



Maryland
Department of
the Environment

Lower Eastern Shore Ambient Air Monitoring Project



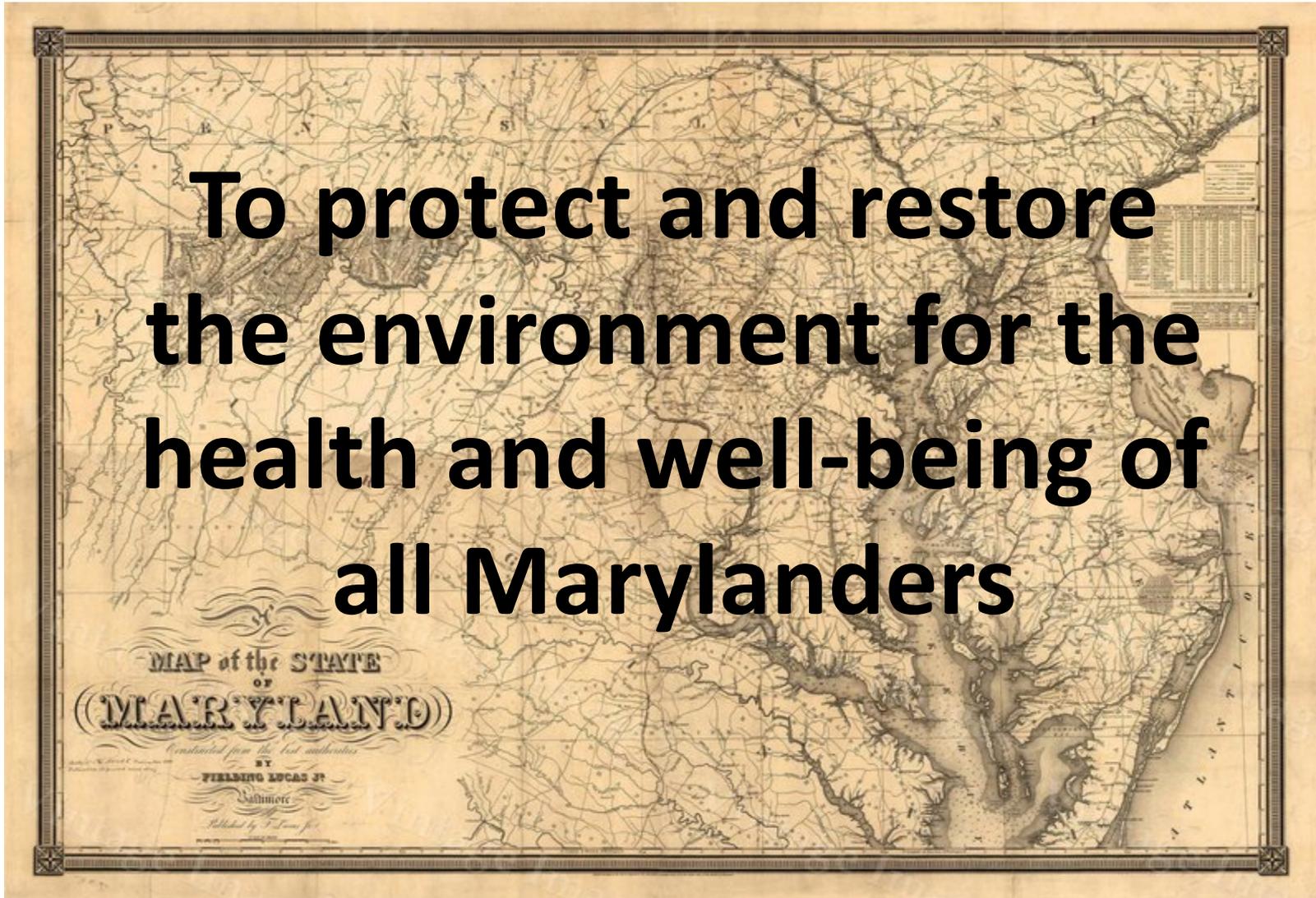
Angelo Bianca, Deputy Air Director, MDE

April 25, 2019



MDE's Mission

**To protect and restore
the environment for the
health and well-being of
all Marylanders**





Topics Covered

- Goals for Tonight
- Current Air Quality in Maryland
- Lower Eastern Shore Project Overview
- Monitor Siting
- Wrap-Up/Next Steps





