



Maryland
Department of
the Environment

Status Report - Sulfur Dioxide Monitoring and Emission Reduction Efforts

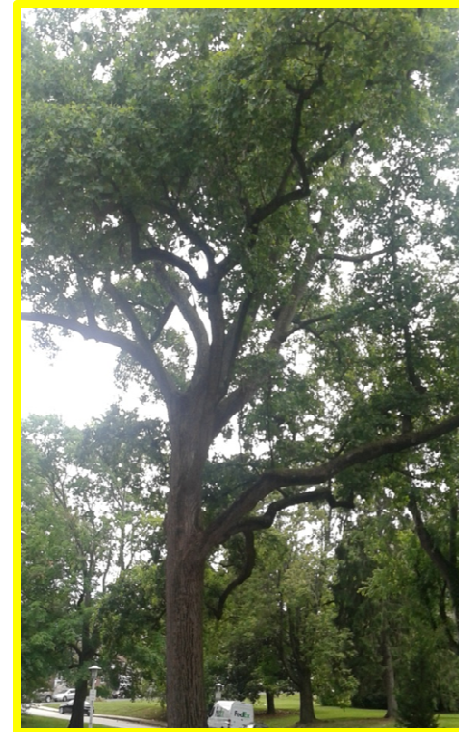


Tad Aburn, Air Director
Maryland Department of the Environment
Pasadena Community Meeting
March 13, 2018



Topics Covered

- Background
- Monitoring Results
- Ongoing Emission Reduction Efforts
- Next Steps
 - Finalizing the SIP (State Implementation Plan)





Background - The Basics

- In 2010, EPA promulgated a 1-hour national standard for sulfur dioxide (SO_2)
 - The level of the standard is 75 parts per billion (ppb)
 - 99th percentile of 1-hour daily maximum concentrations averaged over 3 years
- In July 2016, EPA designated portions of Anne Arundel and Baltimore Counties as “nonattainment”
 - First time ever ... in Maryland ... that an area was designated nonattainment without monitoring data





MDE Did Not Agree With EPA

- MDE analysis showed that current SO₂ levels would be below the standard
 - EPA's designation is based upon 2012 to 2015 data
- MDE completed comprehensive analyses of 2015-2016 conditions
 - Governor Hogan recommended to EPA an "attainment" designation
- MDE argued that most recent data showed that the area was in attainment
- After working with residents, MDE also installed an SO₂ monitor in the area





