



pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Bureau of Air Quality

2022 Annual Monitoring Network Plan

Air Quality Technical Advisory Committee

August 18, 2022

Harrisburg, PA

Tom Wolf, Governor

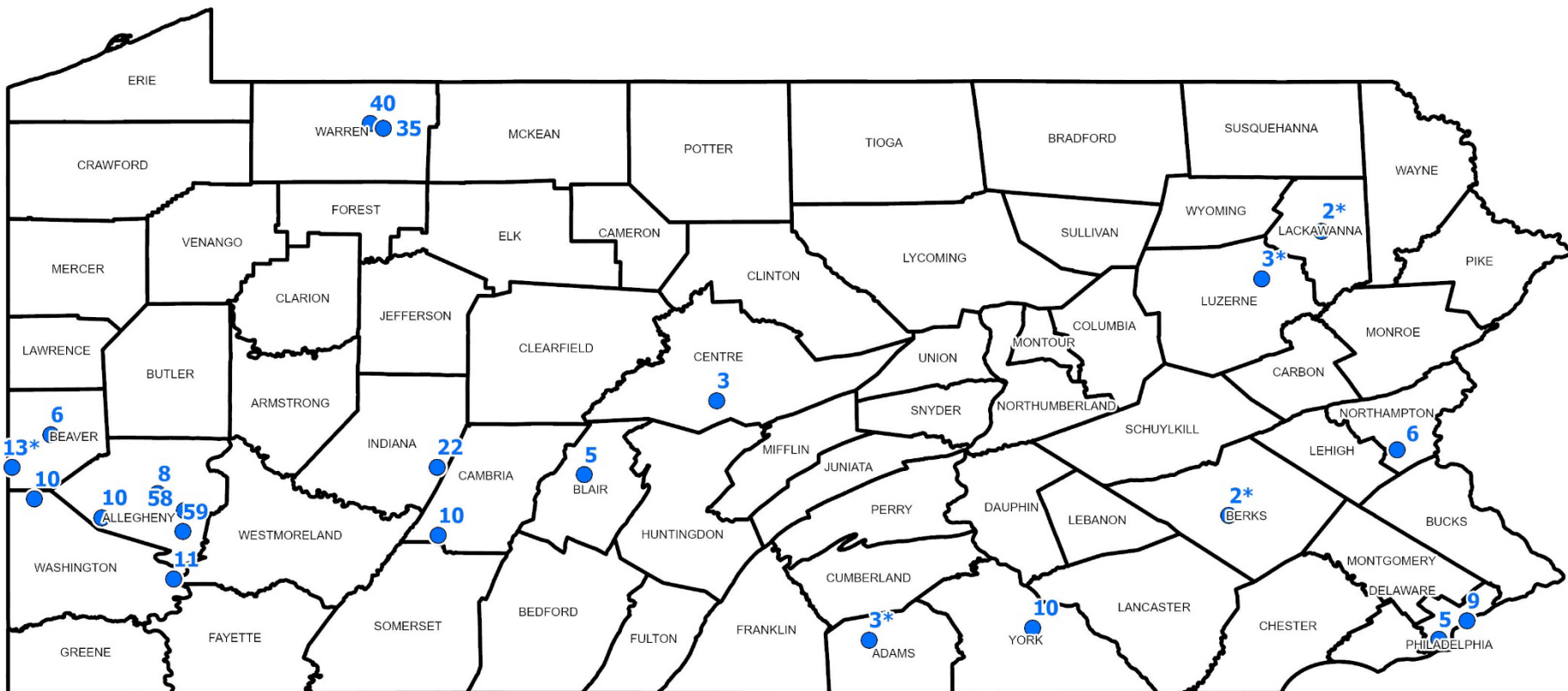
Ramez Ziadeh, P.E. Acting Secretary

Agenda

- Review of 2021 Air Quality Design Values
 - Ozone
 - Fine Particulate Matter (PM_{2.5})
 - Sulfur Dioxide (SO₂)
 - Lead (Pb)
- Proposed 2022 Annual Monitoring Network Plan
 - 2021 Changes to Monitoring Network
 - 2022 Proposed Changes to Monitoring Network

Review of 2021 Air Quality Design Values

2021 1-hour SO₂ Design Values

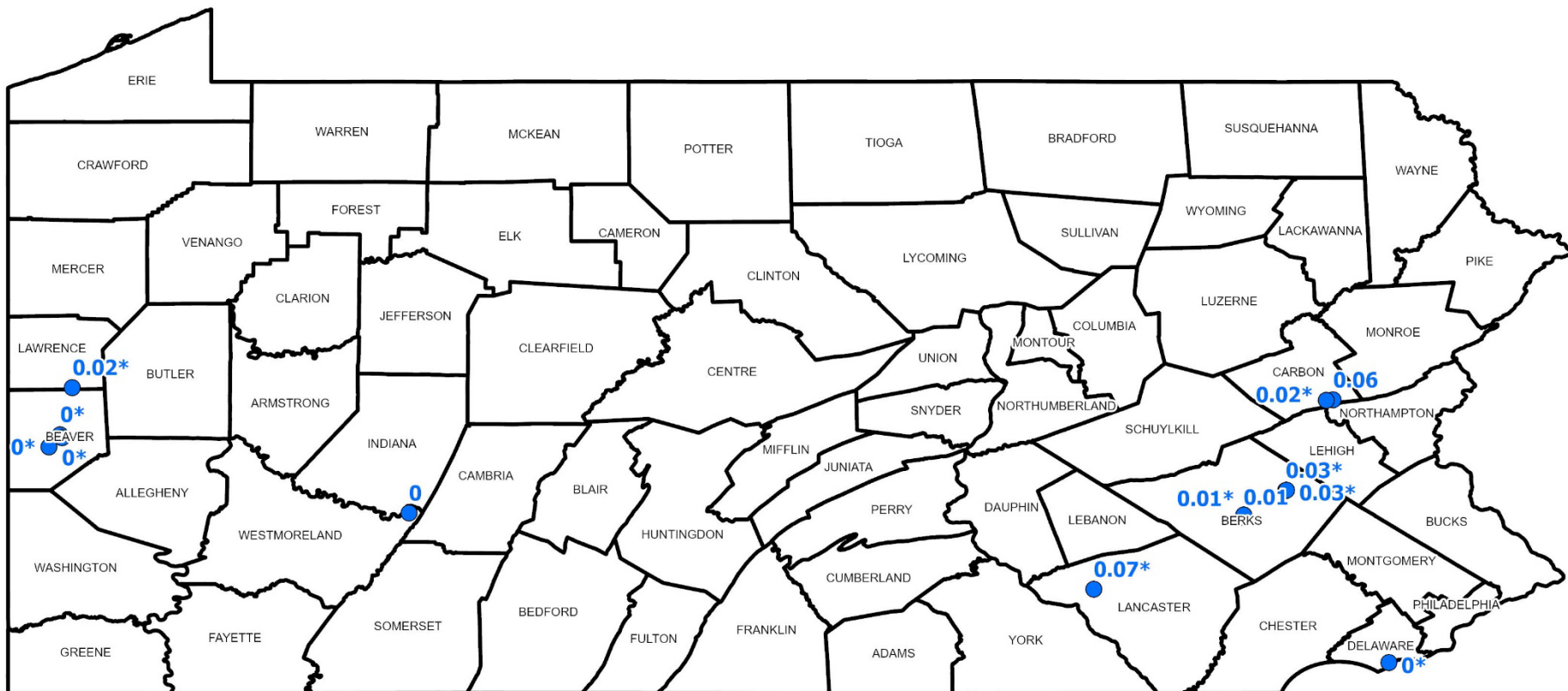


Appearing in Red – 2021 1-hour SO₂ design value above 75 ppb (2010 SO₂ Standard)

Appearing in Blue – 2021 1-hour SO₂ design value at or below 75 ppb (2010 SO₂ Standard)

Asterisk (*) appearing behind the design value means the data is incomplete during 3-year period.

2021 3-Month Lead Design Values



Appearing in Red – 2021 3-month lead design value above $0.15 \mu\text{g}/\text{m}^3$ (2008 Lead Standard)

Appearing in Blue – 2021 3-month lead design value at or below $0.15 \mu\text{g}/\text{m}^3$ (2008 Lead Standard)

Asterisk (*) appearing behind the design value means the data is incomplete during 3-year period.

Proposed 2022 Annual Monitoring Network Plan

▶ Annual Network Plan Requirements

Title 40 Part 58 of the Code of Federal Regulations (Specifically Section 58.10) requires:

the State, or where applicable local, agency shall adopt and submit to the Regional Administrator an annual monitoring network plan which shall provide for the establishment and maintenance of an air quality surveillance system that consists of a network of SLAMS monitoring stations including FRM, FEM, and ARM monitors that are part of SLAMS, NCore stations, STN stations, State speciation stations, SPM stations, and/or, in serious, severe and extreme ozone nonattainment areas, PAMS stations, and SPM monitoring stations. The plan shall include a statement of purposes for each monitor and evidence that siting and operation of each monitor meets the requirements of appendices A, C, D, and E of this part, where applicable. The annual monitoring network plan must be made available for public inspection for at least 30 days prior to submission to EPA.

These plans are due to the EPA Regional Administrator by July 1 of the calendar year.

