DAQ intends to continue to provide annual updates, highlighting the work of the DAQ each year. We also intend to update *Introduction to West Virginia Air Quality* as needed.

We hope that you find the information contained in the *Introduction to West Virginia Air Quality* and the *2016 West Virginia Air Quality Annual Update* both informative and helpful.



Waterfall in Fayette County along Route 60

2016 Highlights

Carbon Dioxide Standards for Power Plants

During the 2015 Legislative Session, the West Virginia Legislature amended W. Va. Code §22-5-20 relating to the development of a state plan regulating carbon dioxide emissions from existing power plants under Section 111(d) of the Clean Air Act (CAA). These changes required the Department of Environmental Protection (DEP) to:

- Obtain prior legislature approval of any state plan proposed to be submitted to the U.S. Environmental Protection Agency (EPA) for regulation of carbon dioxide emissions from existing power plants;
- Conduct a comprehensive analysis of the impact of a state plan under Section 111(d), addressing eleven factors identified by the Legislature;
- Make two findings on the feasibility of a state plan under the EPA's 111(d) rule, based on this comprehensive analysis;
- Recommend, as part of the comprehensive analysis, any changes to state law necessary for the development of a state plan; and
- Submit a report of the findings of the comprehensive analysis and feasibility determinations to the Legislature within 180 days after the EPA finalized its 111(d) rule.

The EPA finalized its 111(d) rule for existing power plants on October 23, 2015. On April 20, 2016, the DEP submitted the required comprehensive analysis and feasibility determinations to the Legislature. Based on the comprehensive analysis, the DEP determined:

- The creation of a state plan was not feasible since West Virginia law prohibits the type of compliance mechanisms that are necessary to comply with the EPA's limits for the state; and
- The question of whether the creation of a state plan before the deadline to submit a state plan under the 111(d) rule could not be answered since the United States Supreme Court stayed the 111(d) rule indefinitely.

The DEP also made three recommendations for changes to state law to allow for the development of a state plan.

Ozone

On October 1, 2015, the EPA strengthened both the primary and secondary National Ambient Air Quality Standards (NAAQS) for ground level ozone from 75 parts per billion (PPB) to 70 PPB based on extensive scientific evidence about ozone's effects on public health and welfare. The updated standards are meant to improve public health protection, particularly for at-risk groups including children, older adults, people of all ages who have lung diseases such as asthma, and people who are active outdoors, especially outdoor workers; as well as improve the health of trees, plants, and ecosystems.

The EPA uses three years of air monitoring data to determine if an area meets the standards. An area meets the standards if the fourth highest maximum daily eight-hour ozone concentration each year, averaged over three years, is 70 PPB or less.

In September, 2016, the DEP recommended to the EPA that all areas of the state be designated attainment with the 2015 Ozone NAAQS based on air monitoring data for 2013-2015. The EPA plans to make designations by December 2017. Air monitoring data for 2014-2016 continue to demonstrate attainment statewide.

Sulfur Dioxide

On June 2, 2010, the EPA established a revised primary NAAQS for sulfur dioxide (SO₂) at 75 PPB, which is met when the 3-year average of the 99th percentile of daily maximum 1-hour concentrations does not exceed 75 PPB. On August 5, 2013, the EPA designated 29 areas in 16 states, including 2 areas in West Virginia, as nonattainment. At that time, the EPA was not prepared to issue designations for the remainder of the country. Subsequently, three lawsuits were filed against the EPA for failure to designate all portions of the country by the CAA deadline of June 3, 2013. Under a Consent Decree entered by the Court on March 2, 2015, the EPA was required to complete the remaining area designations in accordance with a specific schedule which was set forth in the August 21, 2015 SO₂ Data Requirements Rule (DRR).

2016 Highlights

In January 2016, in accordance with the SO₂ DRR, the DAQ submitted to the EPA a list of 10 sources identified as having SO₂ emissions of 2,000 tons, or more, based on 2014 calendar year data. In June of 2016, the DAQ notified the EPA:

- Of the permanent shutdown of two of the identified sources;
- That 7 sources had chosen to characterize their impacts through air dispersion modeling; and
- That one source had chosen to accept a federally enforceable limit of less than 2,000 tpy of SO₂.

The DAQ worked with the sources that chose to characterize their impact through air dispersion modeling to review, modify and approve site specific modeling protocols. The approved modeling protocols were submitted to the EPA in June of 2016. The DAQ also worked with one source to issue a permit that limited SO₂ emissions to 1,990 tpy on a 12-month rolling basis. The permit was issued on September 21, 2016.

The two areas in West Virginia designated nonattainment with the 2010 1-hour SO₂ NAAQS, based on 2009-2011 air monitoring data, were the Cross Creek Tax District in Brooke County, and the Clay, Franklin and Washington Tax Districts in Marshall County. Air quality in these areas has seen significant improvement since they were designated as nonattainment. Both areas were monitoring attainment based on the 2013-2015 air monitoring data, and continue to monitor attainment based on the 2014-2016 data. On April 25, 2016, the DAQ submitted to the EPA an attainment demonstration for the 1-hour SO₂ NAAQS for the Cross Creek Tax District.

Modeling

The significant increase in modeling, a result of the SO₂ DRR and an increase in major source (PSD) permit applications, resulted in a workload beyond the capabilities of the one modeling staff person. The DAQ reacted quickly. We assigned new duties to 3 in-house permit engineers who received the necessary training to be able to assist with the review of modeling protocols and results, as well as the duplication of modeling results to ensure accuracy. In addition, a new full-time modeling position was created and filled. The DAQ reviewed modeling protocols and results for two State Implementation

Plans, reviewed protocols for five major source PSD applications, and reviewed protocols for seven SO₂ DRR sources.

Emissions Inventory

In 2016, the DAQ updated the State, Local Emission Inventory System (SLEIS) emission inventory reporting software to the most current version. No updates had been made to the SLEIS software since its initial roll-out in 2012. This update added more functionality and ease of use for facilities entering emission data as well as for the DAQ personnel quality assuring this data. The implementation was successfully completed and did not interfere with facilities complying with the 2016 reporting year schedule.

In 2016, the DAQ initiated e-invoicing for 168 Title V facilities. This reduced industry's burden of completing paper forms and remitting payments and reduced the time needed to invoice and collect the regulatory required annual operating fees. It also directs payment directly to the Auditor's office, eliminating the need for the DEP to process paper checks.

Outreach and Education

In 2016, the DAQ Outreach Team participated in 22 events across 9 counties in West Virginia where staff spoke with over 5,000 visitors. Seventeen of these events were geared toward elementary and middle school students explaining and demonstrating control devices at air pollution sources, as well as energy efficiency and conservation. The most attended events were Discover Engineering at the Clay Center for the Arts & Sciences of West Virginia, in Charleston, and Youth Environmental Day at North Bend State Park, in Cairo. Discover Engineering, held in February, is a fun day of introducing children and adults to the amazing world of technology and engineering. The first hour of this event is exclusively for Girl Scout troops from across West Virginia. The Annual Youth Environmental Day was held in May where youth groups from across the state were recognized for their outstanding environmental accomplishments, with cash awards and scholarships. The DAQ staff conducted three public meetings on proposed air pollution permits in Fayette, Kanawha and Doddridge Counties, and hosted the

2016 Highlights

2016 EPA Region III State Air Directors Workshop in Charleston in late August with 67 participants from Region III states and cities.

Permitting

In 2016, New Source Review Permitting (NSR) issued 475 total permitting actions; revised two general permits, the G70 and the G35; held 3 public meetings for three different permit applications; worked through 4 permit appeals; and had 6 PSD applications under review. After the introduction of a bill to the 2016 WV Legislature, and upon advice from the DEP Legal Counsel, the DAQ negotiated several changes to Rule 13 that were introduced to the 2017 WV Legislature. NSR permitting began the process of making our general permit applications available through the Electronic Submittal System (ESS), commonly referred to as e-permitting.

Compliance & Enforcement

The DAQ switched from using the EPA's antiquated AIRS Facility System (AFS) to EPA's modern Integrated Compliance Information System (ICIS). ICIS integrates data that is currently located in several separate data systems. The Web-based system enables individuals from states and the EPA to access integrated enforcement and compliance data from any desktop connected to the Internet and provides access to the public through the EPA's Enforcement and Compliance History Online (ECHO) database.

Application Xtender (AX)

In late 2015 and continuing through 2016, the DEP began transitioning from a paper filing system to an electronic filing system. The DEP began using ApplicationXtender (AX) Document Management software as the agency's standardized electronic document management system. Standard Operating Procedures were put into place across the Division of Air Quality's Permitting and Compliance and Enforcement Sections. In late 2015 and early 2016, the DAQ administrative staff entered:

- Inspections and self-monitoring reports received after January 1, 2014;
- Permit applications, engineering evaluations/fact sheets and final

permits starting January 1, 2015; and

- All Consent Orders, Notices of Violation and Cease and Desist Orders.

All documents will be stored in AX and a Record Retention and Disposal Schedule has been developed and approved by the Department of Administration and the Division of Archives and History.

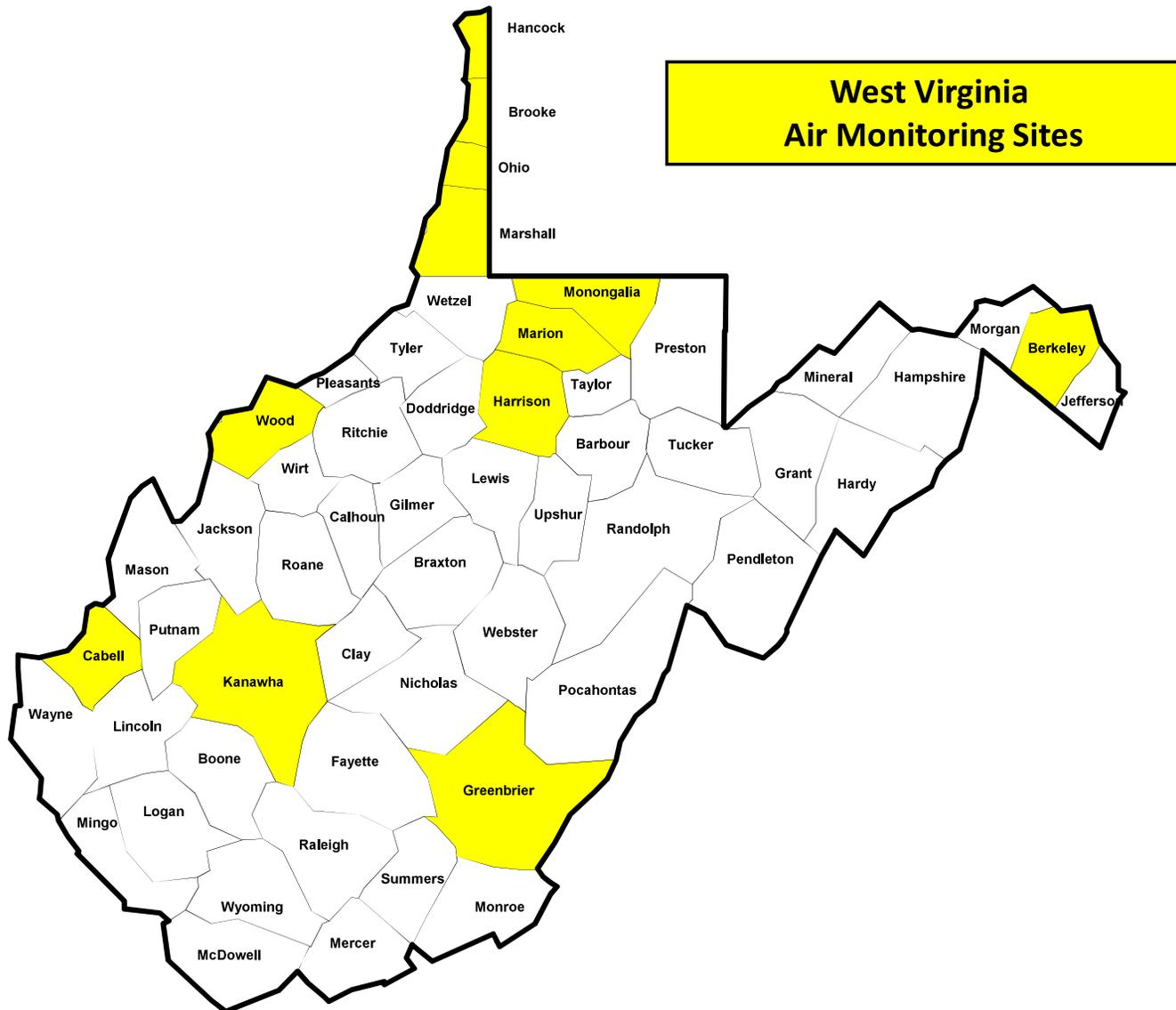
NCore Network

The DAQ began monitoring for ozone (O₃), continuous PM_{2.5} (particulate matter less than or equal to 2.5 microns in diameter), PM (course particulate matter between 2.5 and 10 microns in diameter), meteorology, trace gas, sulfur dioxide (SO₂), and carbon monoxide (CO) at its National Core Network (NCore) site located in Charleston, WV. The DAQ consolidated two other nearby sites by relocating their manual PM_{2.5}, PM_{2.5} speciation, Radiation Network (RadNet) and air toxics samplers (that include Total Suspended Particulate (TSP) metals, Volatile Organic Compounds (VOCs), and carbonyls to the NCore site. NCore is a large, multi-pollutant air monitoring site that utilizes specialized sampling and support technology to measure fine and course particulate matter, air toxics, O₃, and very low concentrations of SO₂ and CO. The site will eventually include monitoring low concentrations of reactive nitrogen compound (NO_y).