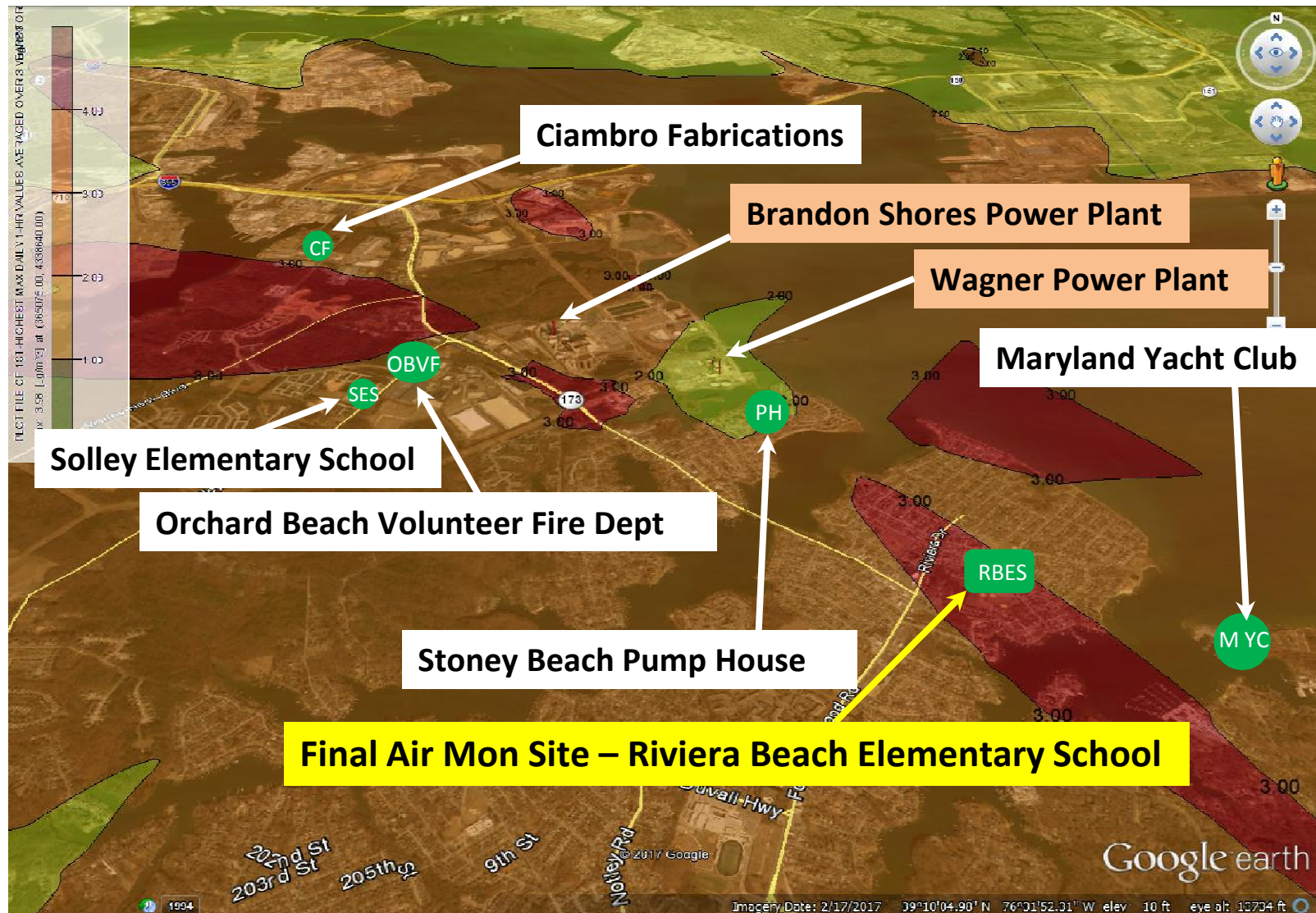
The Monitor

- Began collecting data on January 13, 2018
- Worked with community members to identify options for siting the monitor
 - Community meeting on this issue on 9/18/17
- Monitor sited at Riviera Beach Elementary School
 - High impact area, met all EPA guidance, met all practical criteria like having electricity and space
 - By far the best site