▶ Annual Network Plan Requirements

Pursuant to Section 58.10(a) and (b), network plans must include the following for existing and proposed monitoring sites:

- A statement of purpose for each monitor
- Evidence that siting and operation of each monitor meets the requirements of 40 CFR Part 58, Appendices A, C, D, and E where applicable
- The Air Quality System (AQS) site identification number
- The location, including street address and geographical coordinates
- The sampling and analysis method(s) for each measured parameter
- The operating schedules for each monitor
- Any proposals to remove or move a monitoring station within a period of 18 months following plan submittal
- The monitoring objective and spatial scale of representativeness for each monitor
- The identification of any sites that are suitable and sites that are not suitable for comparison against the annual $PM_{2.5}$ NAAQS, as described in 40 CFR § 58.30
- The Metropolitan Statistical Area (MSA), Core Based Statistical Area (CBSA), Combined Statistical Area (CSA), or other area represented by the monitor

2021 Changes

- In 2021, DEP changed the following within its ambient air monitoring network:
 - New Sites: Established Fort McIntosh site in Beaver County (monitors ozone, PM_{2.5}, VOCs and meteorology)
 - Lead: Discontinued Laureldale North lead monitoring site
 - PM₁₀ and SO₂: Discontinued monitoring at Wilkes-Barre and established monitoring at Scranton

2022 Proposed Changes

- In 2022, DEP is proposing to change the following within its ambient air monitoring network:
 - Discontinue Sites:
 - Hookstown in Beaver County (ozone and SO₂)
 - Moshannon in Clearfield County (ozone)
 - Wilkes-Barre in Luzerne County (ozone)

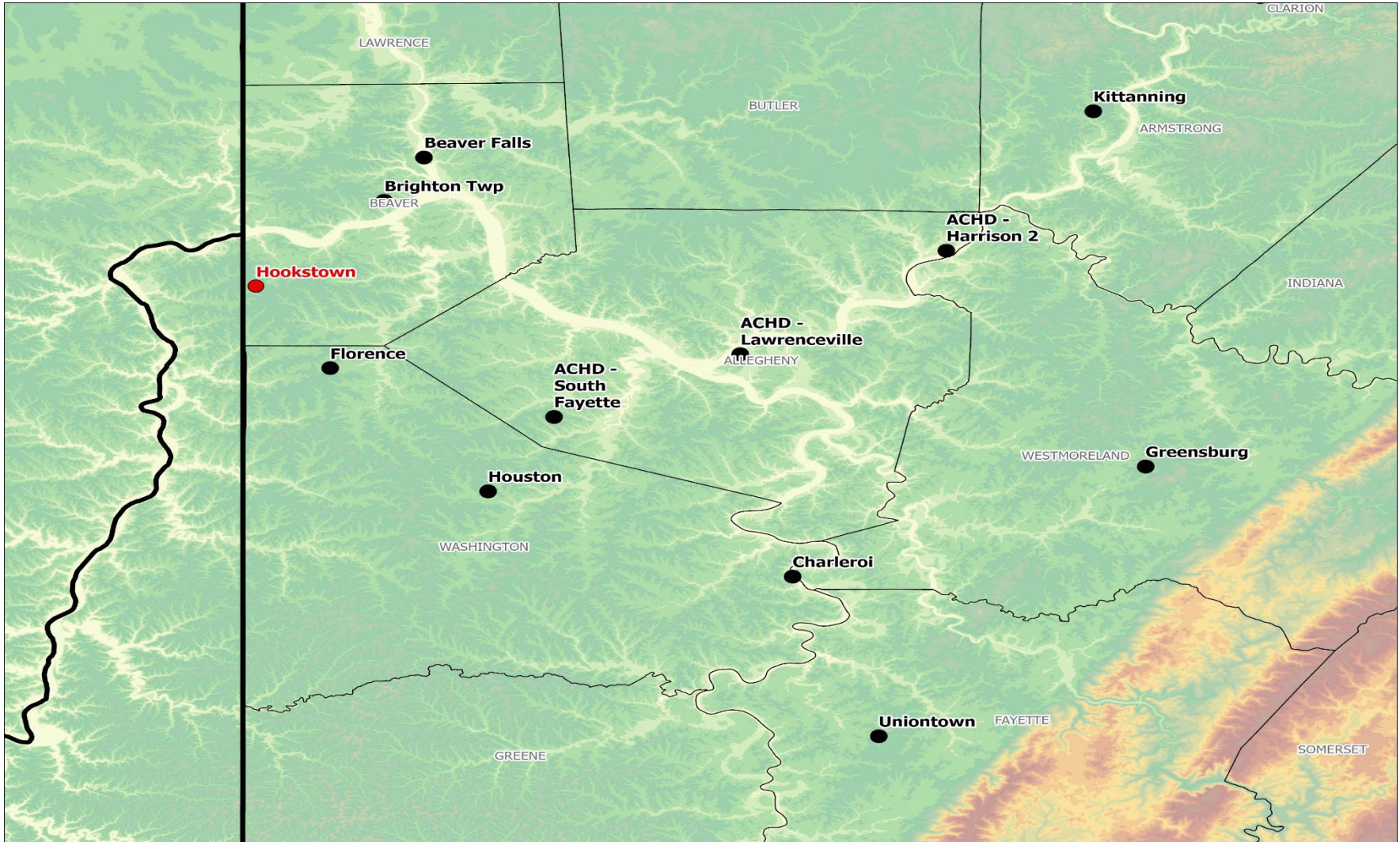
Hookstown

- DEP is proposing discontinuation of its Hookstown site in Beaver County. Hookstown is also in the Pittsburgh MSA.
- Hookstown currently monitors for ozone and SO₂.
- The reasons for discontinuation:
 - We are meeting federal monitoring requirements without Hookstown.
 - The close proximity of Hookstown to other regional monitors with the same monitoring purpose.
 - Hookstown does not have the highest ozone or SO₂ readings in the MSA.

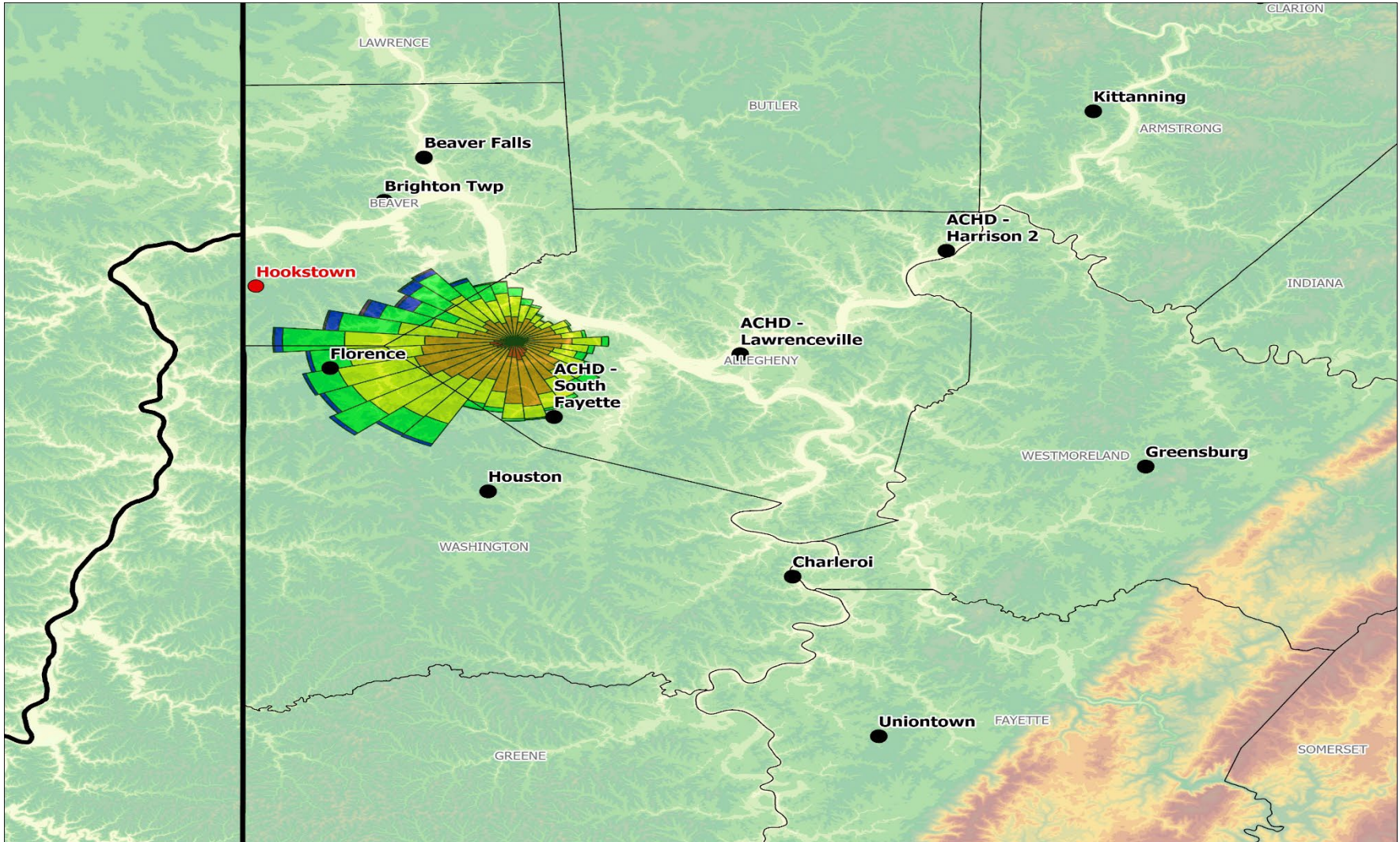
Pittsburgh MSA – Current Ozone Monitoring Network

CBSA	2020 Population Estimate	Maximum 2020 Design Value	No. of Monitors Required	DEP SLAMS Monitors	Other SLAMS Monitors	CASTNET Monitors	Total No. SLAMS Monitors	Add'l Monitors Needed
Pittsburgh MSA	2,367,293	68	2	9	ACHD-3	0	12	0