Goals for Tonight

- To provide an overview of the project to residents and other interested parties
- To get any information that might be helpful to the siting process
- To provide the public the means to offer input beyond tonight's meeting

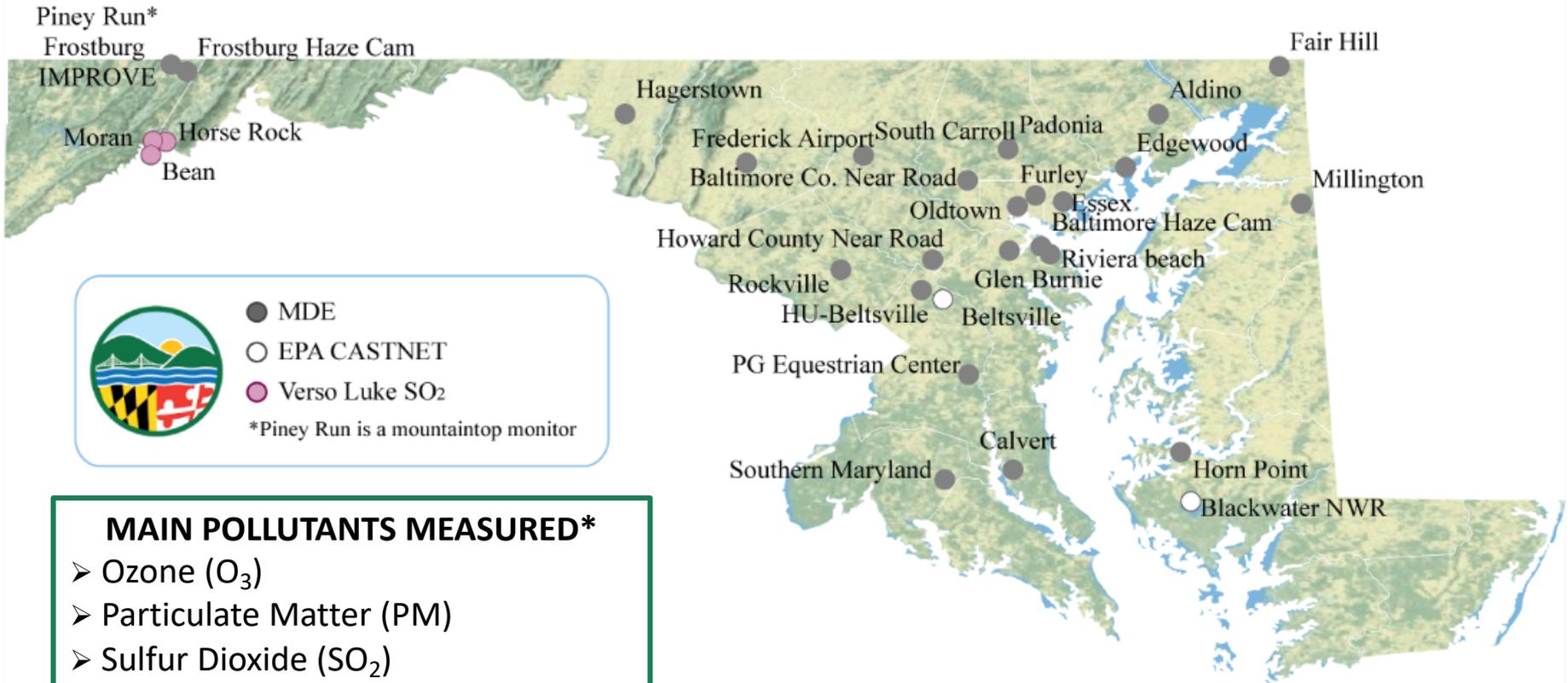




CLEANING THE AIR
DRAMATIC PROGRESS OVER THE
PAST 10 YEARS



2018 Maryland Air Monitoring Network - 27 sites