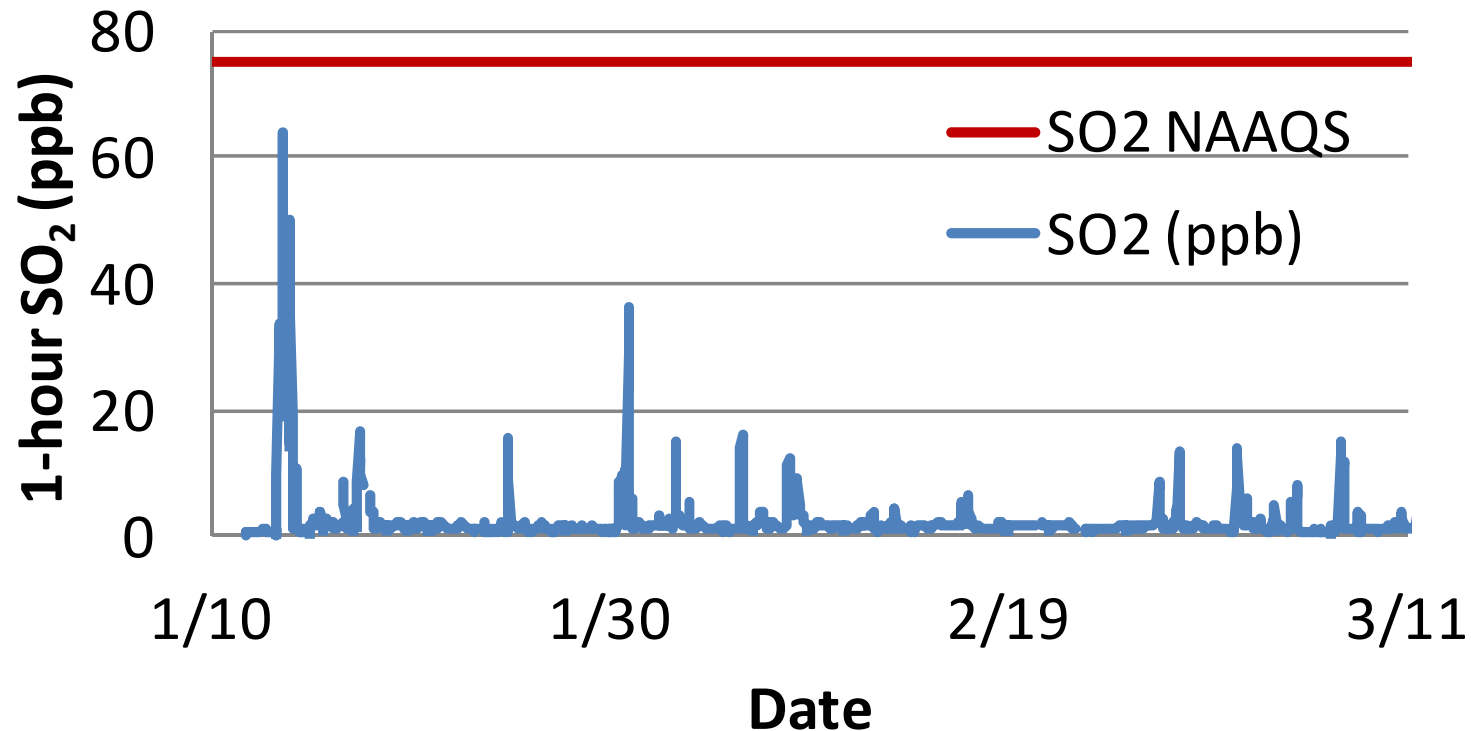
Monitor Location *Options Considered*





Data Collected to Date

Rivieria Beach 1-hour SO₂ data, 2018



- No exceedences of the EPA 1-hour SO₂ National Ambient Air Quality Standard (NAAQS) of 75 ppb



MDE Web Site

<http://mde.maryland.gov/programs/Air/AirQualityMonitoring/Pages/index.asp>

The screenshot displays the MDE Air Quality Monitoring website. The header includes the Maryland Department of the Environment logo and a search bar. The navigation menu lists: HOME, ABOUT MDE, AIR, LAND, WATER, MARYLANDER, PERMITS, and NEWSROOM. The main content area is titled "Current Air Quality Conditions" and features a map of Maryland with green dots indicating monitoring stations. A pop-up window titled "Air Quality Index (AQI) Information" shows a "Good" AQI for SO2. A red arrow points to the "Actual Concentration History*" link, which is circled in red. Below this link, the location "Riviera Beach" is listed.

Air Monitoring

- > Monitoring Network
- > Air Quality Forecast
- > Air Quality Facts
- > Historical Data
- > Quality of Air Summaries
- > Seasonal Reports
- > Air Monitoring Home

Current Air Quality Conditions

Air Quality Index (AQI) Information

Good

1 AQI SO2

01/22/2018 10:00 Local T

Actual Concentration History*

Riviera Beach



EPA Web Site

<https://www.epa.gov/outdoor-air-quality-data>

Your Access to Outdoor Air Quality Data



The tools below are connected directly to EPA's [Air Quality System Data Mart](#).

[Basic Information](#)

[Frequent Questions](#)

This website provides access to outdoor air quality data collected from state, local and tribal monitoring agencies across the United States.

Download Data



[Pre-generated Data Files](#)

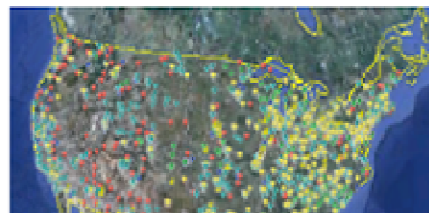


[Download Daily Data](#)



[Download Raw Data](#)