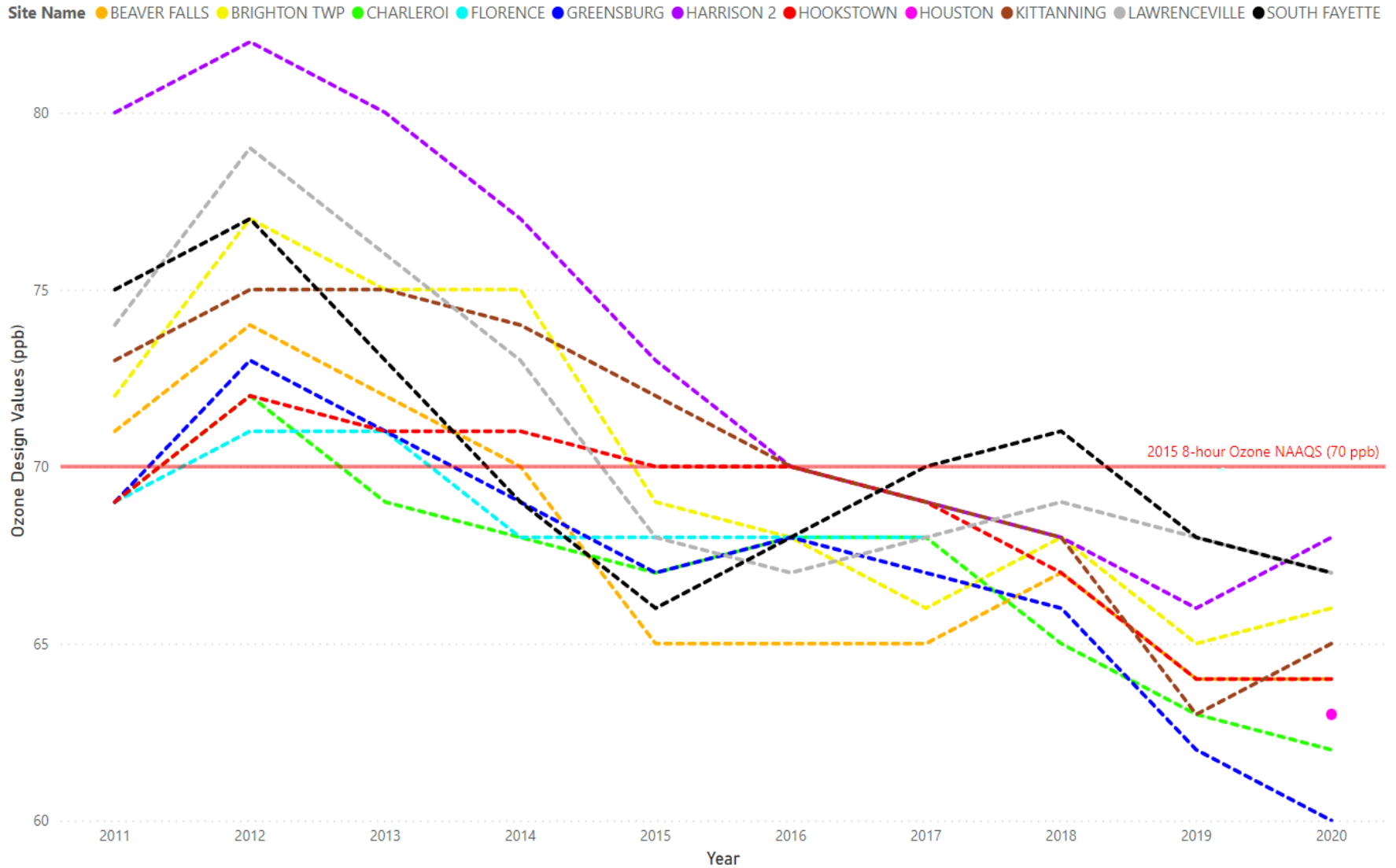
Pittsburgh MSA – Current Ozone Monitoring Network



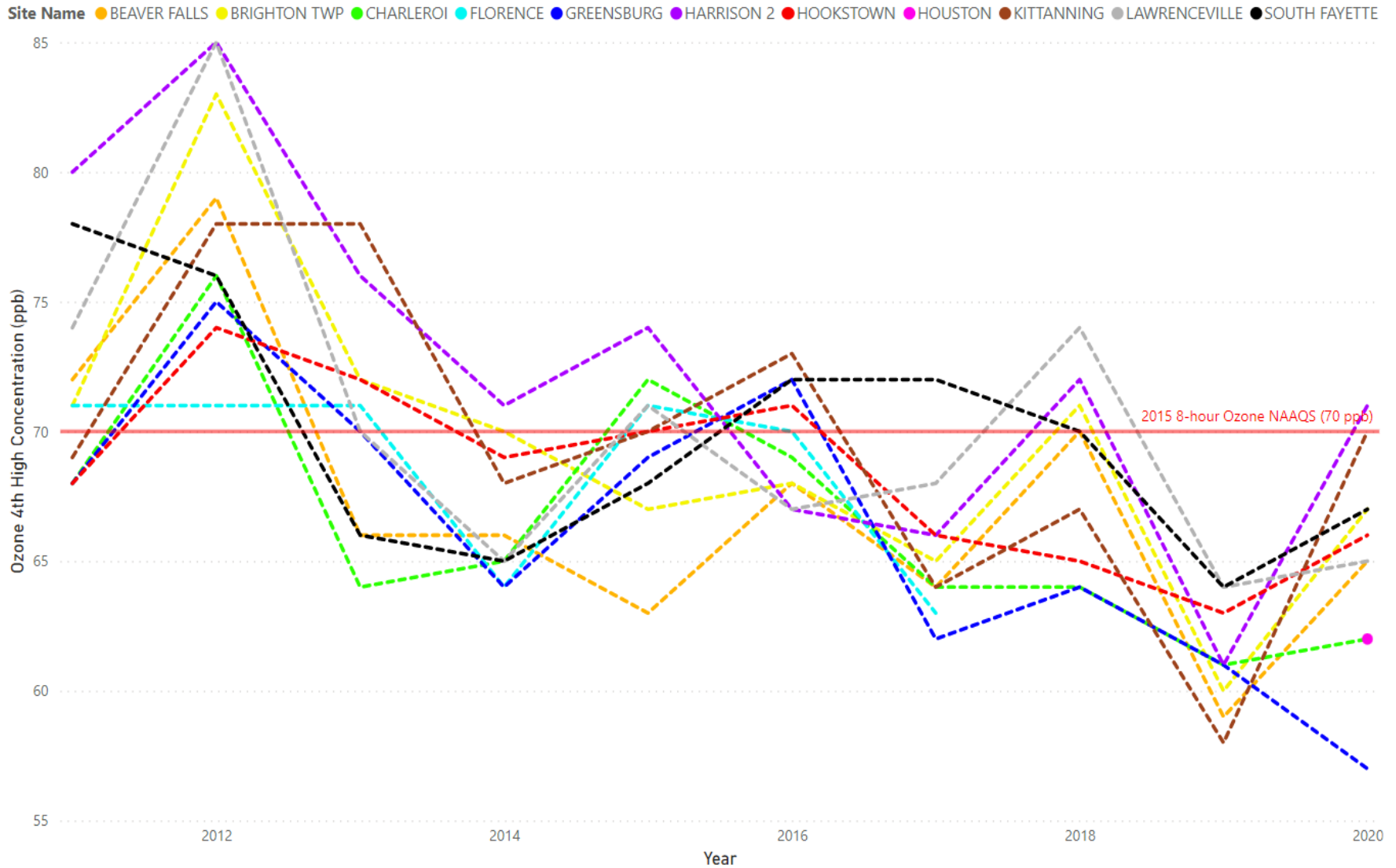
Pittsburgh MSA – Current Ozone Monitoring Network



Pittsburgh MSA Ozone Design Values (2011-20)



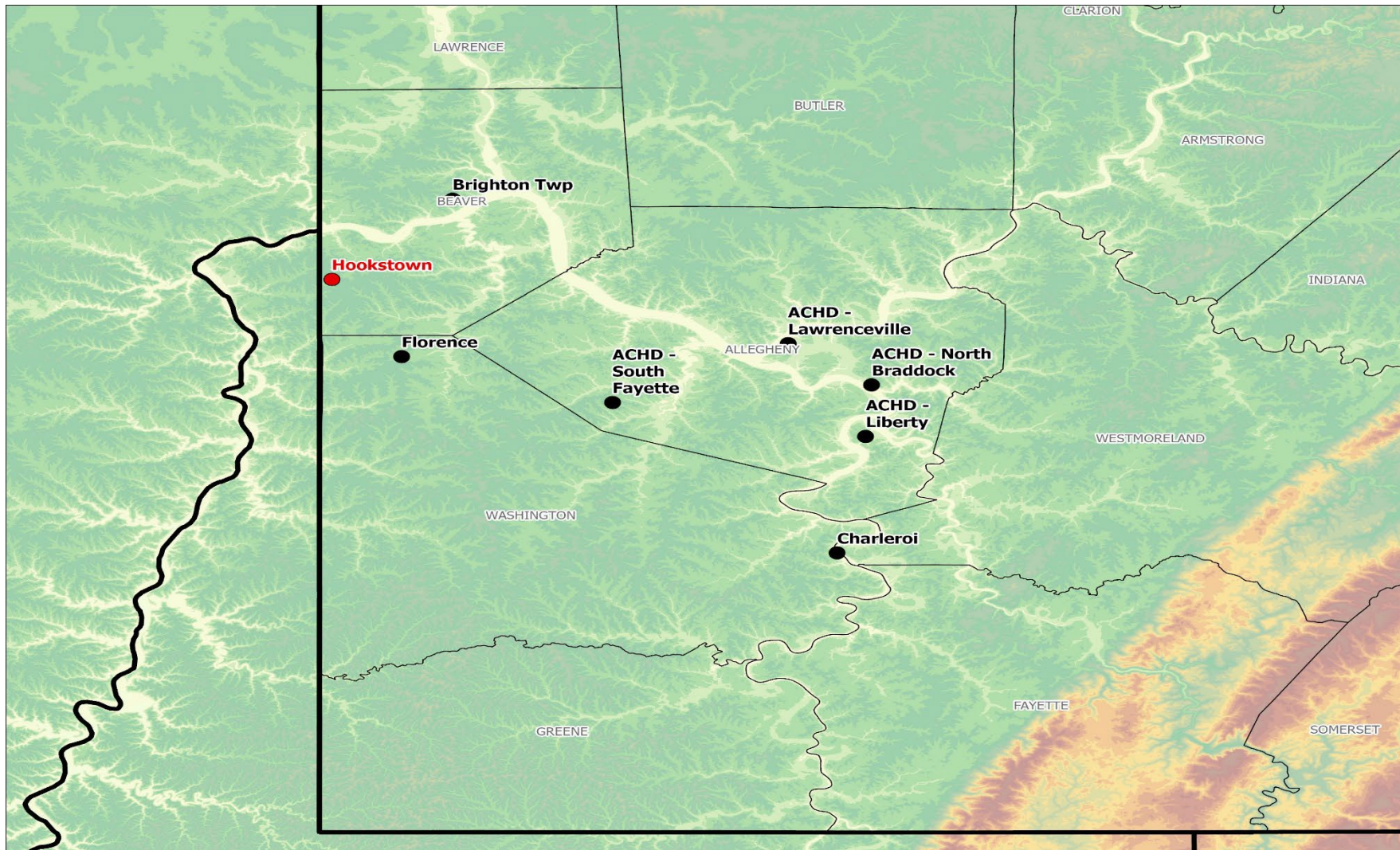
Pittsburgh MSA Ozone 4th Highs (2011-20)