Air Monitoring Network Plan

The DAQ is required by the EPA to post its ambient air monitoring Annual Network Plan (ANP) on our web site for public comment and submit it to the EPA by July 1 every year. The 2016 ANP was posted on May 3 for 30 days. At the request of the EPA, the May 3 ANP was later amended to include two SO₂ sites proposed to be in WV by Ohio and Maryland SO₂ sources under the SO₂ DRR. The amended ANP was made available for a 30-day public review and comment period on our web site beginning on November 2, 2016. We did not receive any comments on either ANP. The plan may be found at <http://www.dep.wv.gov/daq/air-monitoring/Pages/default.aspx>.

2016 Air Monitoring Network



2016 Air Monitoring Network

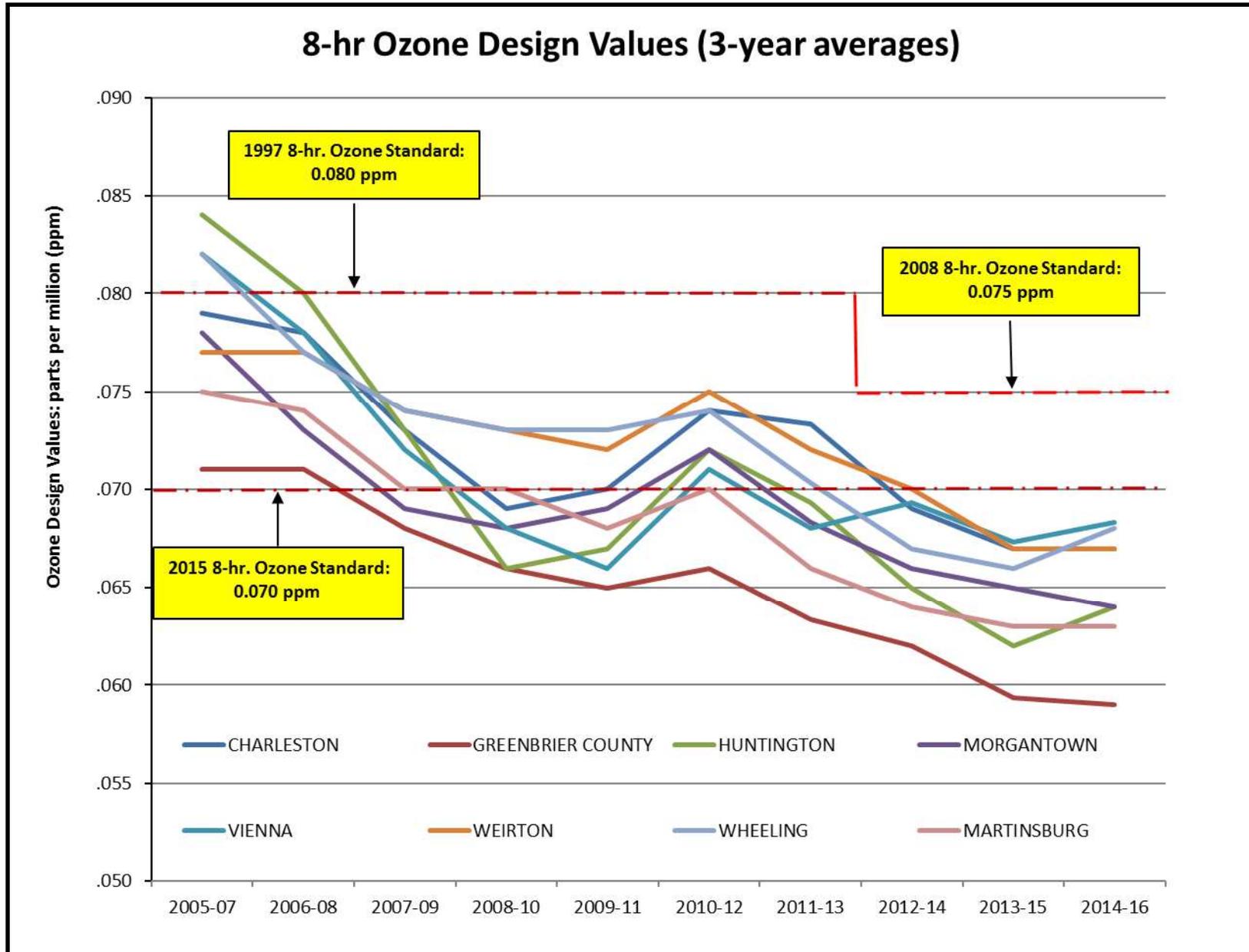
West Virginia Division of Air Quality - Monitoring Network

COUNTY	PM ₁₀	PM _{2.5}	CO	SO ₂	O ₃	MET	PM _{2.5} SPECIATION	AIR TOXICS
Berkeley		1			1			
Brooke	2	2	1	3				
Cabell		1		1	1			
Greenbrier					1			
Hancock	1	1	1	5	1	1		
Harrison		1						
Kanawha		2	1	1	1	1	1	1
Marion		1						
Marshall		1		1			1	
Monongalia		1		1	1			
Ohio		1			1			1
Wood		1		1	1			
Total Sites	3	13	3	13	8	1	2	2

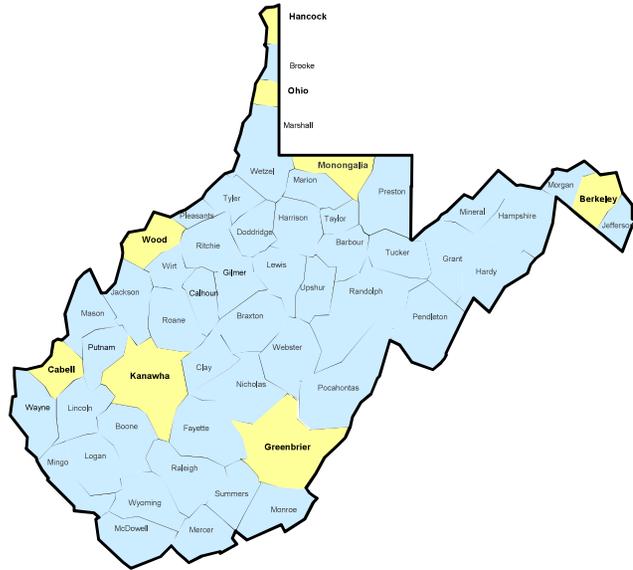
2016 Air Quality Index

County	2016 - Days in each category:				Highest Value AQI
	Good	Moderate	Unhealthy for Sensitive Groups	Unhealthy	
Berkeley	205	49	1	0	112
Brooke	324	39	3	0	112
Cabell	321	39	1	0	129
Greenbrier	189	18	0	0	100
Hancock	316	50	0	0	93
Harrison	110	7	0	0	62
Kanawha	295	53	2	0	119
Marion	86	9	0	0	61
Marshall	297	65	0	0	84
Monongalia	340	21	0	0	74
Ohio	195	63	3	0	108
Wood	318	44	1	0	112

2016 Criteria Pollutants - Ozone Summary



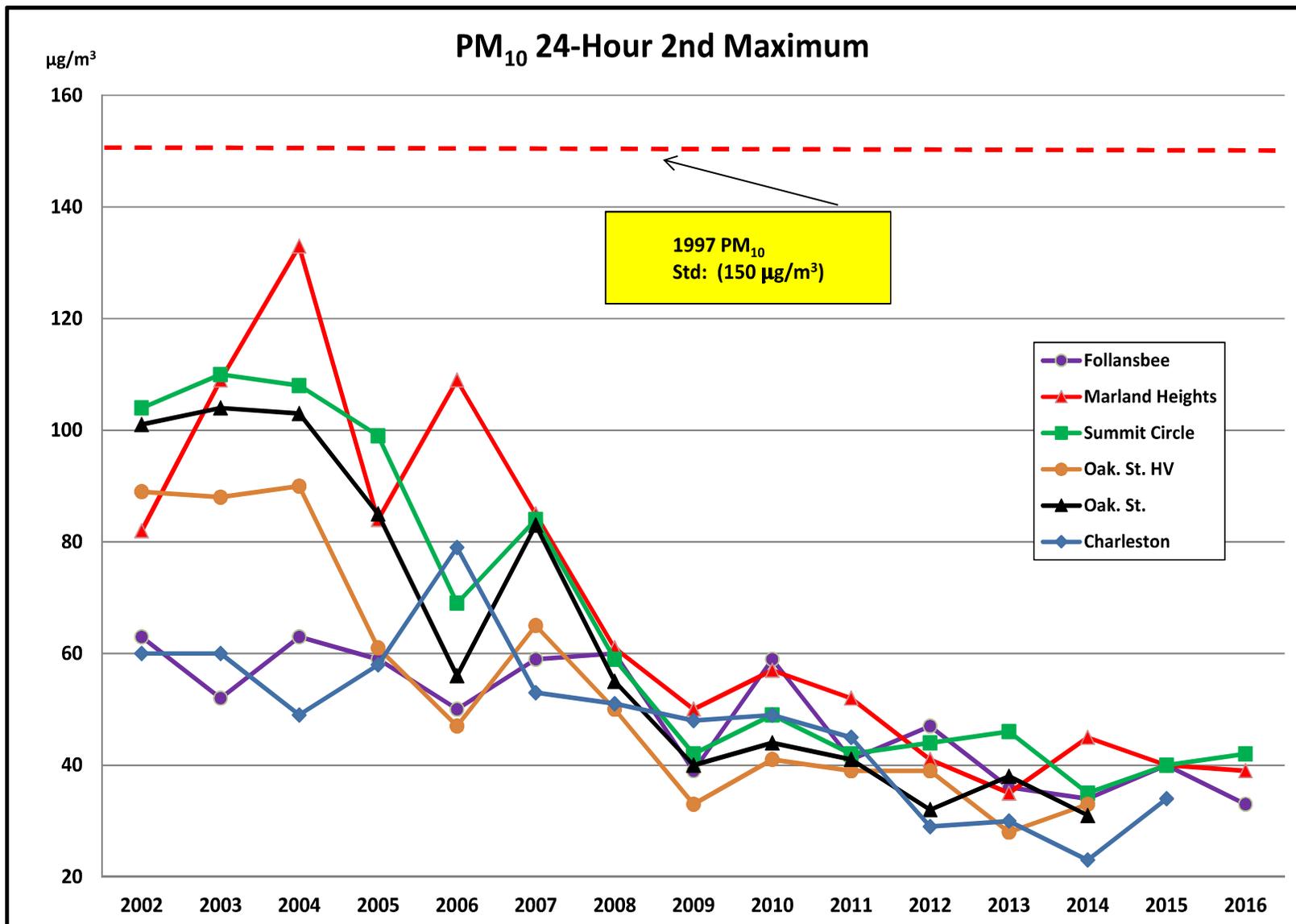
2016 Criteria Pollutants - Ozone Summary