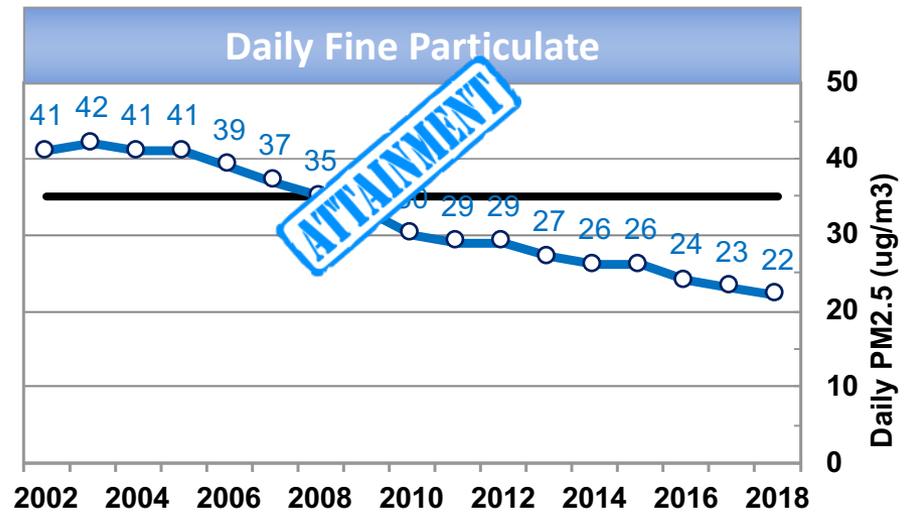
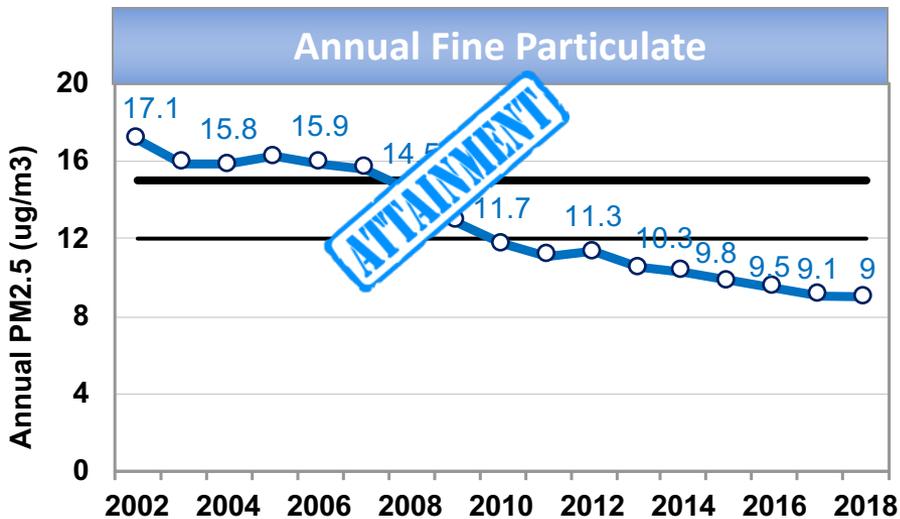
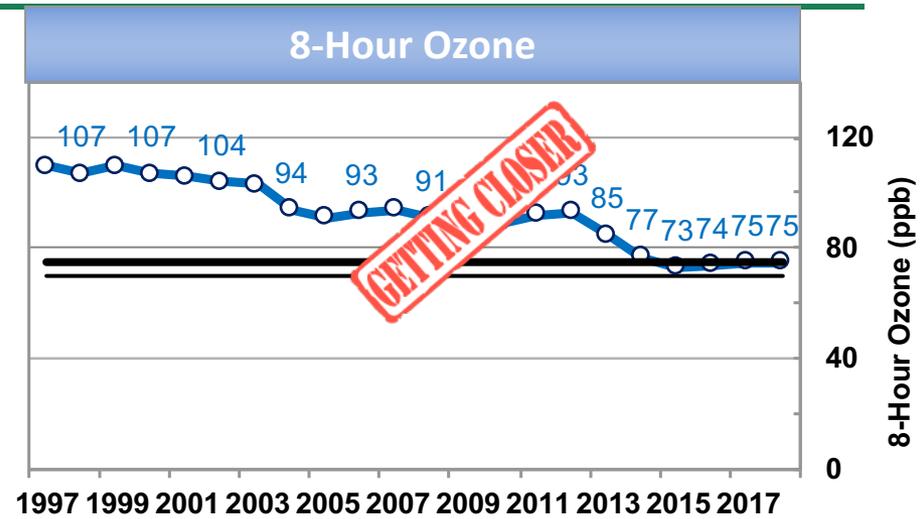
MAIN POLLUTANTS MEASURED*

- Ozone (O₃)
- Particulate Matter (PM)
- Sulfur Dioxide (SO₂)
- Nitrogen Dioxide (NO₂)
- Carbon Monoxide (CO)
- Volatile Organic Compounds (VOCs)
- Hazardous Air Pollutants (HAPs)

*Not all monitors measure all pollutants.