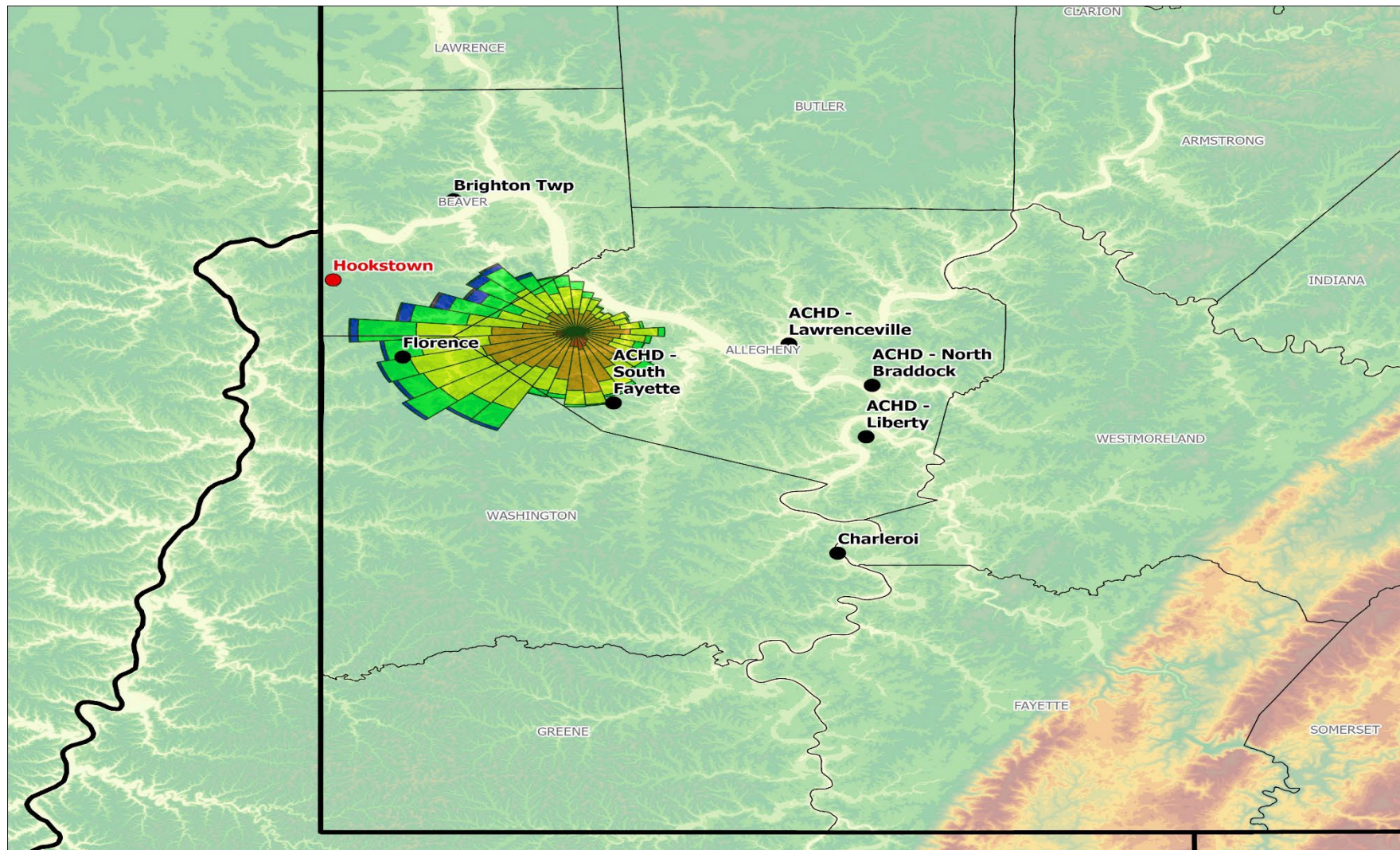
Pittsburgh MSA – Current SO₂ Monitoring Network

CBSA	2020 Population Estimate	2017 NEI (tons/year)	Calculated PWEI	No. of Monitors Required	PA DEP SLAMS Monitors	Other SLAMS Monitors	Total No. of Monitors	Add'l Monitors Needed
Pittsburgh MSA	2,367,293	40648.8	96227.5	1	4	ACHD-4	8	0