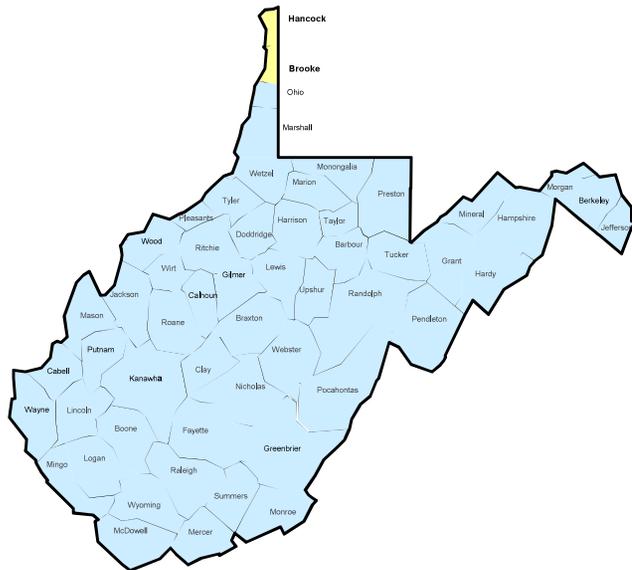
Criteria Pollutant Summary Report - 2016		
Pollutant:	Ozone	
Monitoring Season:	April 1 - October 31	
Data Interval:	Hourly	
Units:	Parts-per-million (PPM)	
National Ambient Air Quality Standards (NAAQS)		
Primary NAAQS:	8-Hour (3-year average of 4th max.)	0.070 PPM
Secondary NAAQS:	Same as Primary Standard	

County	Site	EPA-ID	# Valid Days	8-Hour Averages					
				Obs >0.070	1st Max	2nd Max	3rd Max	4th Max	'14-'16 4th Max Avg
Berkeley	Martinsburg	54-003-0003	205	1	.074	.070	.065	.064	.063
Cabell	Huntington	54-011-0006	212	1	.079	.068	.067	.065	.064
Greenbrier	Sam Black Church	54-025-0003	207	0	.070	.064	.063	.062	.059
Hancock	Weirton	54-029-0009	212	0	.068	.068	.067	.067	.067
Kanawha	Charleston	54-039-0010	192	2	.076	.073	.070	.069	.067
Monongalia	Morgantown	54-061-0003	205	0	.062	.059	.059	.059	.064
Ohio	Wheeling	54-069-0010	213	3	.073	.072	.071	.069	.068
Wood	Vienna	54-107-1002	210	1	.074	.069	.067	.067	.068

2016 Criteria Pollutants - PM₁₀ Summary



2016 Criteria Pollutants - PM₁₀ Summary



Criteria Pollutant Summary Report - 2016

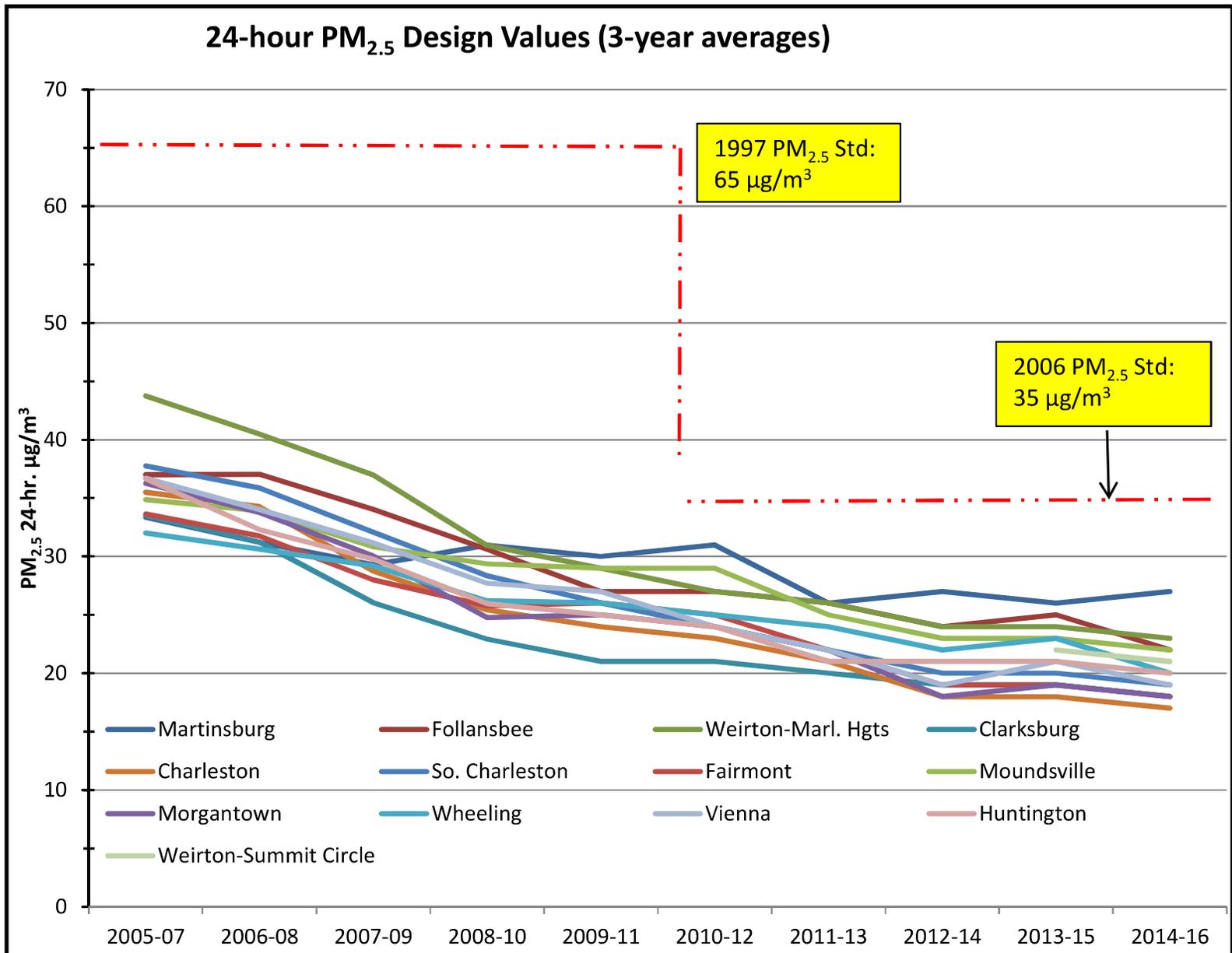
Pollutant: Particulate Matter PM₁₀
 Monitoring Season: January 1 - December 31
 Data Interval: 24-Hour
 Units: Micro-grams per cubic meter (µg/m³)

National Ambient Air Quality Standards (NAAQS)

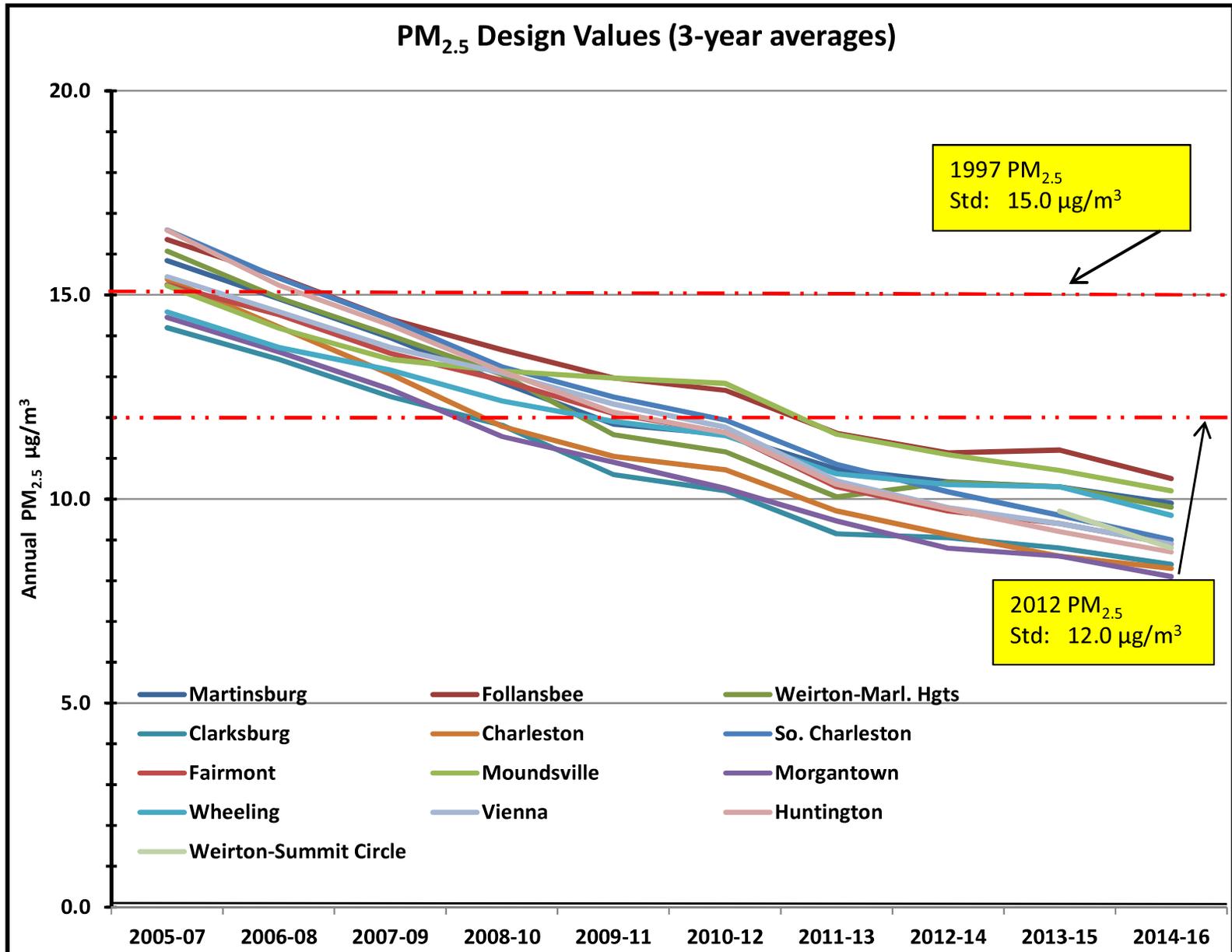
Primary NAAQS: 24-Hour Average 150 µg/m³
 Secondary NAAQS: Same as Primary Standard

County	Site	EPA-ID	# Obs	Annual Mean	24-Hr Average				
					Obs > 150	1st Max	2nd Max	3rd Max	4th Max
Brooke	Follansbee	54-009-0005	61	18.3	0	42	33	32	32
Brooke	Follansbee Co-Located	54-009-0005-03	30	16.9	0	30	26	23	23
Brooke	Weirton/Marland Hts	54-009-0011	8699	15.5	0	40	39	38	34
Hancock	Weirton/Summit Circle	54-029-0009	8737	13.3	0	50	42	37	33

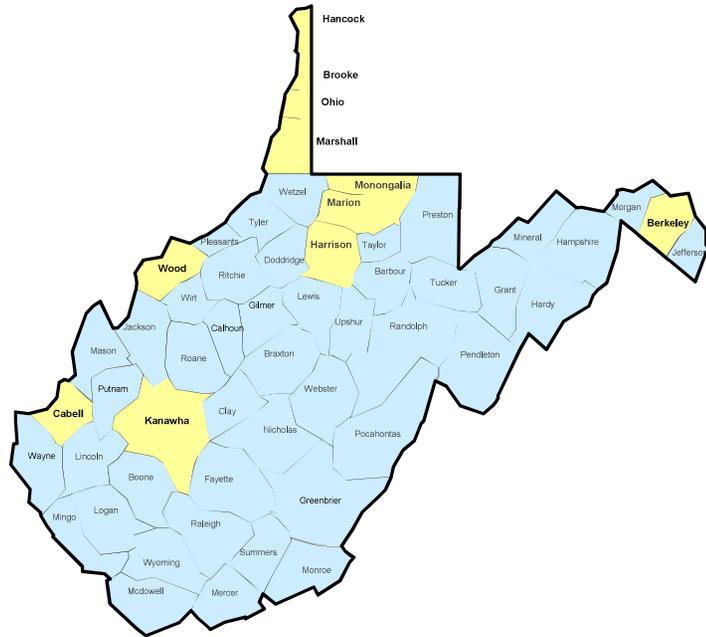
2016 Criteria Pollutants - PM_{2.5} Summary



2016 Criteria Pollutants - PM_{2.5} Summary



2016 Criteria Pollutants - PM_{2.5} Summary



Criteria Pollutant Summary Report - 2016

Pollutant: Particulate Matter PM_{2.5}

Monitoring Season: January 1 - December 31

Data Interval: 24-Hour

Units: Micro-grams per cubic meter (µg/m³)

National Ambient Air Quality Standards (NAAQS)