Explore Monitor Locations



Get Air Data Updates

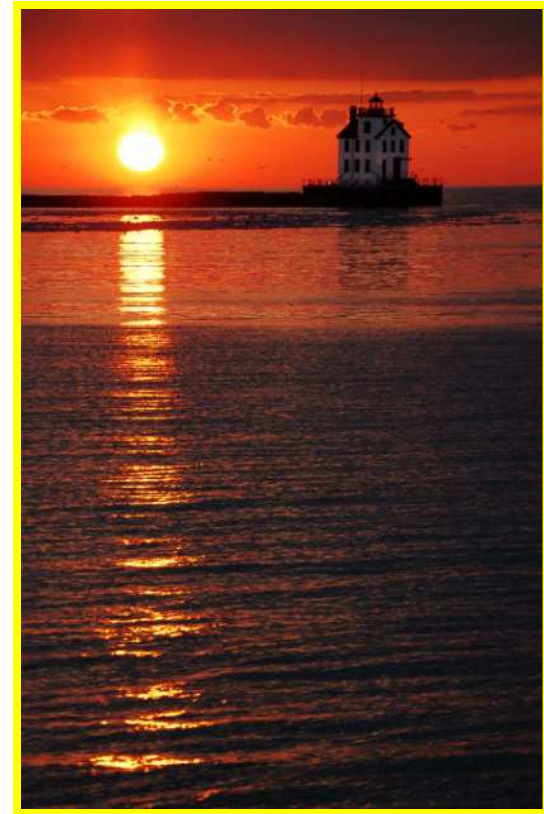


Subscribe to our RSS feed to keep up with the latest news, including scheduled system downtime, major data updates, etc.



Emission Reductions

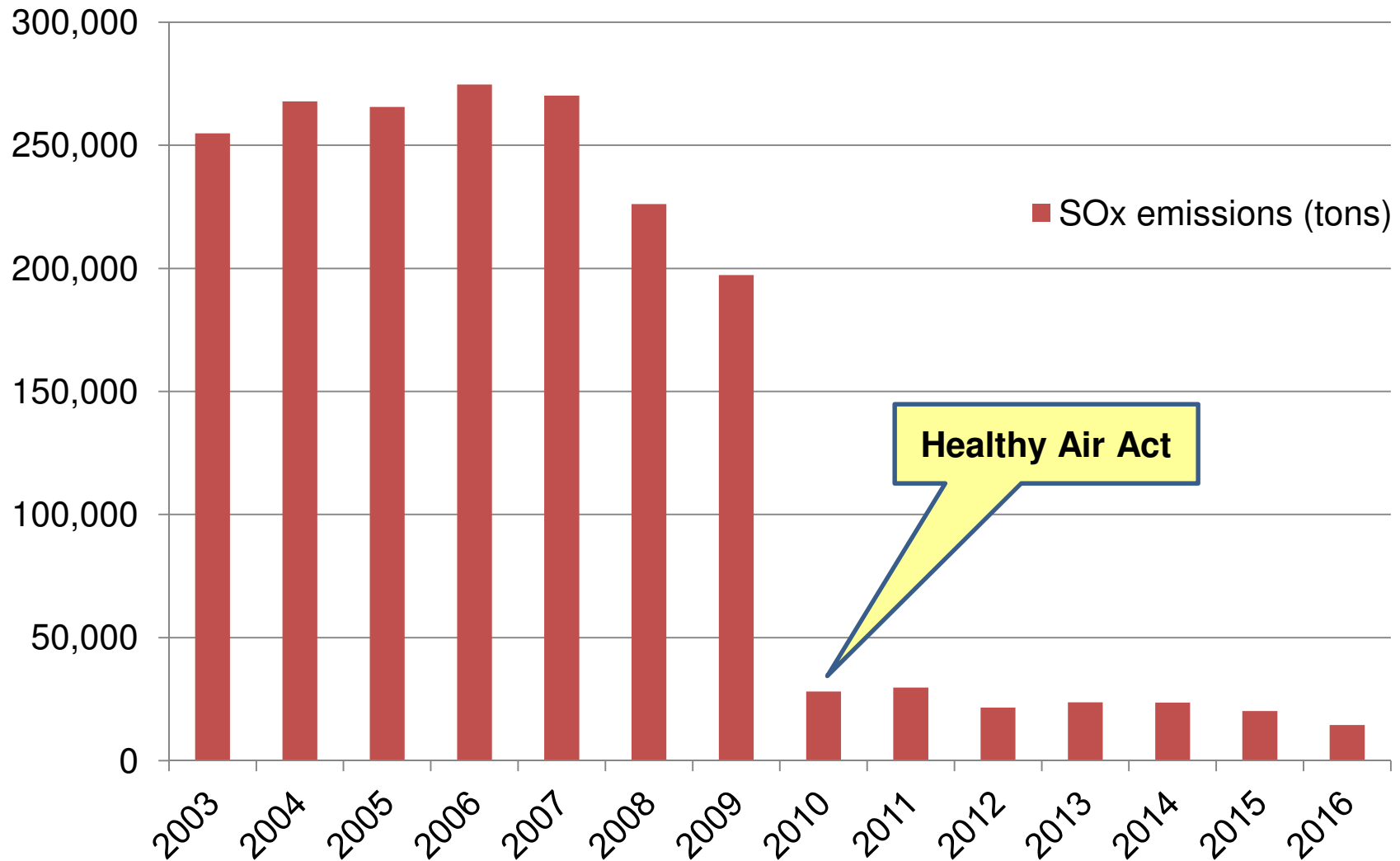
- 2010 Timeframe
 - The Maryland Healthy Air Act
- Recent Efforts
 - New emission controls
 - Plant retirements