Air Quality Progress in Maryland



*2018 is Preliminary: Updated through Oct 2018

A bright sun is positioned in the upper right quadrant of the image, casting a strong glow and creating a lens flare effect. The sky is a deep, clear blue, and several large, fluffy white cumulus clouds are scattered across the scene, particularly on the left and right sides. The overall atmosphere is bright and clear.

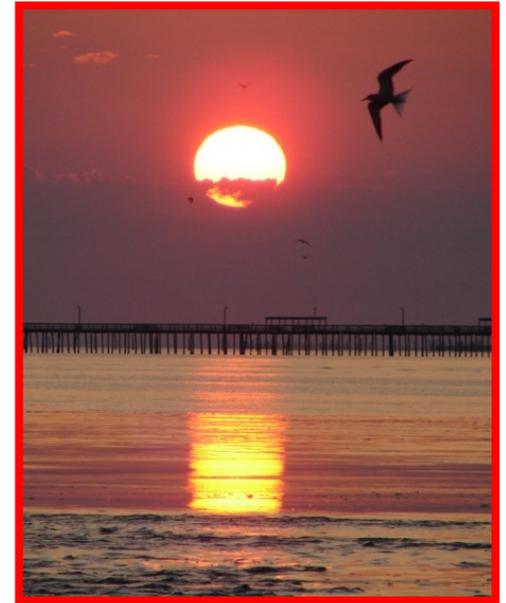
PROJECT OVERVIEW



Lower Eastern Shore Monitoring Project

- **Objectives**

- MDE independently collects data on ambient air quality near a concentration of poultry houses on the lower Eastern Shore for one year
- Hope to start collecting data by Aug. 1, 2019
- Summarize data
- Compare to data from other areas in Maryland
- All data will be publicly available
- Determine next steps





Lower Eastern Shore Monitoring Project

- **Approach**

- Locate one monitoring station upwind and one downwind of a concentration of poultry houses on the lower Eastern Shore
 - Monitor for ammonia (NH_3), fine particulate matter (PM), coarse PM and meteorological parameters
 - Use Federally approved sampling methods for PM*
 - Ammonia sampling method based on a Federally approved method for nitrogen dioxide.
 - Site the monitors using federally approved criteria
- Also install new ammonia monitors at two existing air monitoring sites (PM data already being collected)
 - Horn Point station in Dorchester County
 - Oldtown station in Baltimore City

**For any techies: You can find the very detailed and comprehensive federal guidance on siting, approved monitors and other monitoring issues at Title 40, Federal Regulations, part58, Appendices A-E.*



Lower Eastern Shore Monitoring Project

- **Emissions versus ambient air**
 - Project not designed to measure emissions from exhaust fans
 - Project will provide data on ambient air-the air the communities breathe





Lower Eastern Shore Monitoring Project

- **Approach**

- UMES, College of Agriculture and Natural Sciences, to operate and maintain lower shore monitors under a contract with MDE
- UMES to follow MDE protocols
- MDE to certify all data
- MDE to operate new ammonia monitors at existing sites

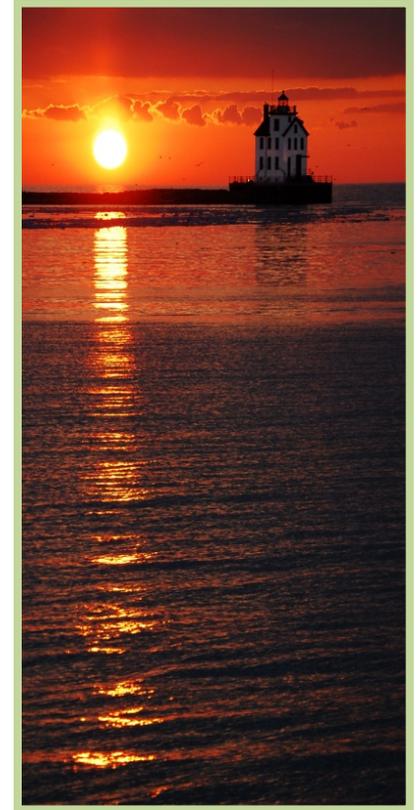
A bright sun is positioned in the upper right quadrant of the frame, casting a strong glow and creating a lens flare effect. The sky is a vibrant blue, filled with numerous white, fluffy clouds of varying sizes. The overall scene is bright and clear, suggesting a sunny day.