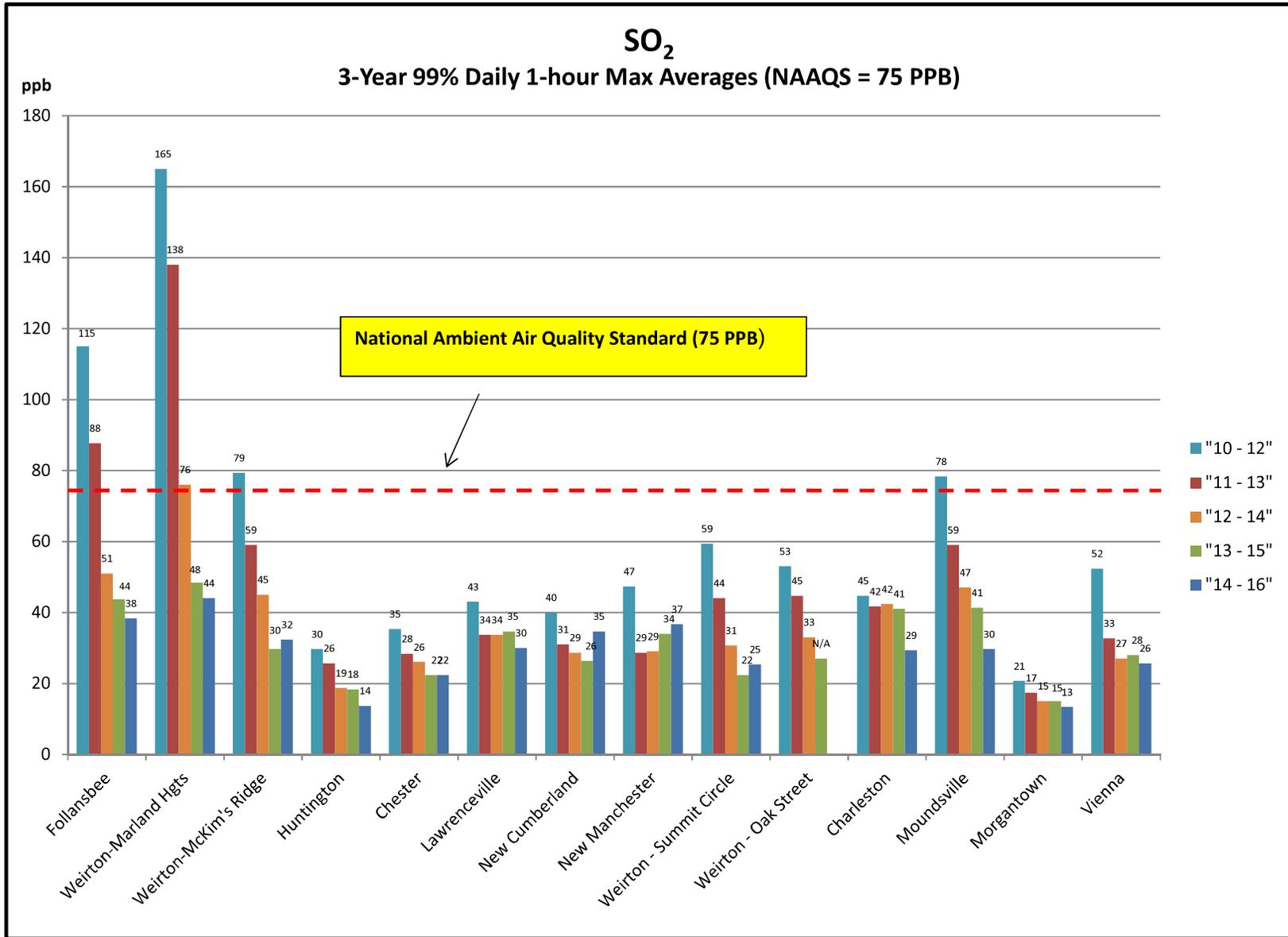
Primary NAAQS: Annual Arithmetic Mean (3-year average) 12.0 µg/m³

24-Hour Average (3-year average 98th percentile) 35 µg/m³

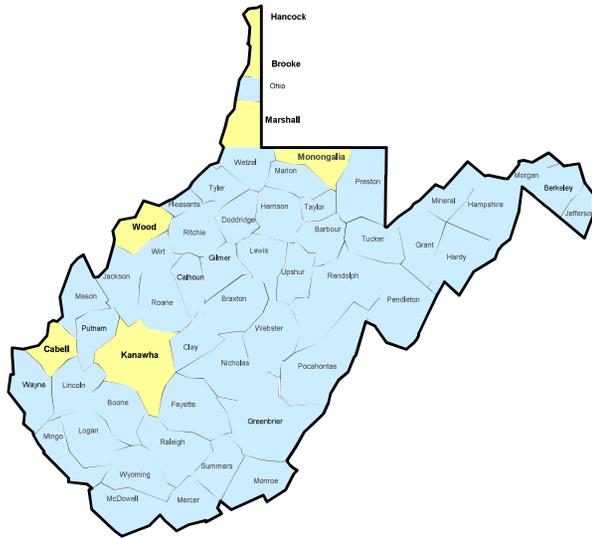
Secondary NAAQS: Same as Primary Standard

County	Site	EPA-ID	# Obs	Annual Mean	24-Hour Average				3 Year Average	
					Obs > 35	98%	1st Max	2nd Max	Annual	24-Hr 98%
Berkeley	Martinsburg	54-003-0003	115	8.6	0	22.2	34.1	27.8	9.9	27
Brooke	Follansbee	54-009-0005	121	9.1	0	19.0	23.5	23.0	10.5	22
Brooke	Weirton	54-009-0011	111	8.6	1	21.7	24.8	23.1	9.8	23
Cabell	Huntington	54-011-0006	113	8.1	0	17.5	23.8	19.9	8.7	20
Hancock	Weirton	54-029-0009	122	8.0	0	20.6	22.0	21.1	8.8	21
Harrison	Clarksburg	54-033-0003	117	7.5	0	16.8	17.4	17.2	8.4	18
Kanawha	Charleston	54-039-0020	106	7.6	0	17.5	21.4	15.2	7.6	15
Kanawha	South Charleston	54-039-1005	97	8.0	0	15.9	17.0	15.9	9.0	19
Marion	Fairmont	54-049-0006	95	7.7	0	16.2	16.7	16.2	8.9	18
Marshall	Moundsville	54-051-1002	118	9.0	0	21.7	23.7	23.0	10.2	22
Monongalia	Morgantown	54-061-0003	119	7.4	0	15.8	20.6	16.3	8.1	18
Ohio	Wheeling	54-069-0010	113	8.2	0	16.0	19.2	18.2	9.6	20
Wood	Vienna	54-107-1002	122	7.9	0	14.4	18.2	15.4	8.9	19

2016 Criteria Pollutants - SO₂ Summary



2016 Criteria Pollutants - SO₂ Summary



Criteria Pollutant Summary Report - 2016

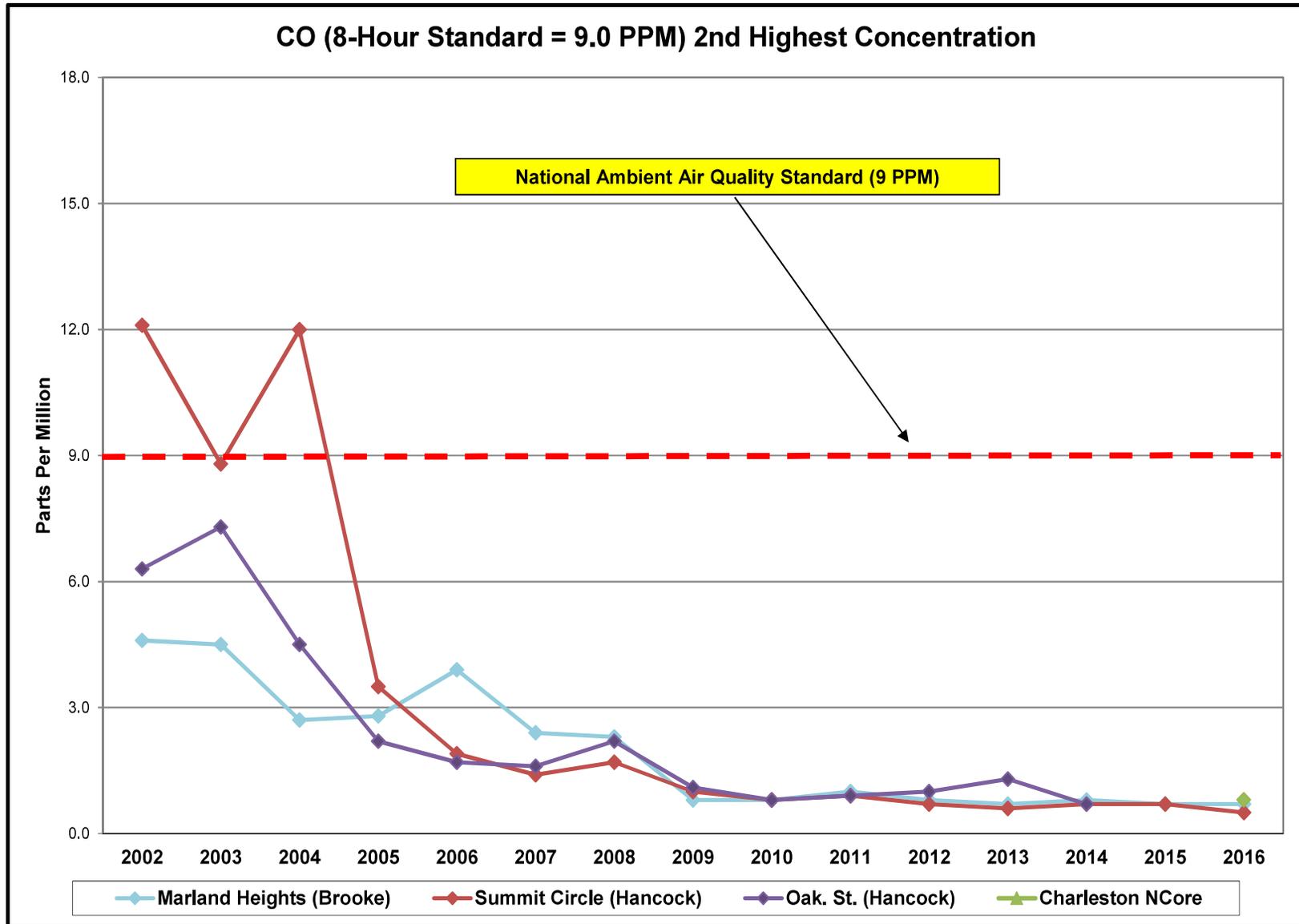
Pollutant: Sulfur Dioxide
 Monitoring Season: January 1 - December 31
 Data Interval: Hourly
 Units: Parts-per-billion (PPB)

National Ambient Air Quality Standards (NAAQS)