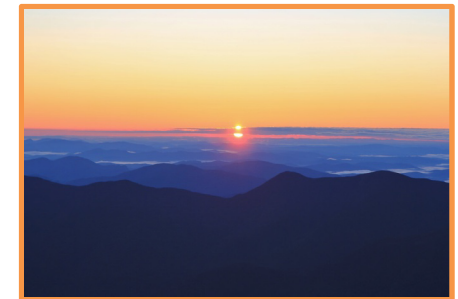
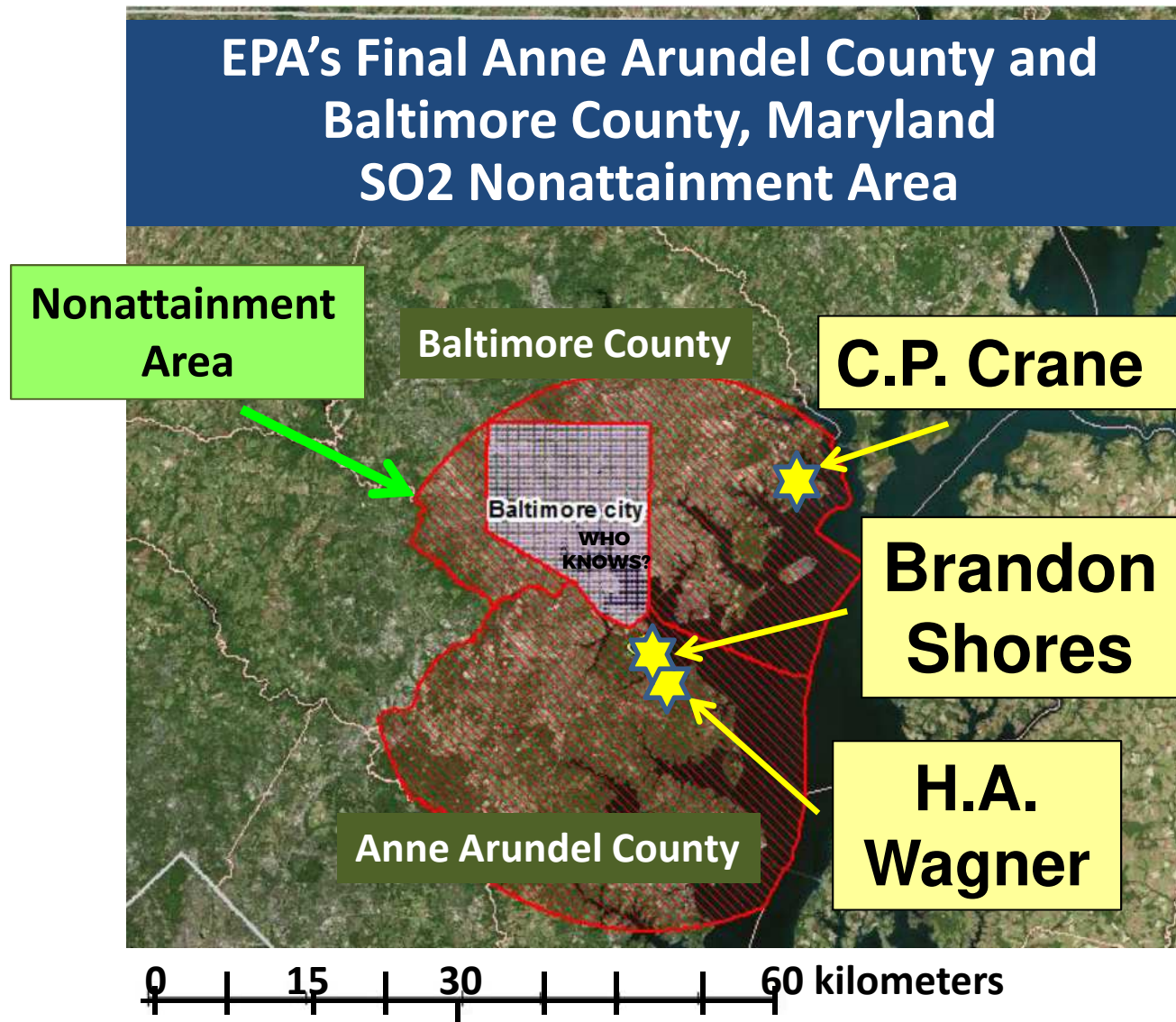
Total Sulfur Dioxide Emissions