SITING THE MONITORS



Tools for Monitor Siting

- Wind roses-for use in determining the predominant wind direction
- Satellite imagery-Google maps
- Poultry density maps
- On-the-ground site surveys
- Input from local communities with knowledge of areas





Site Selection Process

- Identification of several potential monitoring sites for consideration taking into account local input
- MDE will perform siting analysis and work with owners of potential sites to determine site availability and suitability
- MDE will select the final monitor location and make it known to the public



Ideal Siting Scenario

- Area with a large concentration of poultry houses
- Clear of nearby trees and buildings
- Clear path from poultry houses to downwind site
- No significant interferences at upwind site
- Easy access to power
- Property owners amenable to hosting a monitor



Some Siting Challenges

- Need a 15 feet by 15 feet space/footprint for shelter and fencing for upwind and downwind sites
- Must have electrical power and internet access
- Must have ability to make site improvements such as a road and fence
- Must be safe, secure and accessible
- Must have an access agreement, which may include rental fees





Monitoring Site Photos



Horn Point



Howard County



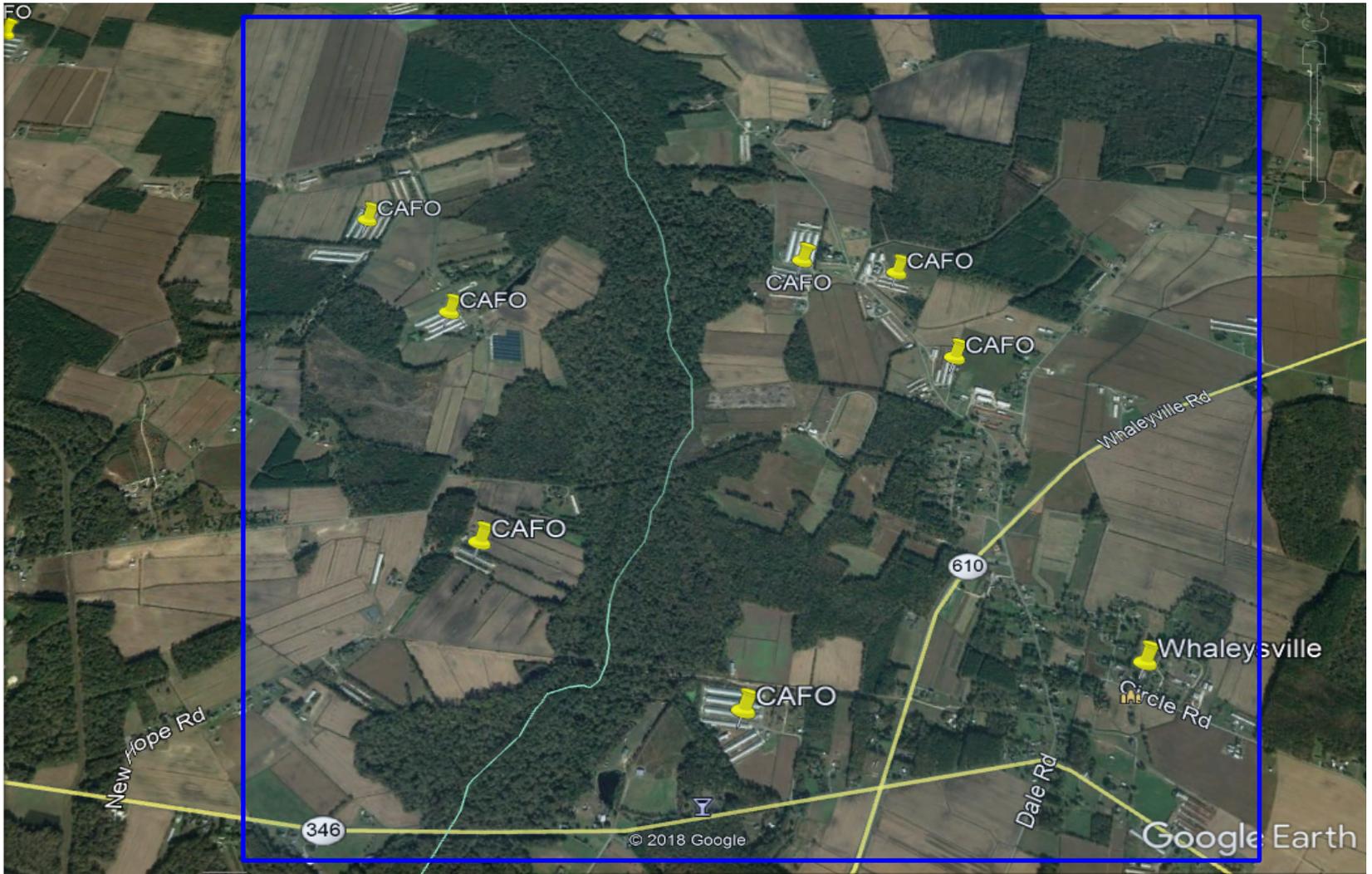
Fair Hill



Baltimore County

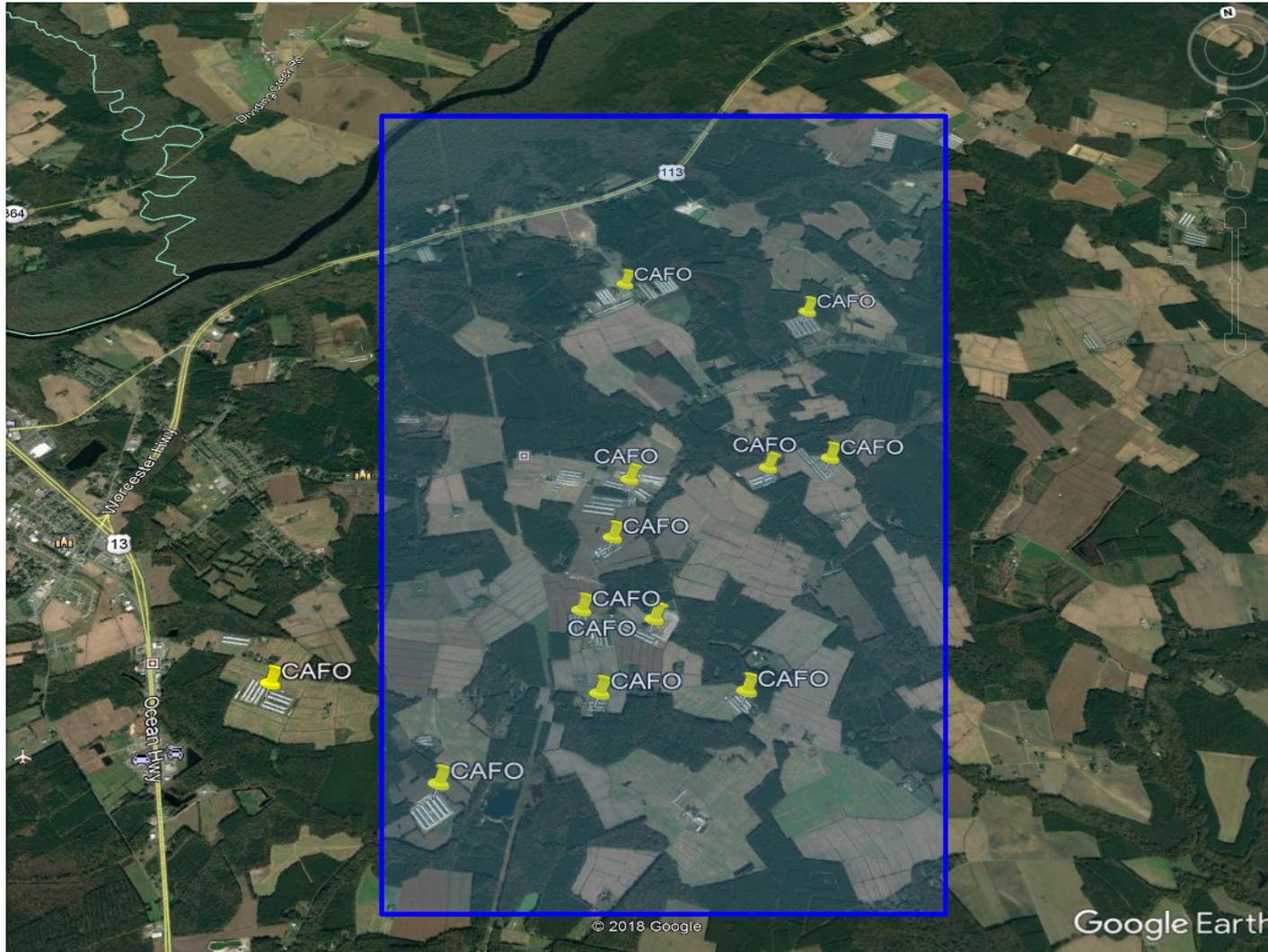


Potential Monitoring Area



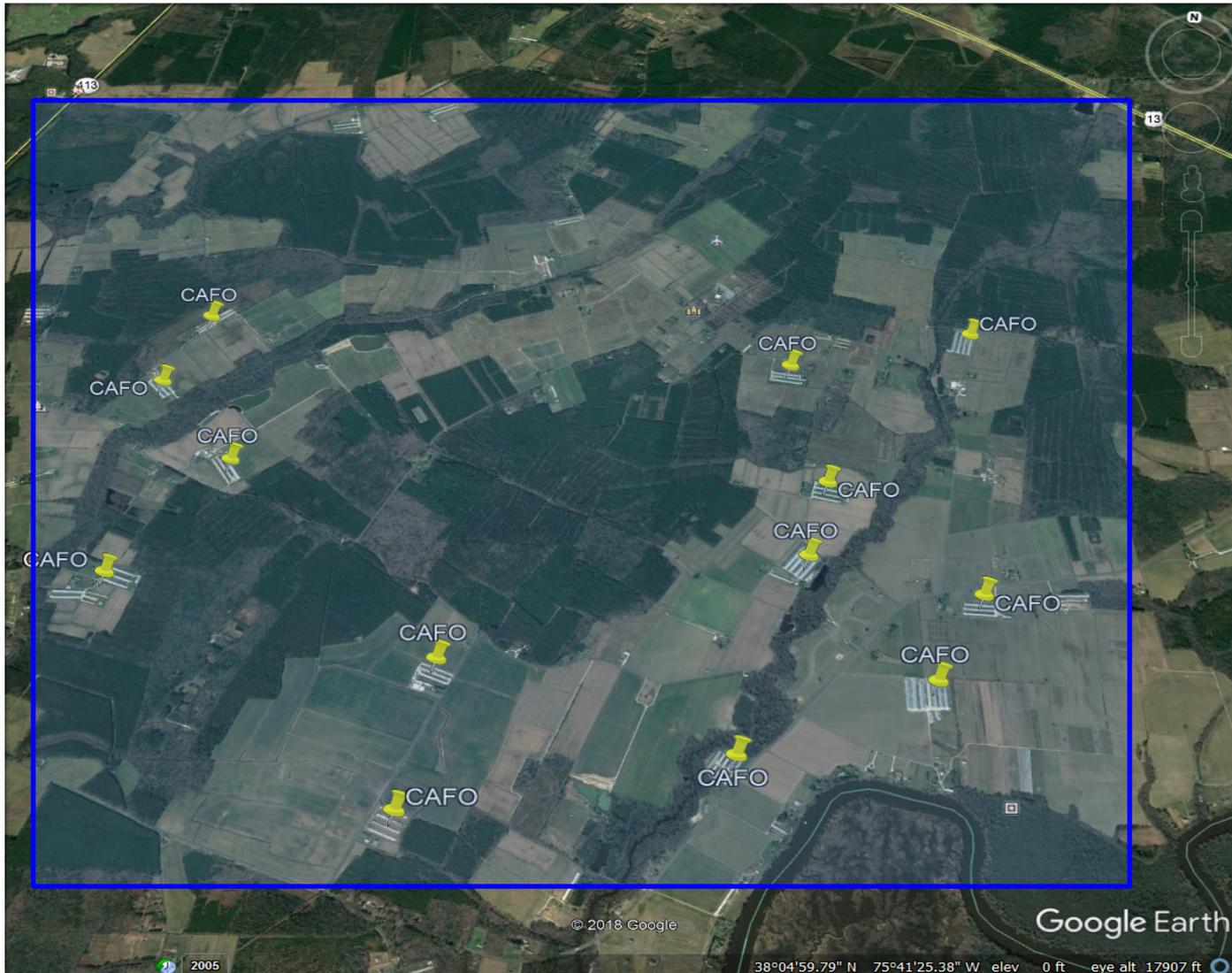


Potential Monitoring Area



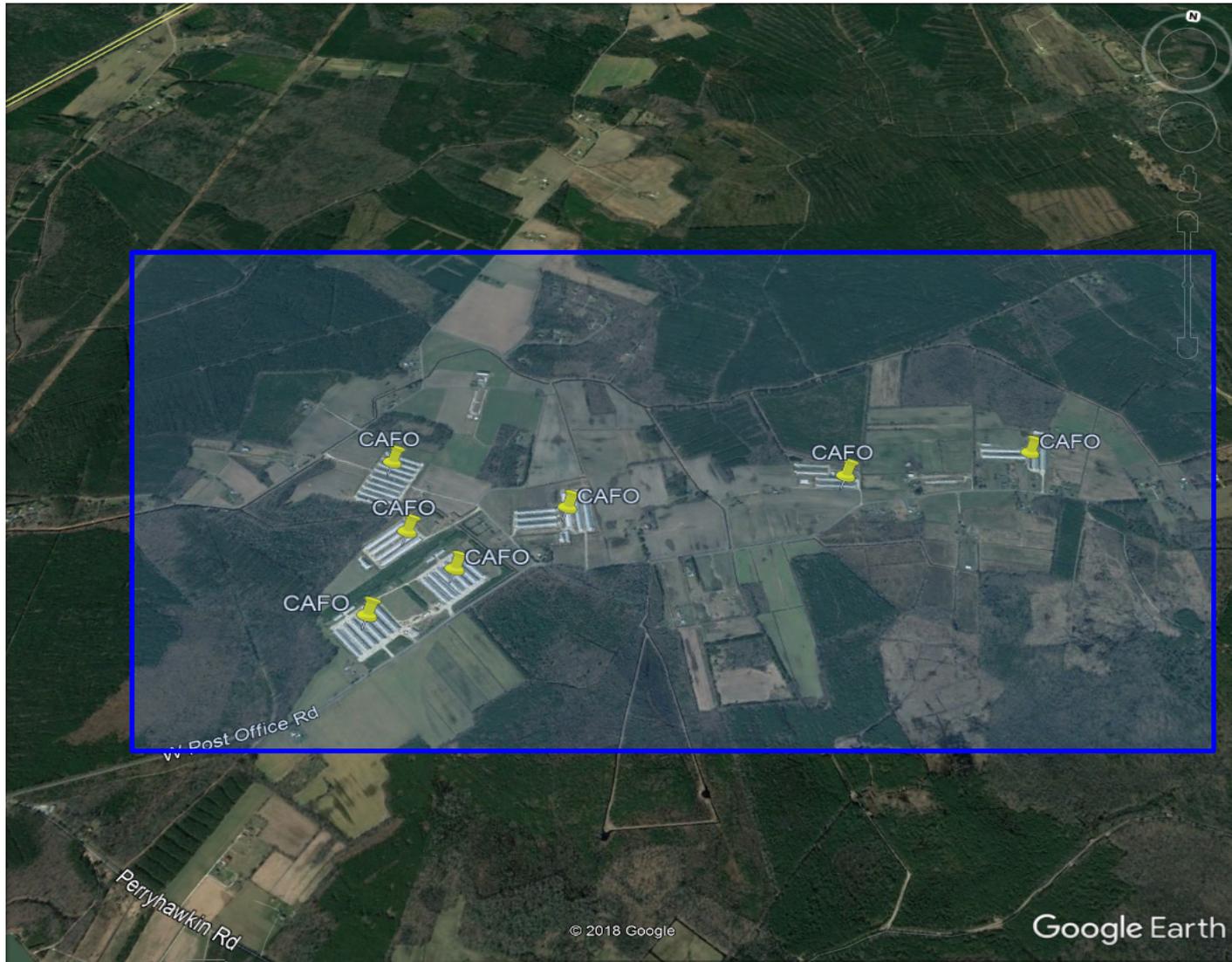


Potential Monitoring Area





Potential Monitoring Area





How to Provide Input

- Provide initial input today
- Additional input in writing by May 15th, 2019:
 - mde.poultryairmonitoring@maryland.gov
 - Or by letter to:
 - Angelo Bianca, Deputy Director
 - Air and Radiation Administration
 - 1800 Washington Blvd
 - Baltimore, MD 21230
- Contact MDE staff - (410) 537-3299 or (410) 537-3260
- Check MDE's Web page for informational updates:
<https://mde.maryland.gov/poultryairmonitoring>



**QUESTIONS? ...
INPUT ...
DISCUSSION**