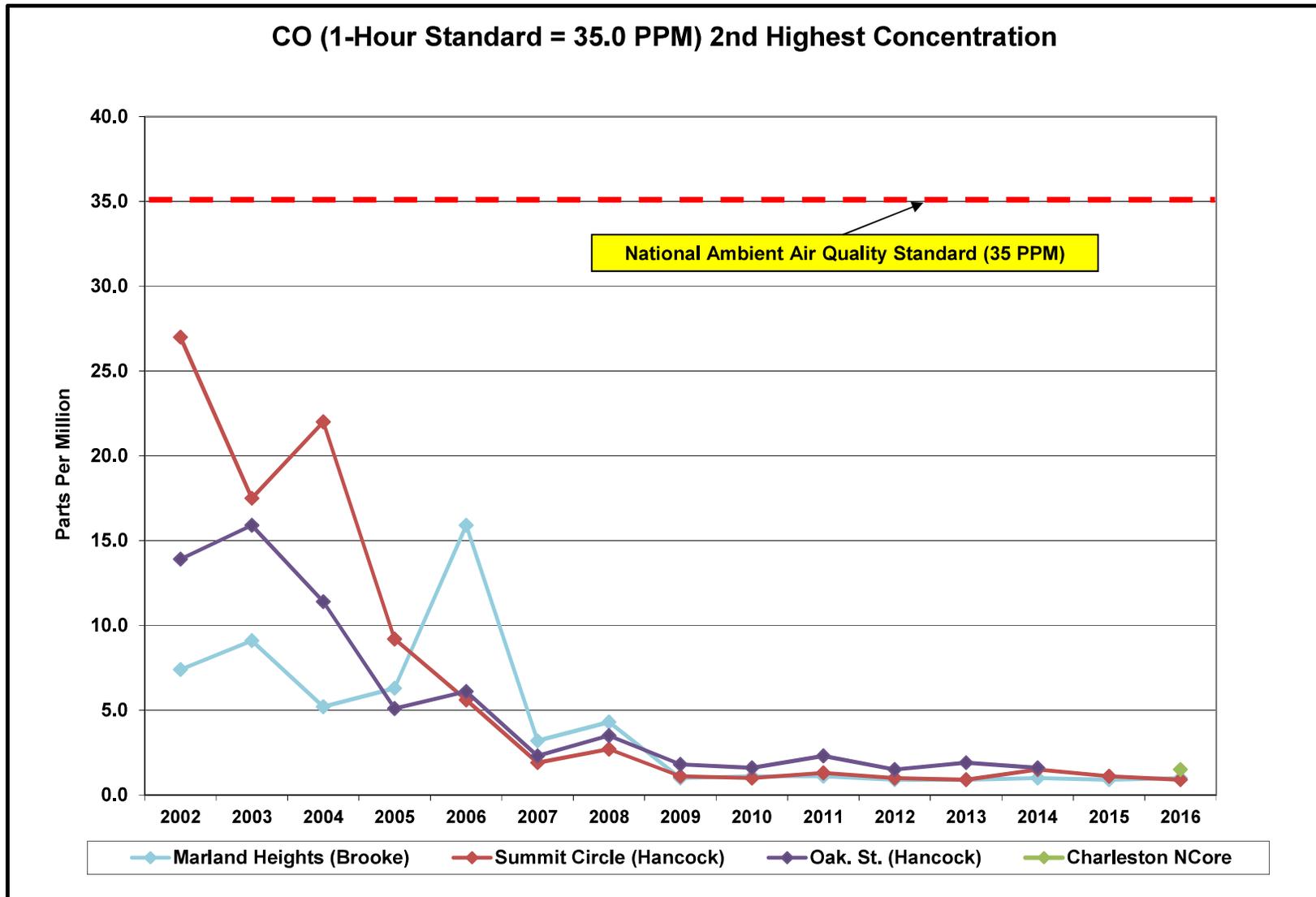
Primary NAAQS: 1-Hour Daily Max 3-Year 99% Average 75 PPB
 Secondary NAAQS: 3-Hour Average 500 PPB

County	Site	EPA-ID	# Obs	Annual Mean	1-Hr Average				3-Hr Average		
					1st Max	2nd Max	99%	14-16 99%	obs > 500	1st Max	2nd Max
Brooke	Follansbee	54-009-0005	8566	2.31	94	76	33	38	0	53	32
Brooke	Weirton	54-009-0007	8557	2.92	46	44	39	44	0	33	29
Brooke	Weirton	54-009-0011	8718	3.02	101	64	49	32	0	55	55
Cabell	Huntington	54-011-0006	8303	0.69	6	6	5	14	0	4	3
Hancock	New Manchester	54-029-0005	8725	2.95	44	41	37	37	0	28	27
Hancock	New Cumberland	54-029-0007	8706	1.99	54	50	48	35	0	40	33
Hancock	Chester	54-029-0008	8727	2.58	43	26	23	22	0	30	27
Hancock	Weirton	54-029-0009	8667	2.22	34	34	31	25	0	28	22
Hancock	Lawrenceville	54-029-0015	8725	2.07	37	30	26	30	0	33	19
Kanawha	Charleston	54-039-0020	7415	0.76	8	7	7	29	0	5	5
Marshall	Moundsville	54-051-1002	8639	1.71	10	9	8	30	0	9	7
Monongalia	Morgantown	54-061-0003	8344	0.55	23	19	9	13	0	10	9
Wood	Vienna	54-107-1002	8482	1.63	28	22	18	26	0	20	16

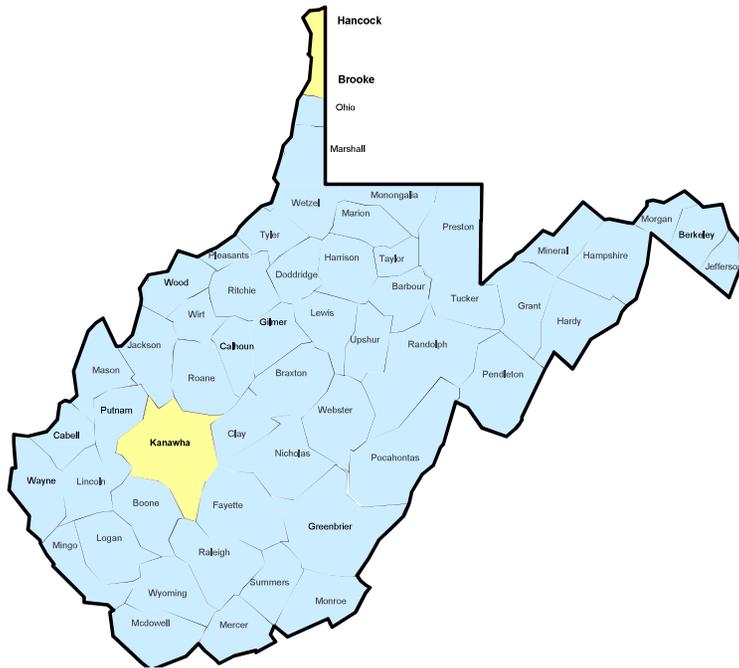
2016 Criteria Pollutants - CO Summary



2016 Criteria Pollutants - CO Summary



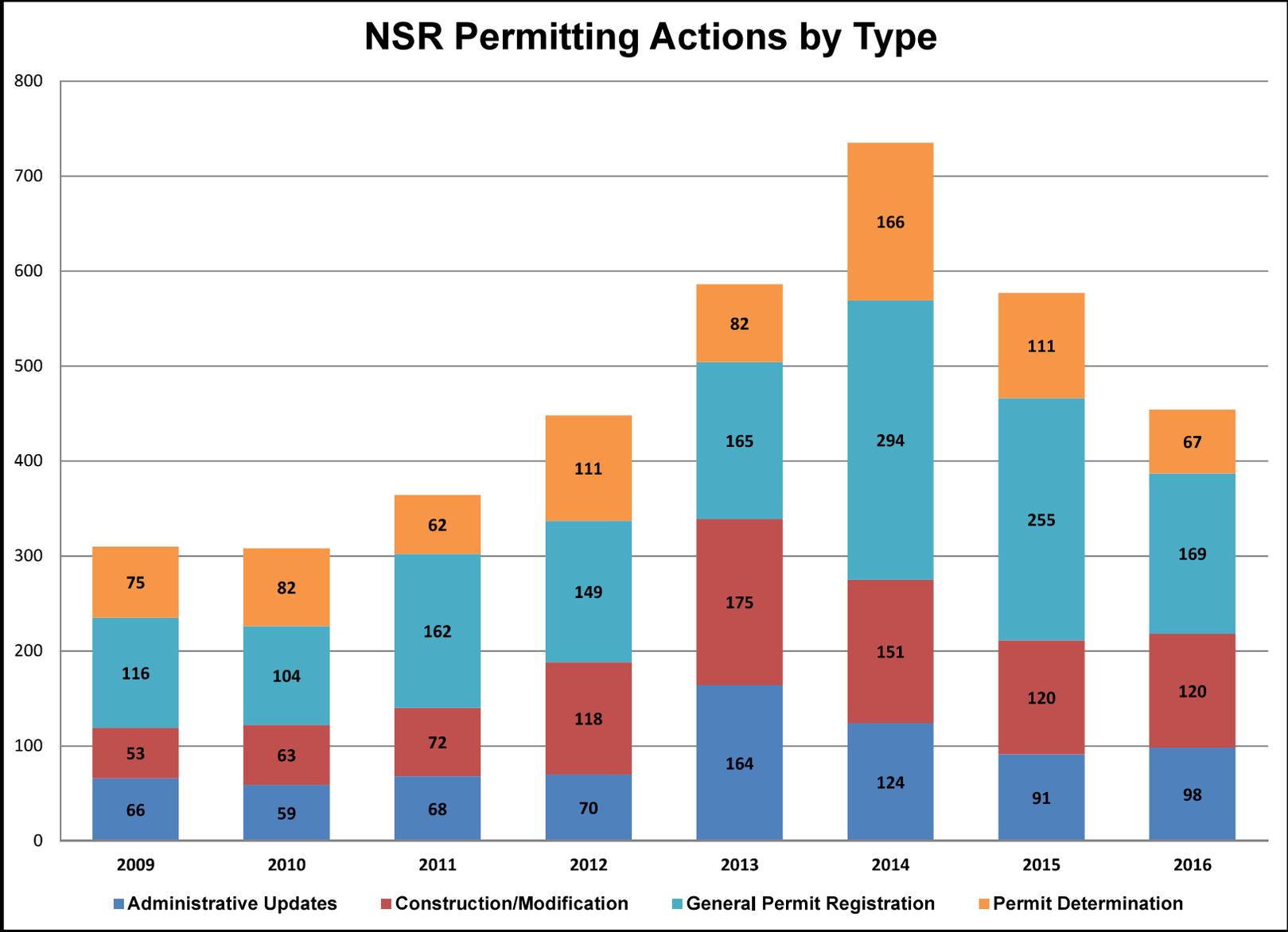
2016 Criteria Pollutants - CO Summary



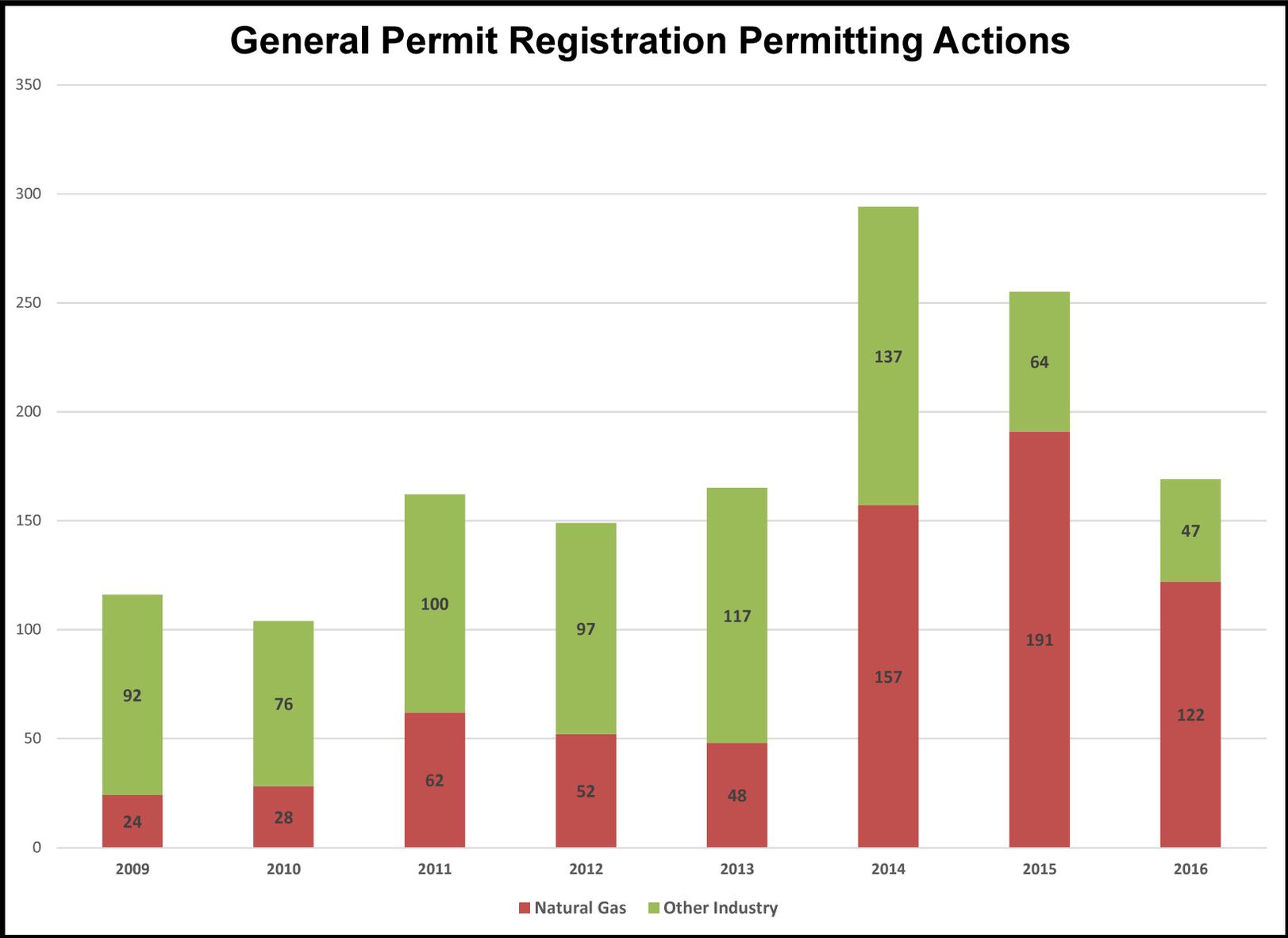
Criteria Pollutant Summary Report - 2016		
Pollutant:	Carbon Monoxide	
Monitoring Season:	January 1 - December 31	
Data Interval:	Hourly	
Units:	Parts-Per-Million (PPM)	
<u>National Ambient Air Quality Standards (NAAQS)</u>		
Primary NAAQS:	1-Hour Average	35 PPM
	8-Hour Average	9 PPM
Secondary NAAQS:	None	