Pittsburgh MSA – Current SO₂ Monitoring Network

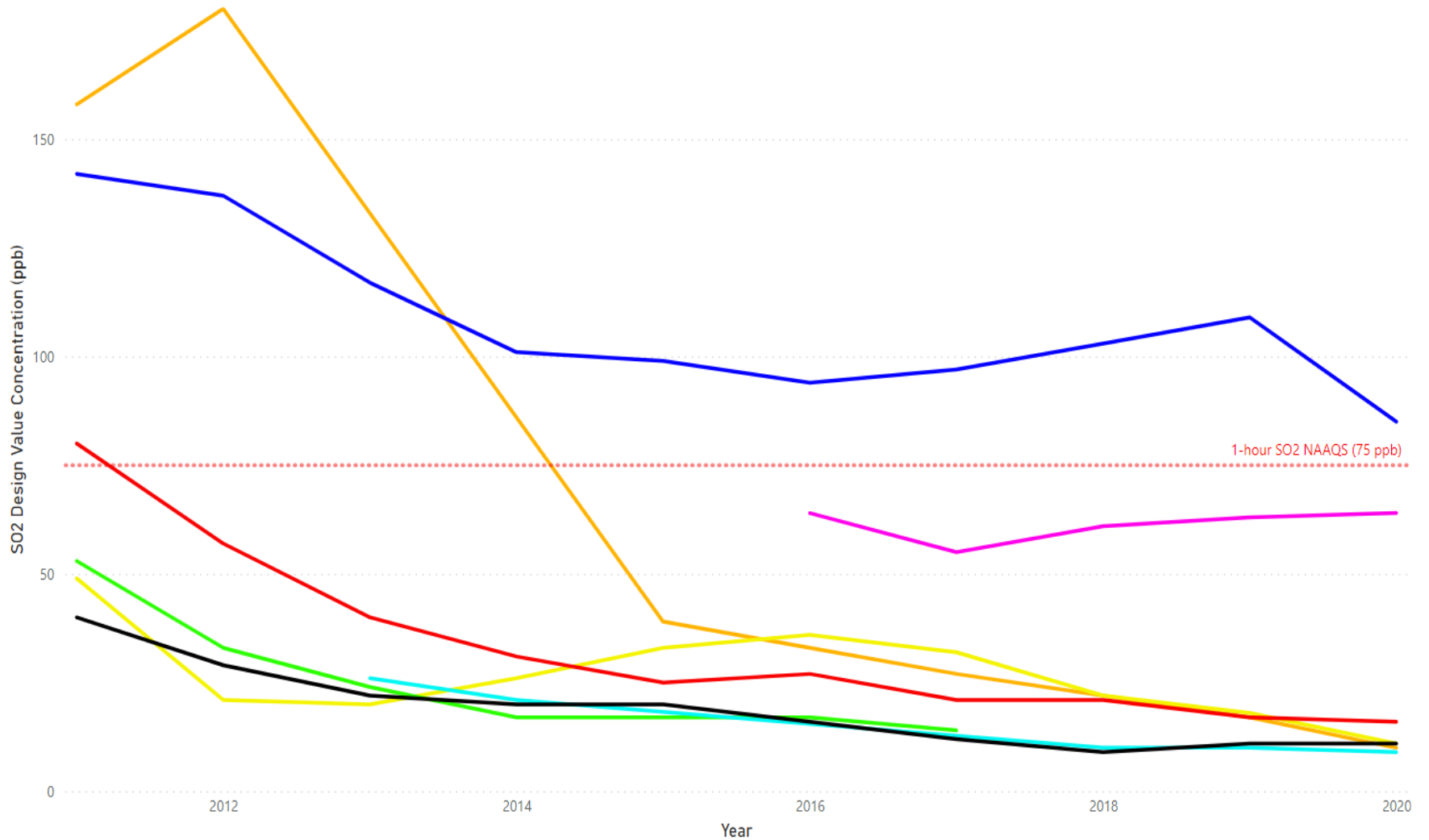


Pittsburgh MSA – Current SO₂ Monitoring Network



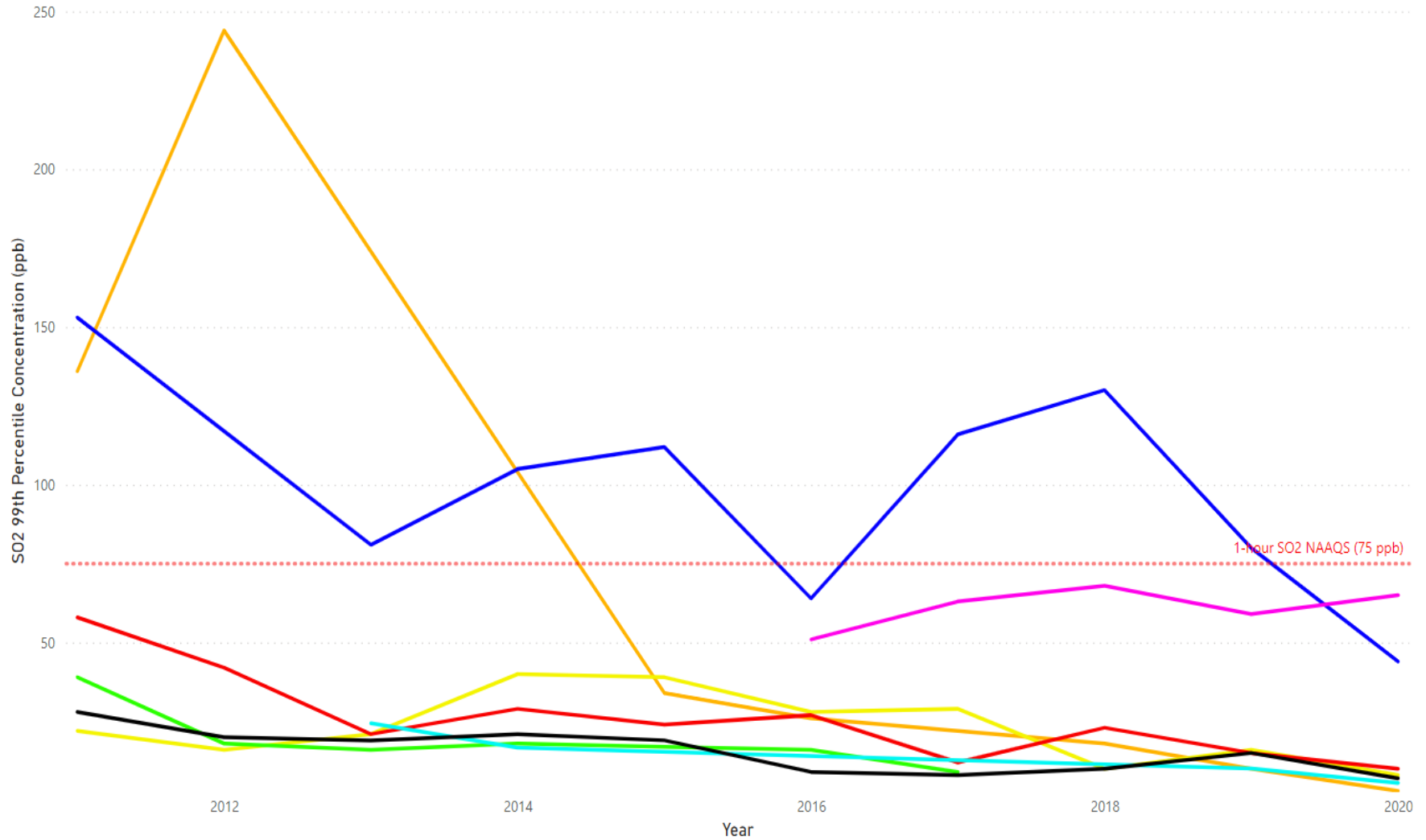
Pittsburgh MSA SO₂ Design Values (2011-20)

Site Name ● BRIGHTON TWP ● CHARLEROI ● FLORENCE ● HOOKSTOWN ● LAWRENCEVILLE ● LIBERTY ● NORTH BRADDOCK ● SOUTH FAYETTE



Pittsburgh MSA SO₂ 99th Percentile (2011-20)

Site Name ● BRIGHTON TWP ● CHARLEROI ● FLORENCE ● HOOKSTOWN ● LAWRENCEVILLE ● LIBERTY ● NORTH BRADDOCK ● SOUTH FAYETTE



Moshannon

- DEP is proposing discontinuation of its Moshannon site in Clearfield County. Moshannon is also in the DuBois μ SA.
- Moshannon currently only monitors for ozone.
- The reasons for discontinuation:
 - We are meeting federal monitoring requirements without Moshannon.
 - There is ozone history between Clearfield and Indiana counties.
 - Moshannon does not have the highest ozone readings in the region, including Strongstown in Indiana County.

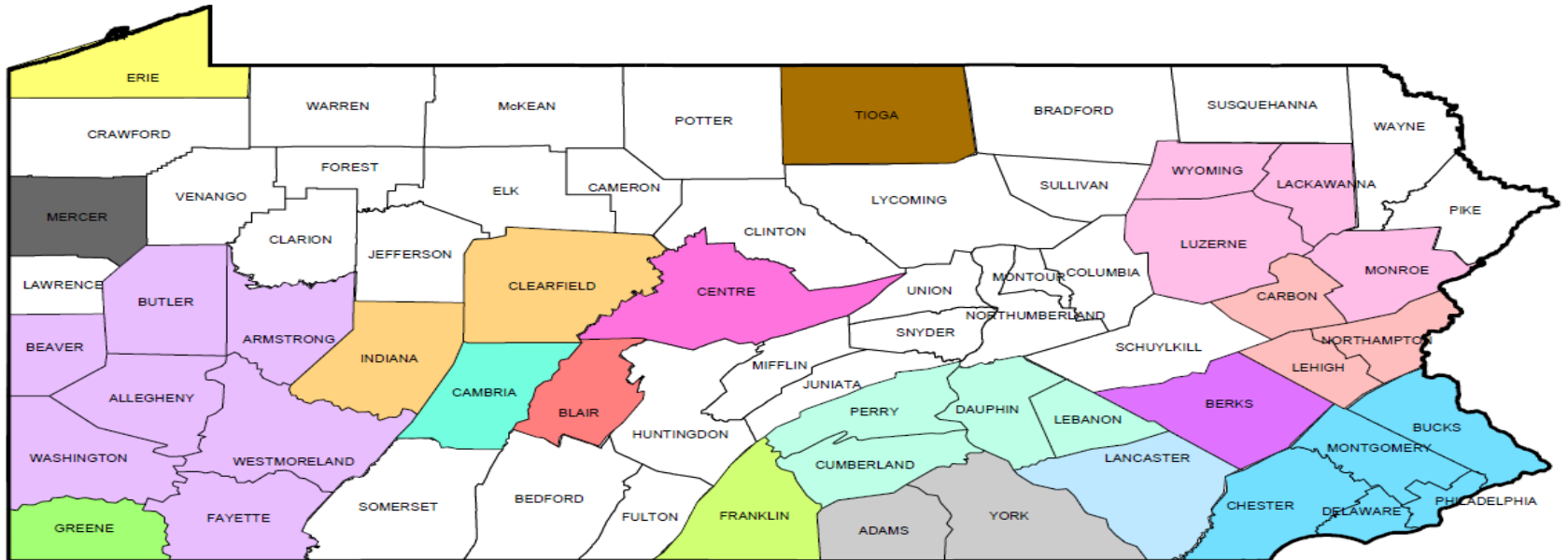
DuBois μ SA – Current Ozone Monitoring Network

CBSA	2020 Population Estimate	Maximum 2020 Design Value	No. of Monitors Required	DEP SLAMS Monitors	Other SLAMS Monitors	CASTNET Monitors	Total No. SLAMS Monitors	Add'l Monitors Needed
DuBois μ SA	80,394	57	0	1	0	0	1	0

PA Designation Status – 1997 Ozone Standard

Pennsylvania 8-Hour Ozone Nonattainment Areas

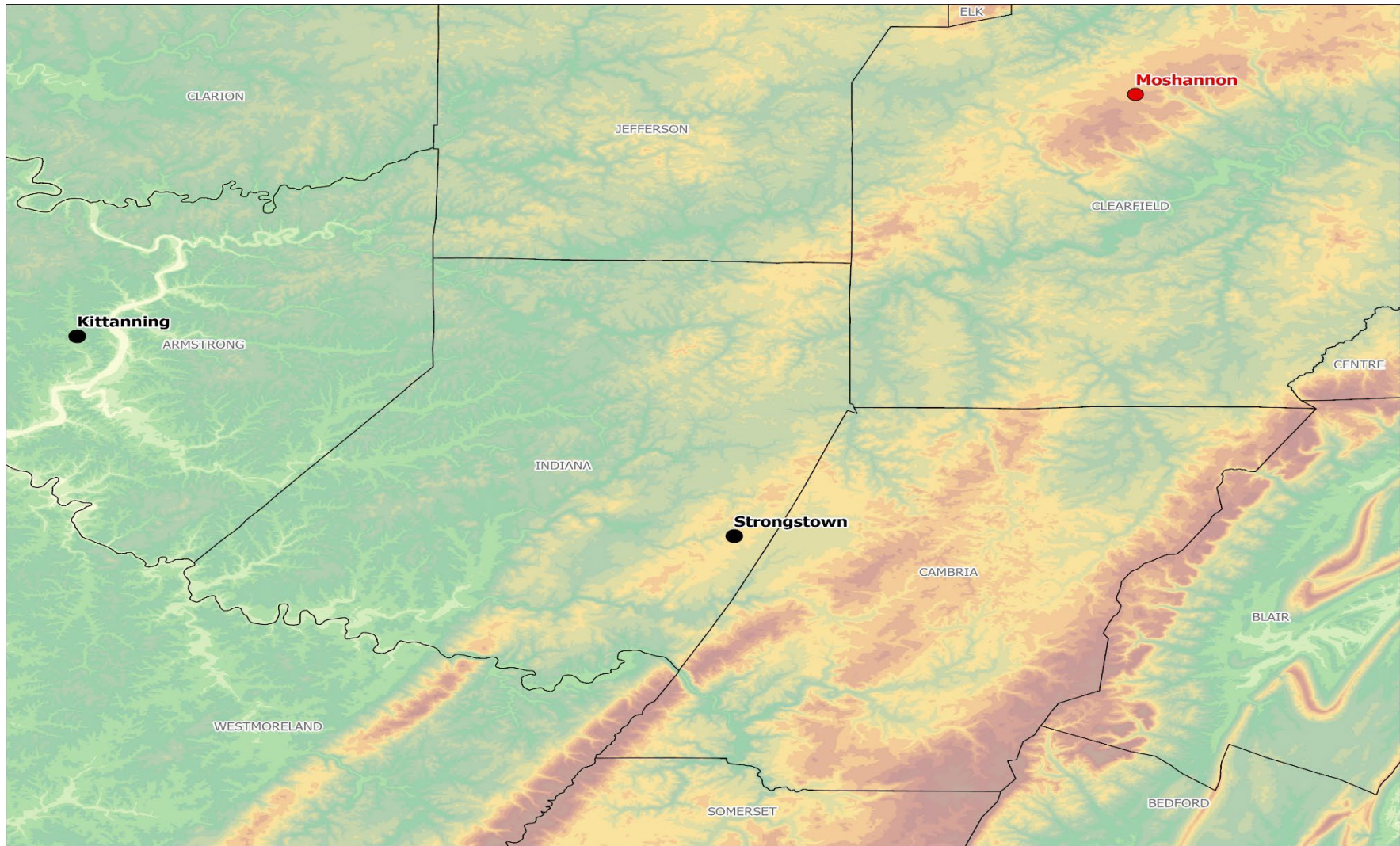
Areas are Shaded Based on EPA's April 15, 2004 Designations