Maryland Healthy Air Act





Major Sources in the Area





SO₂ Emissions by Plant

Pasadena Area

- Healthy Air Act begins in 2010
- Dramatic reductions at all plants

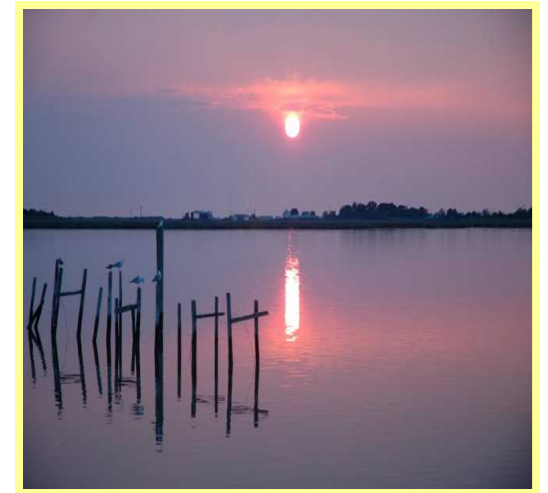
| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Brandon Shores | 42,041 | 39,924 | 32,821 | 1,260 | 2,829 | 2,848 | 2,870 | 3,145 | 2,953 | 2,719 |
| C. P. Crane | 30,631 | 24,352 | 12,477 | 5,589 | 5,682 | 2,173 | 2,972 | 1,887 | 1,325 | 1,049 |
| H. A. Wagner | 20,983 | 15,307 | 15,139 | 9,182 | 9,113 | 7,514 | 10,178 | 9,610 | 10,188 | 7,836 |
| Total | 93,654 | 79,584 | 60,437 | 16,031 | 17,624 | 12,536 | 16,020 | 14,643 | 14,466 | 11,603 |

tons per year



Recent SO₂ Emission Reductions

- H.A. Wagner
 - Unit 2 (coal)
 - Coal burning ceases in 2020
 - Unit 3 (coal)
 - Lower sulfur coal and specialty dry sorbent control system in 2016
 - About a 30% reduction in SO₂
 - Units 1 and 4 (oil)
 - Low sulfur oil and limited operations
- C.P. Crane – Coal Units 1 & 2
 - Both coal units to be deactivated in 2018
- Brandon Shores – Units 1 & 2 (coal)
 - Already equipped with State-of-the-art SO₂ controls





What is the “SIP”

- Because EPA designated the area as nonattainment, Maryland must submit a State Implementation Plan (or SIP) for the area
- The SIP must include:
 - Emission inventories (current & estimated future SO₂ emissions)
 - Modeling to demonstrate attainment of the 1-hour SO₂ standard
 - Emission limits
 - Other operational constraints





The SIP Timeline

- March - Finalize the draft SIP
- Late March/April - Final community meeting?
- May - Publish the SIP for formal public comment and a public hearing
- July - Finalize and submit the SIP



A bright sun is shining in a clear blue sky, with several white, fluffy clouds scattered across the upper half of the image. The sun is positioned in the upper right quadrant, casting rays of light across the sky. The clouds are primarily concentrated in the upper half, with some smaller, wispy clouds extending towards the bottom. The overall scene is bright and clear, suggesting a sunny day.

Questions?