County	Site	EPA-ID	# Obs	1-Hr Average			8-Hr Average		
				Obs >35.0	1st Max	2nd Max	Obs >9.0	1st Max	2nd Max
Brooke	Marland Hts	54-009-0011	8751	0	1.3	1.0	0	.7	.7
Hancock	Summit Circle	54-029-0009	8770	0	1.0	.9	0	.6	.5
Kanawha	Charleston NCore	54-039-0020	7226	0	1.5	1.5	0	1.0	.8

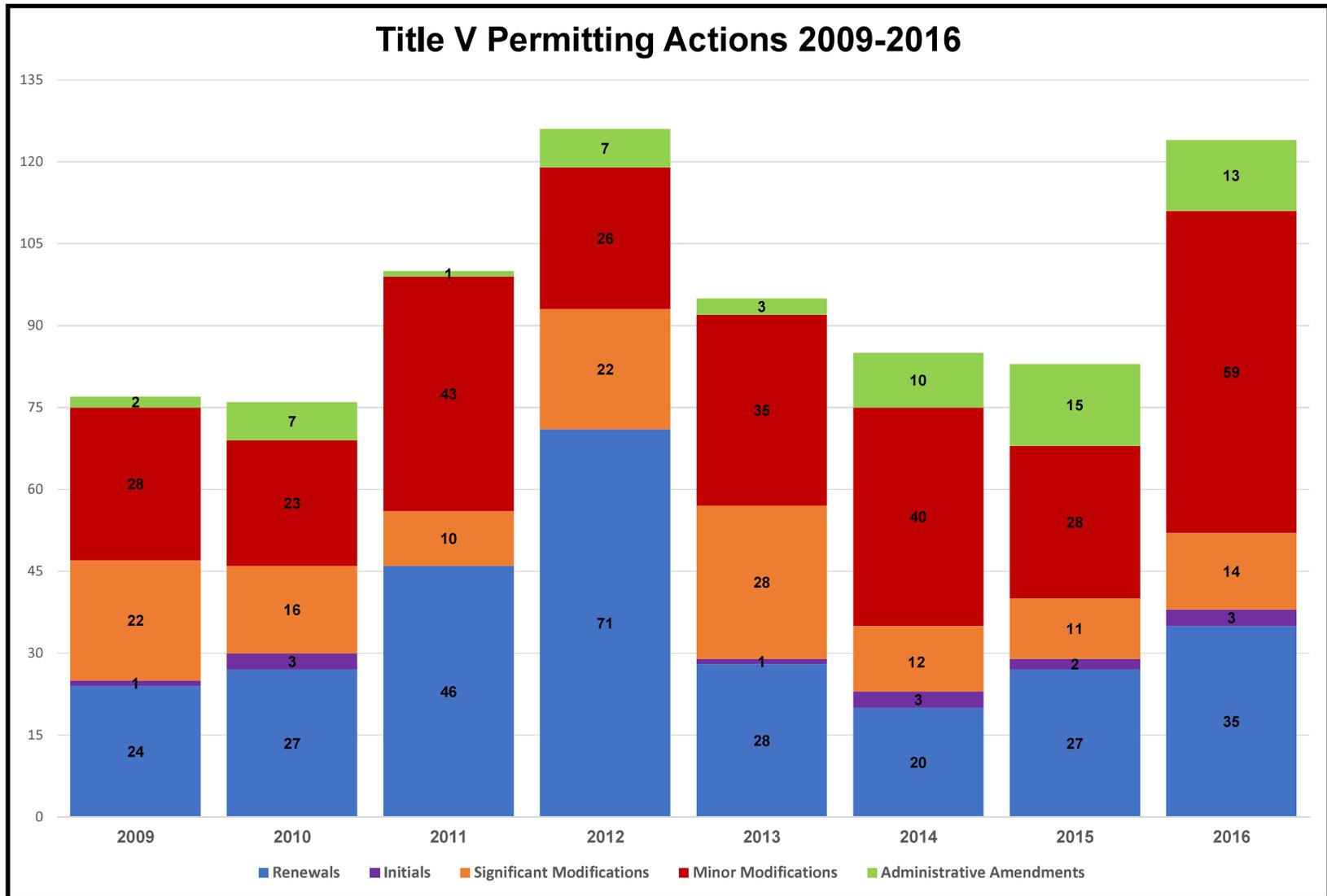
2016 Permitting



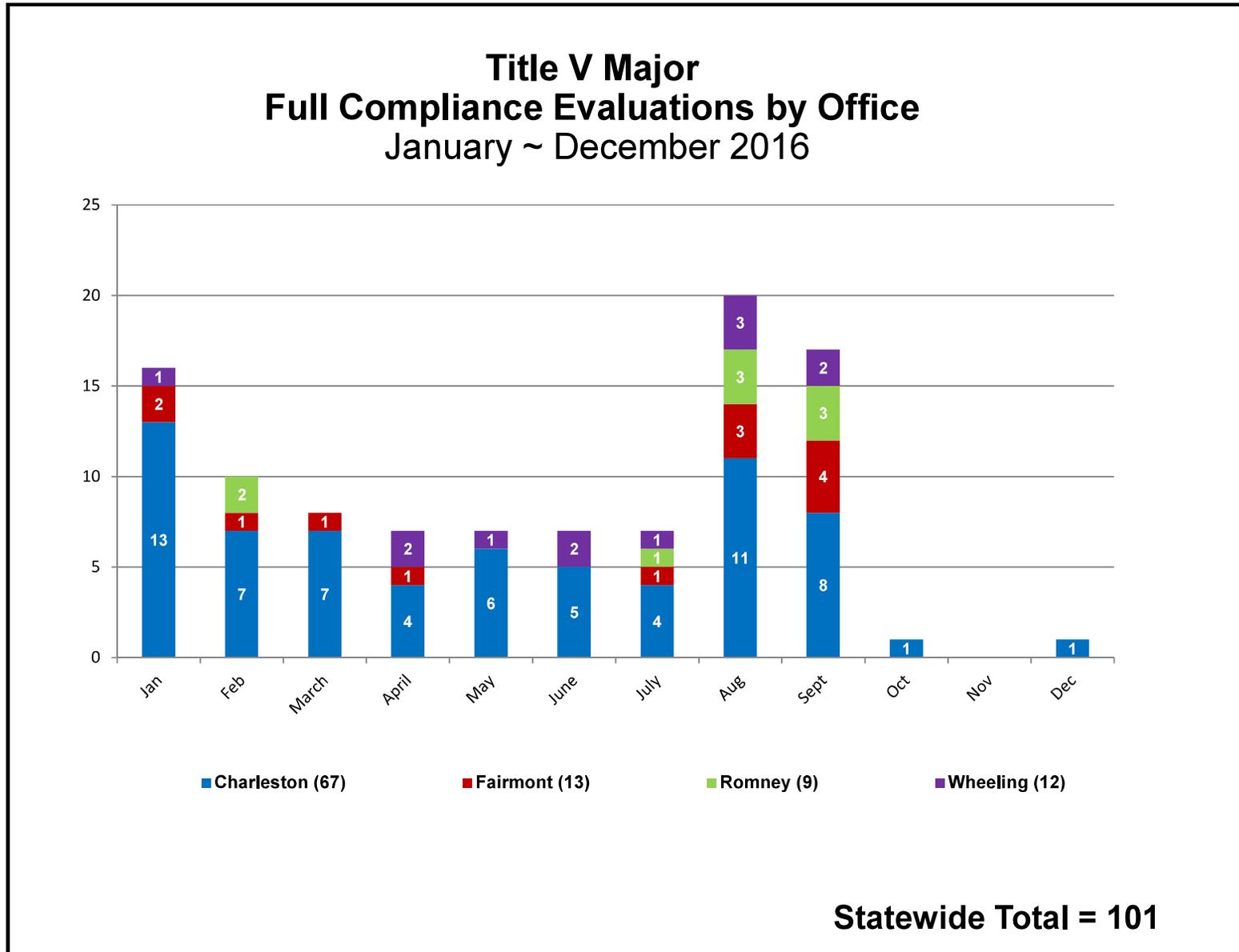
2016 Permitting



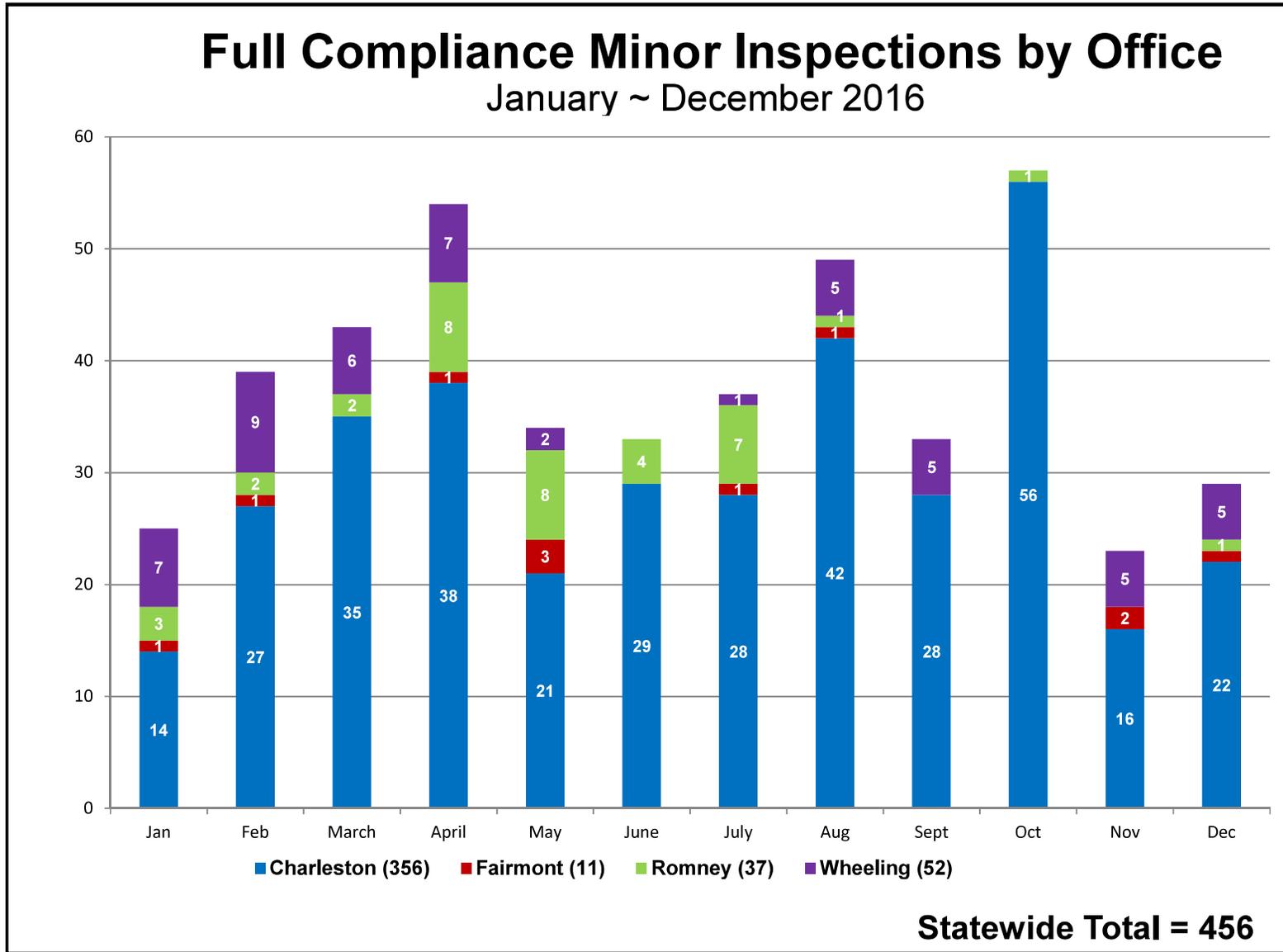
2016 Permitting



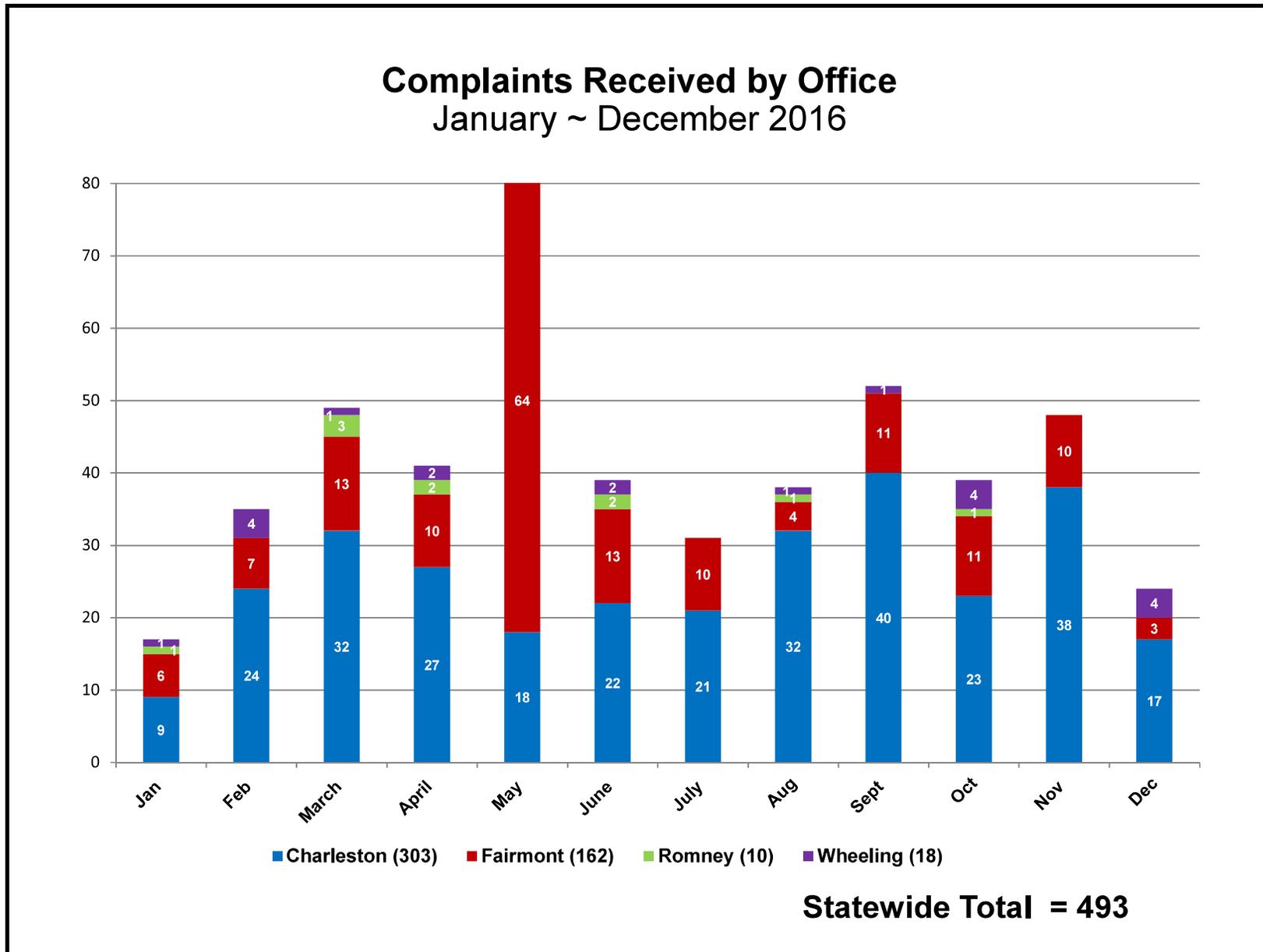
2016 Compliance & Enforcement



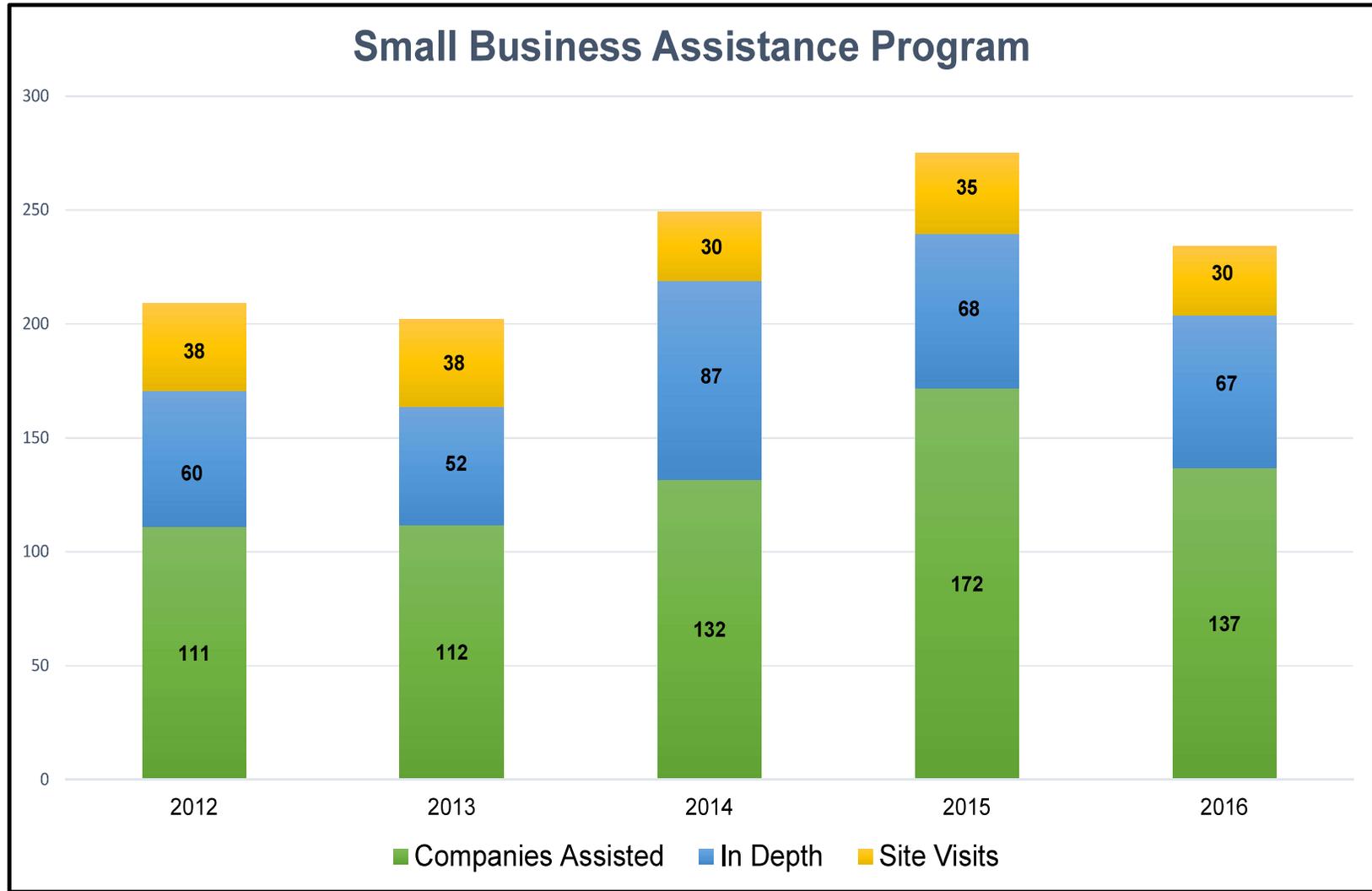
2016 Compliance & Enforcement



2016 Compliance & Enforcement

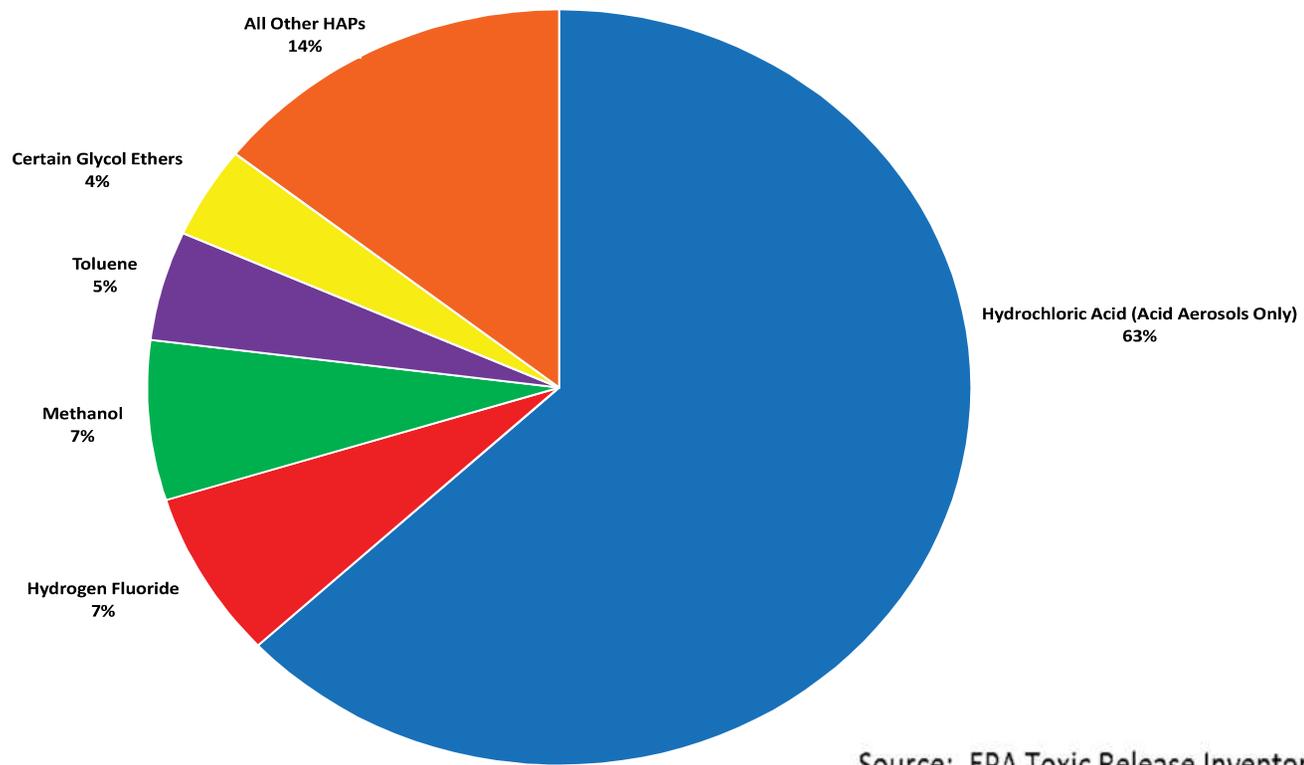


2016 Small Business Assistance



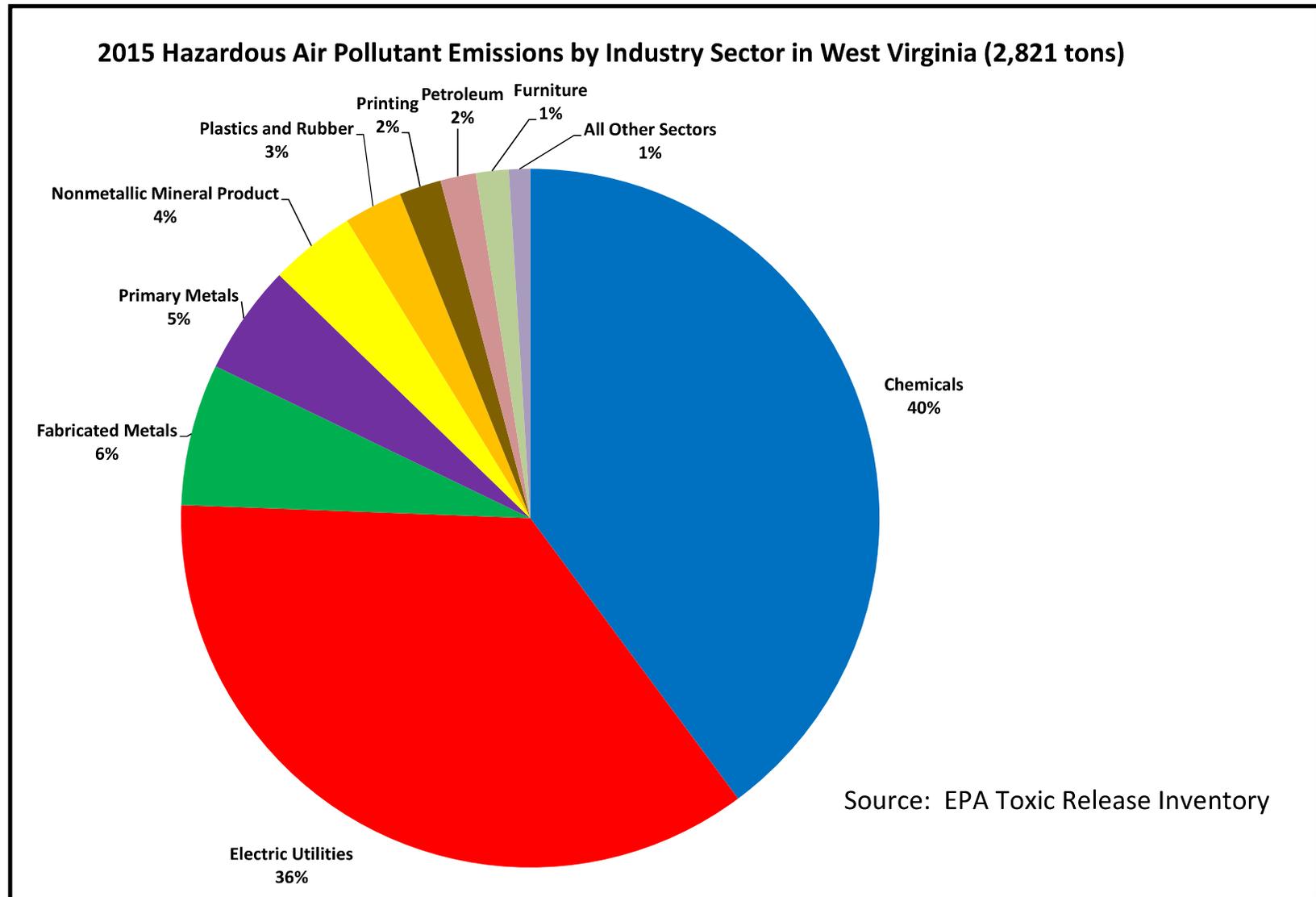
2016 Air Toxics

2015 Top 5 Hazardous Air Pollutants Emitted to Air in West Virginia (2,821 tons)

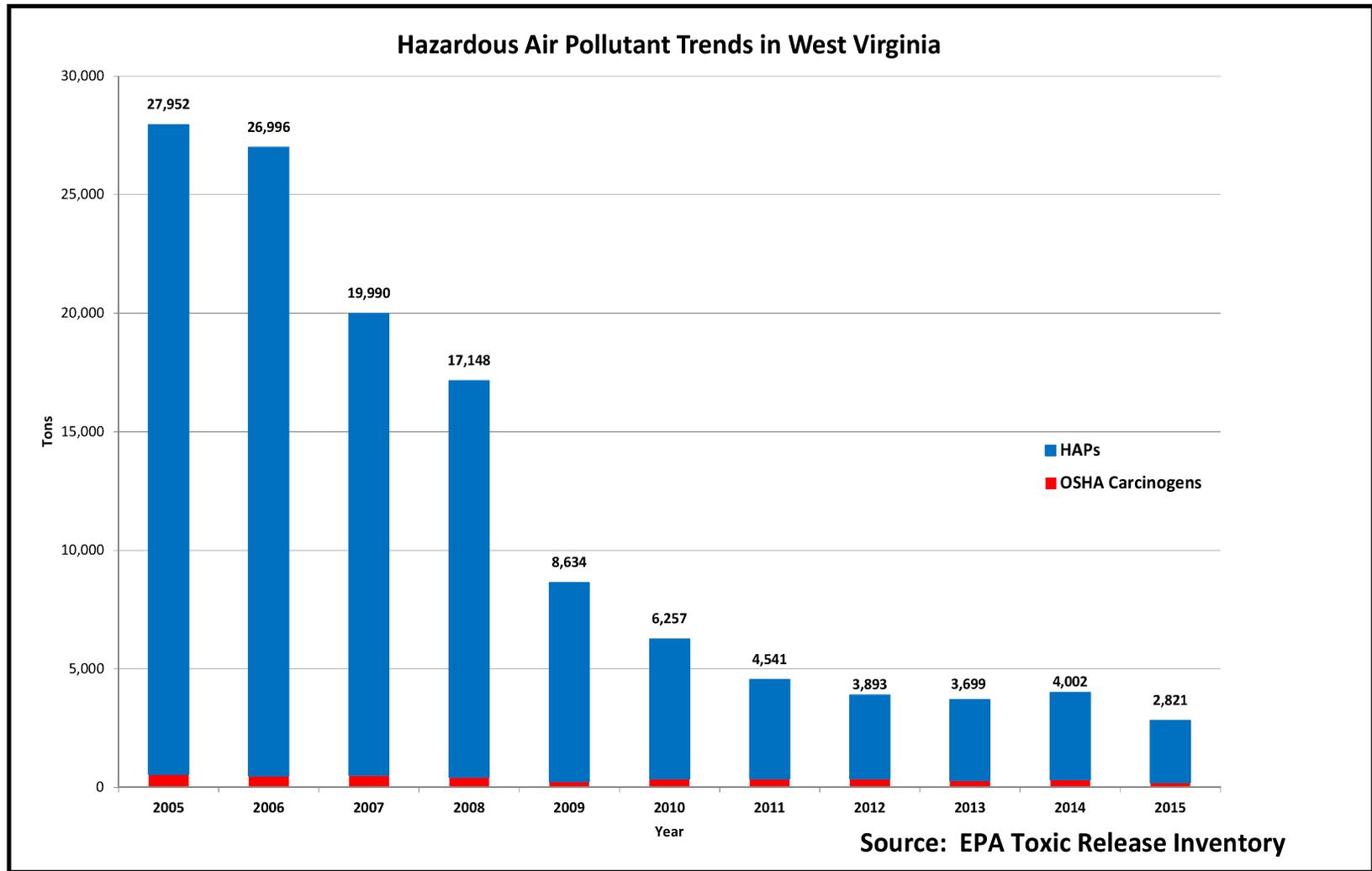


Source: EPA Toxic Release Inventory

2016 Air Toxics



2016 Air Toxics







Definitions & Contact Information

Definitions

Acid precipitation or acid rain

Water falling in drops condensed from vapor in the atmosphere with acidic qualities. Principal components typically include nitric and sulfuric acid with water vapor.

Air pollutants

Solids, liquids, or gases which, if discharged into the air, may result in statutory air pollution.

Air pollution

Statutory air pollution has the meaning ascribed to it in West Virginia Code §22-5-2.

Air toxics

Term generally referring to hazardous air pollutants, and used in the context of implementation of a program to address such emissions and their impacts.

Ambient air

Generally, the atmosphere; outdoors.

Annual arithmetic mean

The numerical average of the data for the year.

AQI

Air Quality Index.

Attainment

EPA designation that an area meets the National Ambient Air Quality Standards.

24-hour average

The average concentration for a 24-hour period.

CAA

Clean Air Act.

CAIR

Clear Air Interstate Rule.

CO

Carbon monoxide.

CFR

Code of federal regulations.

CSR

Code of state regulations.

Criteria pollutant

An air pollutant for which certain levels of exposure have been determined to injure health, harm the environment and cause property damage. EPA-developed National Ambient Air Quality Standards, using science-based guidelines as the basis for setting acceptable levels.

DAQ