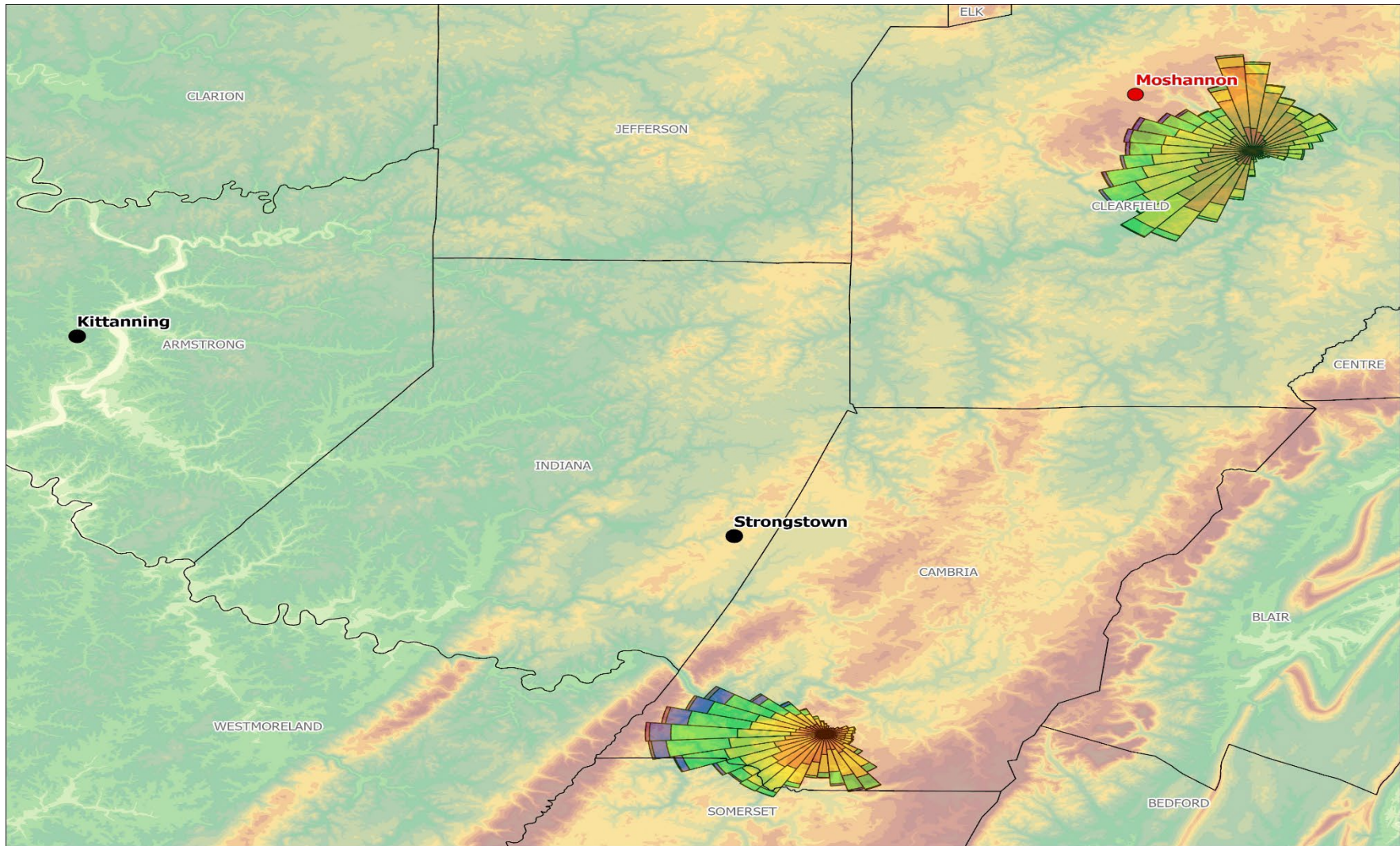
Nonattainment Areas

Allentown-Bethlehem-Easton, PA	Harrisburg-Lebanon-Carlisle, PA	Scranton-Wilkes-Barre, PA
Altoona, PA	Johnstown, PA	State_College_PA
Clearfield-Indiana, PA	Lancaster, PA	Tioga Co, PA
Erie, PA	Philadelphia-Wilmington-Atlantic_City_PA-DE-MD-NJ_(Just_PA)	York, PA
Franklin Co, PA	Pittsburgh-Beaver Valley, PA	Youngstown-Warren-Sharon_OH-PA
Greene Co, PA	Reading, PA	