Division of Air Quality. Department of Environmental Protection office that administers West Virginia's air quality management program for the protection of public health, welfare, and the environment.

DEP

Department of Environmental Protection. West Virginia's regulatory agency charged with protecting and promoting a healthy environment.

De minimis

Refers to a level which is considered to be insignificant.

Elements

Chemicals, such as hydrogen, iron, sodium, carbon, nitrogen, or oxygen, whose distinctly different atoms serve as the basic building blocks of all matter. There are 92 naturally-occurring elements. Another 15 have been made in laboratories. Two or more elements combine to form compounds that make up most of the world's matter.

Emissions

Air pollutants exhausted from a unit or source into the atmosphere.

Exceedance

An incident occurring when the concentration of a pollutant in the ambient air is higher than the National Ambient Air Quality Standards.

EPA or U.S. EPA

Environmental Protection Agency. Federal agency that oversees the protection of the environment.

Fossil fuels

Natural gas, petroleum, coal or any form of solid, liquid or gaseous fuel derived from such material.

Greenhouse gas

The gaseous compounds: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride (SF₆). These gases absorb infrared radiation and trap heat in the atmosphere.

HAP

Hazardous Air Pollutant.

MACT

Maximum Achievable Control Technology.

Mercury

A naturally-occurring element that is found in air, water and soil. It exists in several forms, elemental or metallic mercury, inorganic mercury compounds, and organic mercury compounds. Elemental or metallic mercury is a shiny, silver-white metal and is liquid at room temperature.

Definitions

MSA

Metropolitan Statistical Area.

NAAQS

National Ambient Air Quality Standards. Set by EPA to protect human health and welfare.

NCORE

National Core Network. A multi-pollutant network that integrates several advanced measurement systems for particles, pollutant gases and meteorology.

Nonattainment

EPA designation that an area does not meet the National Ambient Air Quality Standards.

NO_x or NO₂

Nitrogen oxides.

O₃

Ozone.

OSHA Carcinogen

A chemical that is a known or suspected carcinogen by the Occupational Safety and Health Administration by virtue of appearing in one of three sources: 1. National Toxicology Program (NTP), "Annual Report on Carcinogens" (Latest Editions); 2. International Agency for Research on Cancer (IARC) "Monographs" (Latest Editions); or 3. 29 CFR 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration.