▶ Moshannon Area – Current Ozone Monitoring Network

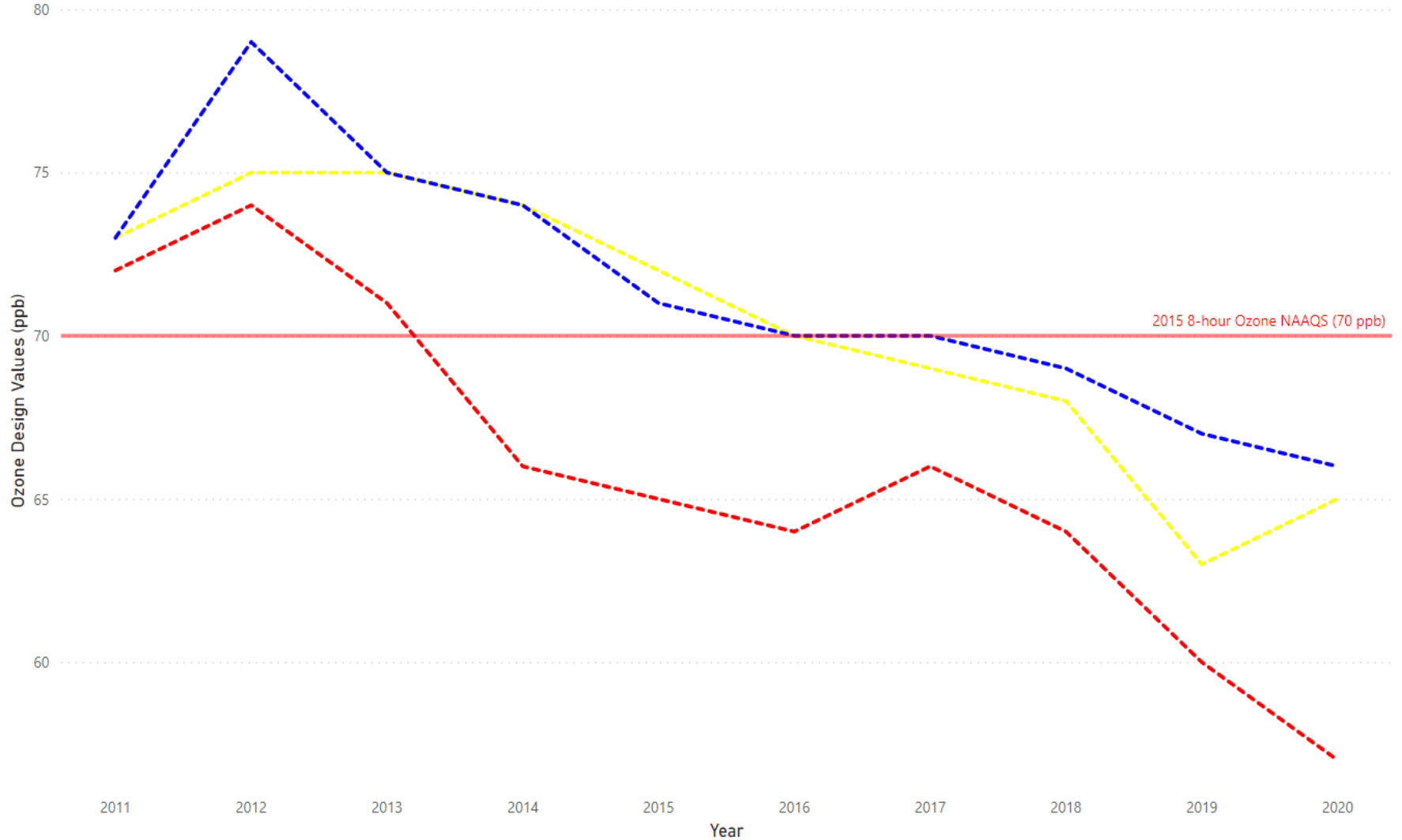


▶ Moshannon Area – Current Ozone Monitoring Network



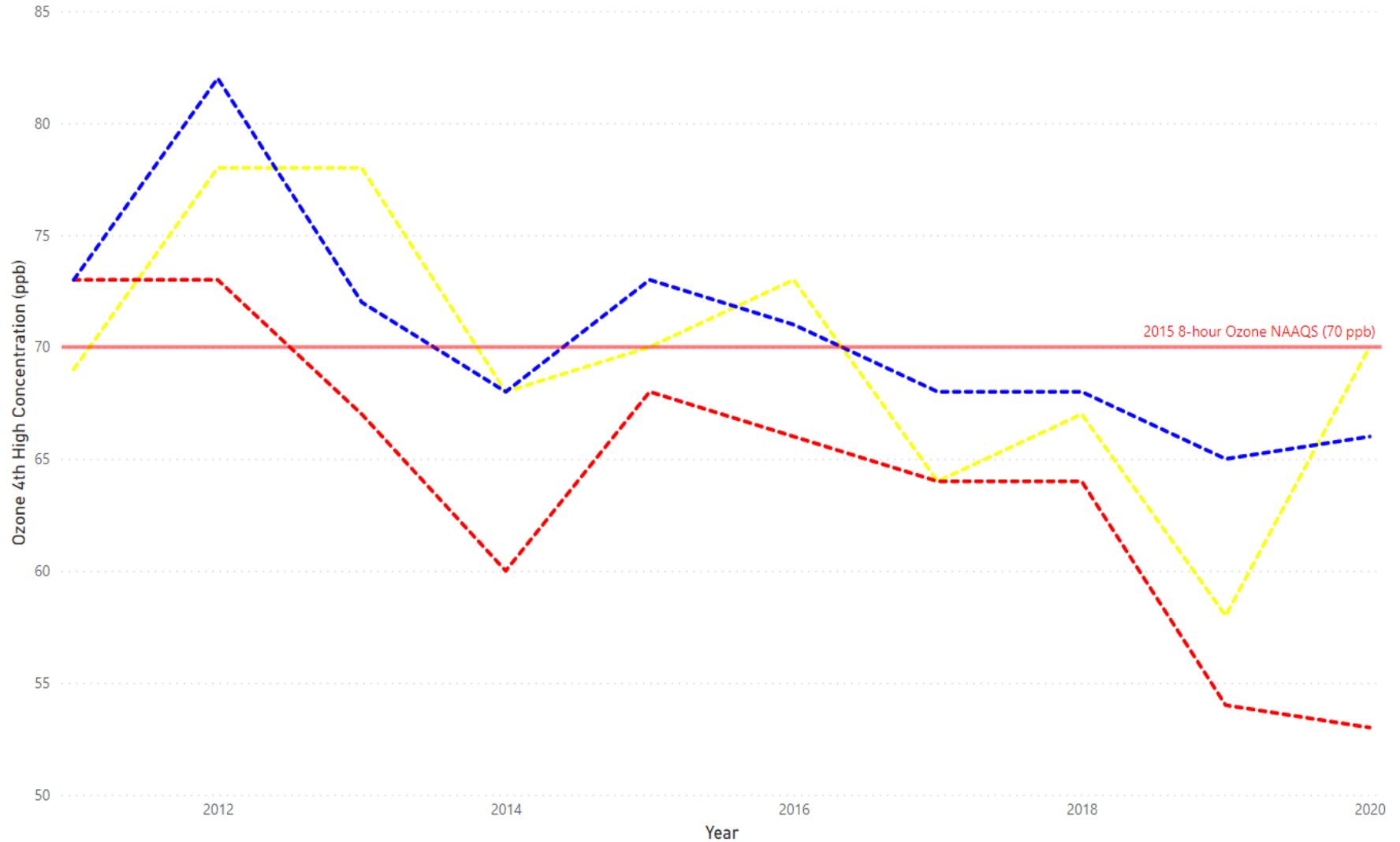
Moshannon Area Ozone Design Values (2011-20)

Site Name ● KITTANNING ● MOSHANNON ● STRONGSTOWN



Moshannon Area Ozone 4th Highs (2011-20)

Site Name ● KITTANNING ● MOSHANNON ● STRONGSTOWN



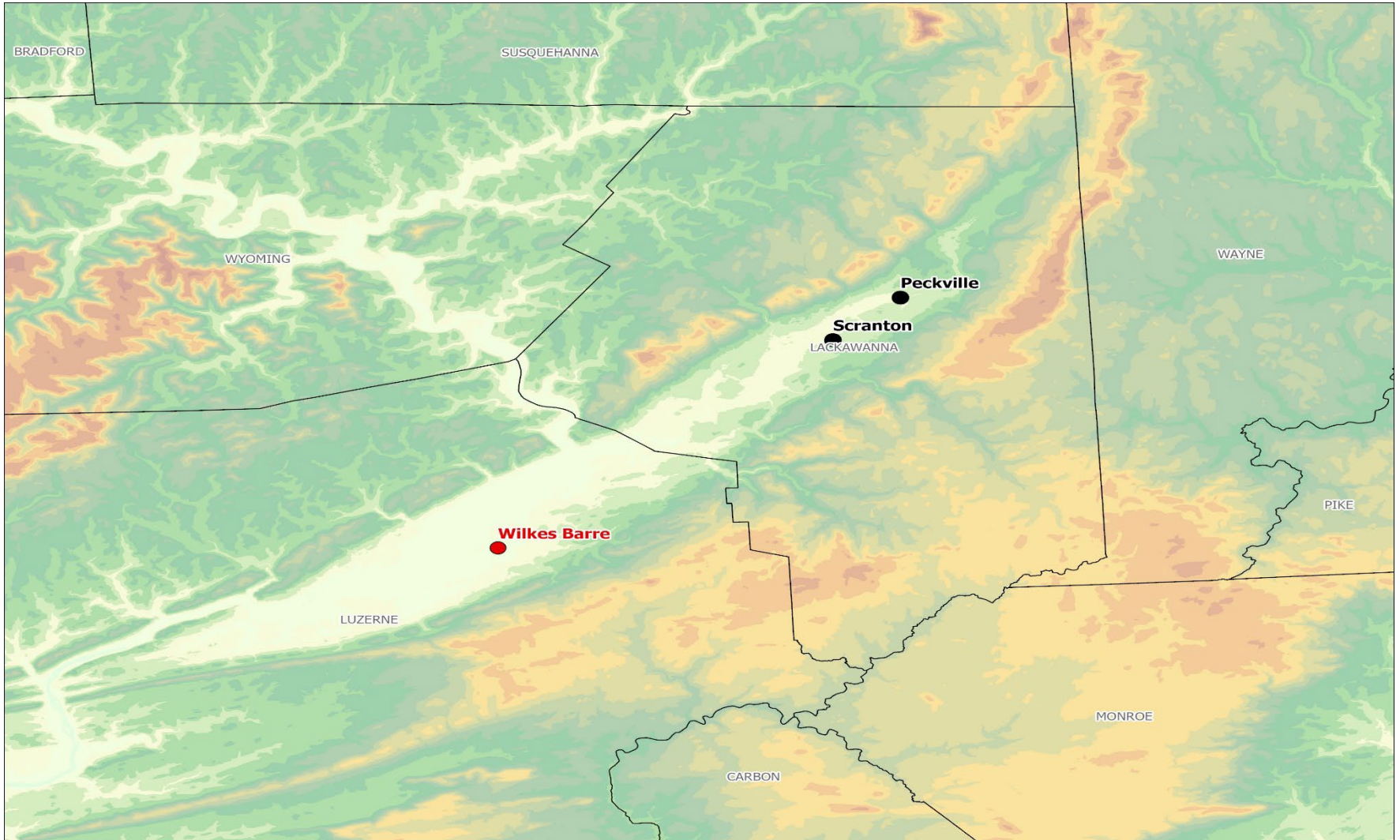
Wilkes-Barre

- DEP is proposing discontinuation of its Wilkes-Barre site in Luzerne County. Wilkes-Barre is also in the Scranton/Wilkes-Barre/Hazleton MSA.
- Wilkes-Barre currently only monitors for ozone after PM_{10} and SO_2 was moved to Scranton last fall.
- The reasons for discontinuation:
 - We are meeting federal monitoring requirements without Wilkes-Barre.
 - Wilkes-Barre is more upwind of the combined Wilkes-Barre/Scranton metropolitan area, therefore leading to point 3 below.
 - Wilkes-Barre does not have the highest ozone readings in the MSA.

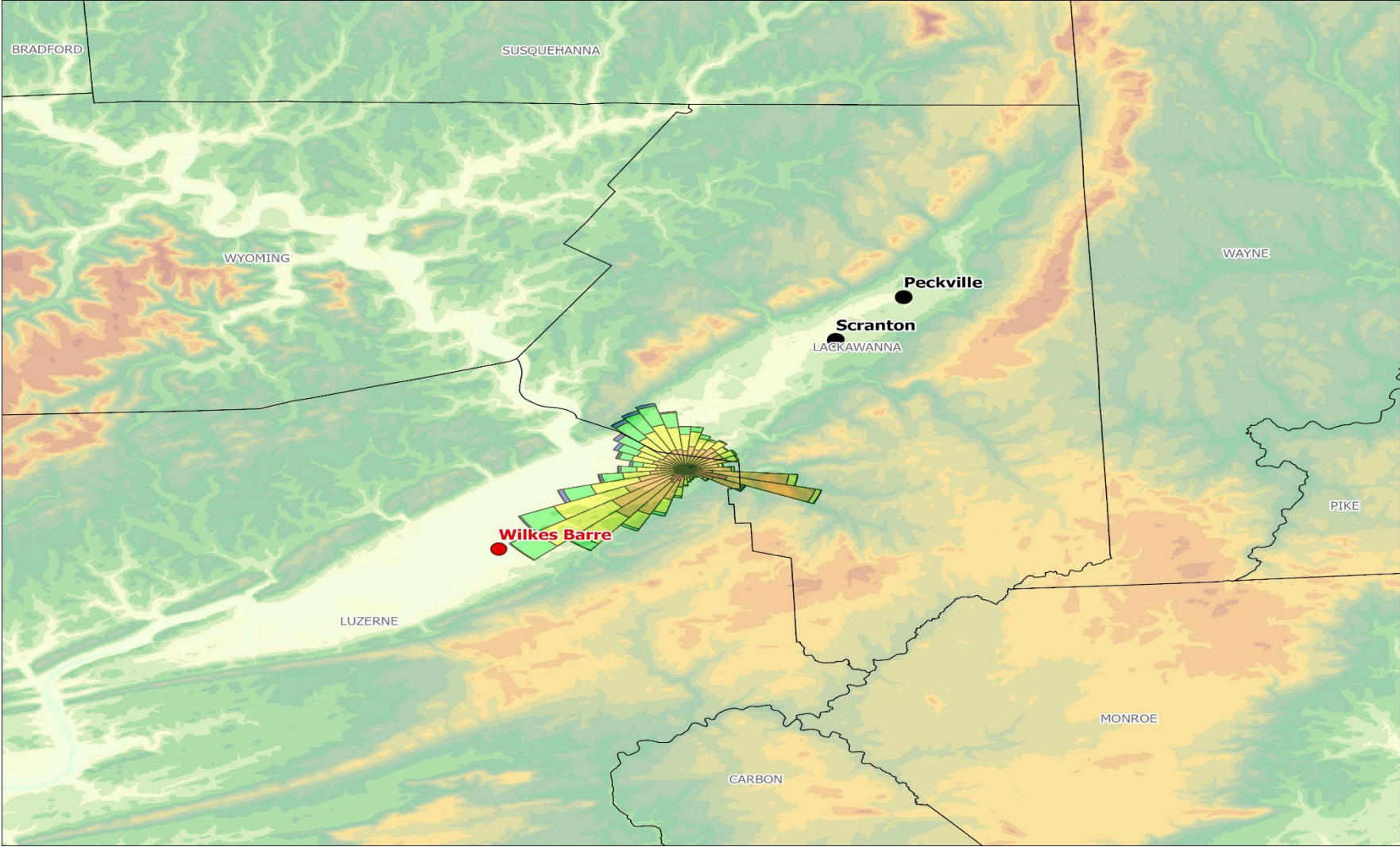
Scranton/W-B/Hazleton MSA – Current Ozone Monitoring Network