Ozone season

Varies geographically but for West Virginia it is the period beginning March 1 and ending on October 31 of the same year.

Pb

Lead.

PM

Particulate Matter.

PM_{2.5}

Particles that are 2.5 micrometers or less in size. These fine particles can be easily inhaled deep into the lungs where they can accumulate, react, be cleared or absorbed. These particles are about 30 times smaller than the diameter of a human hair.

PM₁₀

Particles that are 10 micrometers in size or less. This includes both fine particles (2.5 micrometers or less) and inhalable coarse particles having diameters larger than 2.5 micrometers and smaller than 10 micrometers.

Particulate Matter

Any material, except uncombined water, that exists in a finely divided form as a liquid or solid.

PPB

Parts per billion by volume.

PPM

Parts per million by volume.

Precursor

A substance that is the source of, or aids in the formation of, another substance.

Regulated air pollutant

Any air pollutant subject to a standard or other requirement promulgated under section 112 of the Clean Air Act, or any air pollutant for which a National Ambient Air Quality Standard has been promulgated including particulate matter, sulfur dioxide, carbon monoxide, nitrogen dioxide, ozone and lead or lead compounds.

Sinks

Any process, activity or mechanism which removes a greenhouse gas from the atmosphere. Forests are considered sinks because they remove carbon dioxide through photosynthesis.

SIP

State Implementation Plan. Plan to attain and maintain the National Ambient Air Quality Standards for criteria pollutants.

SO₂

Sulfur dioxide.

Source or stationary source

Any governmental, institutional, commercial or industrial structure, installation, plant, building or facility that emits or has the potential to emit any regulated air pollutant under the Clean Air Act.

Statutory Air Pollution

The discharge into the air by the act of man, of substances (liquid, solid, gaseous, organic or inorganic) in a locality, manner and amount as to be injurious to human health or welfare, animal or plant life, or property, or which would interfere with the enjoyment of life or property.

ug/m³

Micrograms per cubic meter.

VISTAS

Visibility Improvement - State and Tribal Association of the Southeast.

VOC

Volatile organic compound.