CBSA	2020 Population Estimate	Maximum 2020 Design Value	No. of Monitors Required	DEP SLAMS Monitors	Other SLAMS Monitors	CASTNET Monitors	Total No. SLAMS Monitors	Add'l Monitors Needed
Scranton/Wilkes-Barre/ Hazleton MSA	566,574	60	2	3	0	0	3	0

Scranton/W-B/Hazleton MSA – Current Ozone Monitoring Network

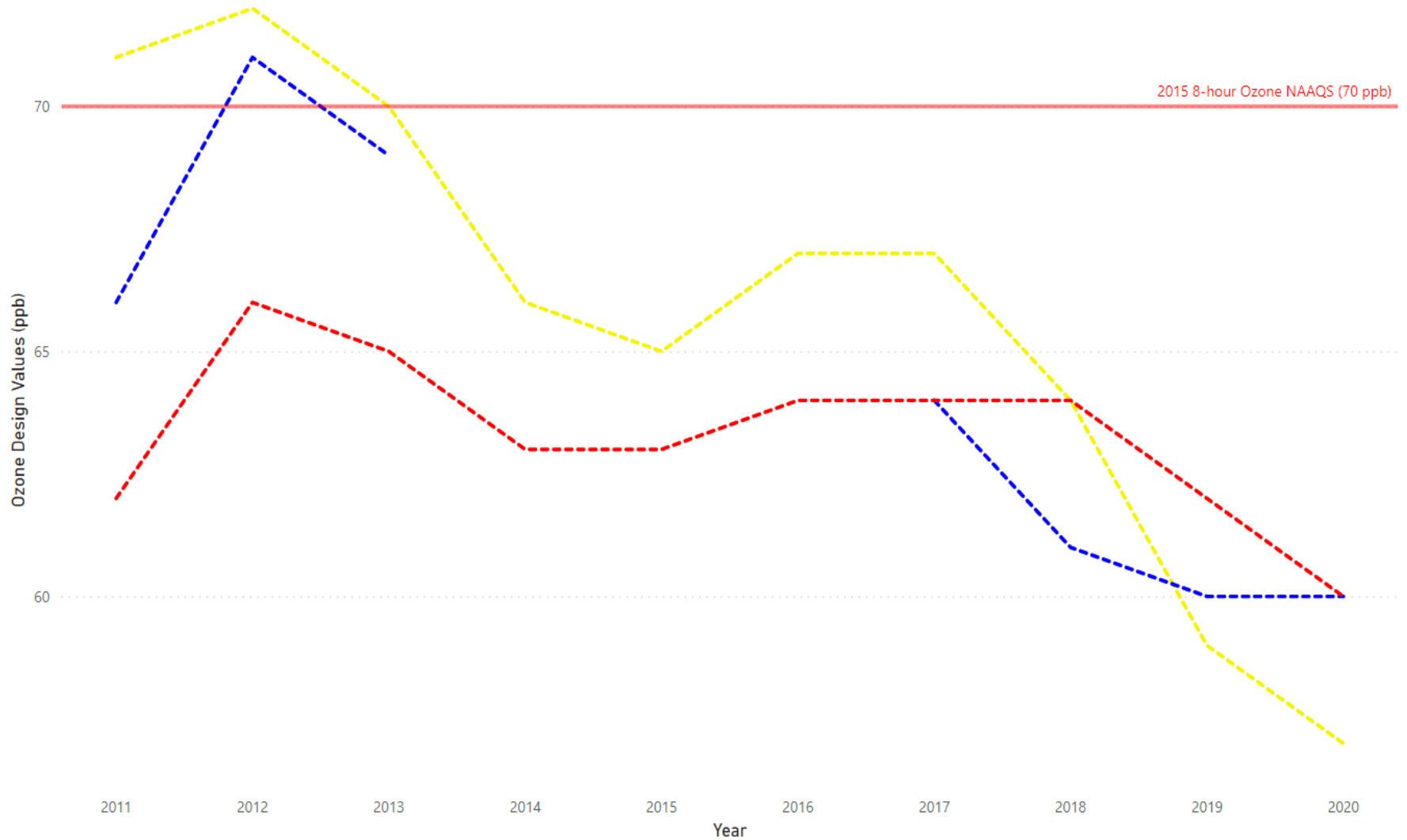


Scranton/W-B/Hazleton MSA – Current Ozone Monitoring Network



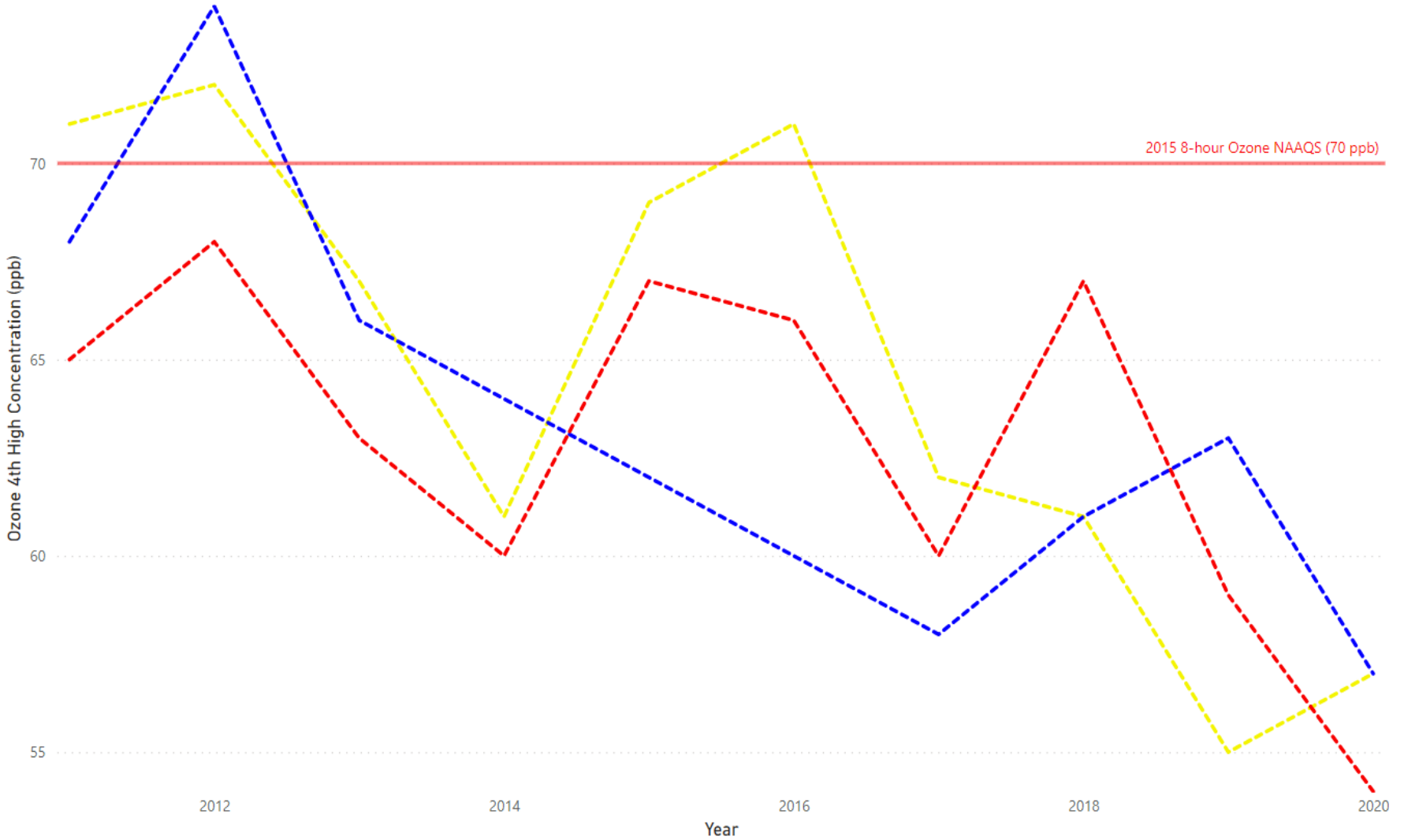
Scranton/W-B/Hazleton MSA Ozone Design Values (2011-20)

Site Name ● PECKVILLE ● SCRANTON ● WILKES-BARRE



Scranton/W-B/Hazleton MSA Ozone 4th Highs (2011-20)

Site Name ● PECKVILLE ● SCRANTON ● WILKES-BARRE



Final Thoughts

- DEP's 2022 Annual Monitoring Network Plan (AMNP) opened for a 30-day comment period beginning on Saturday, July 30, 2022.
- DEP will respond to public comment and then submit to EPA Region 3 for their approval.
- Final approved AMNP and comment and response document will be published to DEP's Bureau of Air Quality website.



pennsylvania

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Bureau of Air Quality

Nick Lazor
Environmental Program Manager
Air Quality Monitoring Division
(717) 783-9268
nlazor@pa.gov