

NAAQS Implementation in Michigan

AWMA

Wednesday, Nov.5, 2008

S.E. Michigan Ozone

80 ppb standard

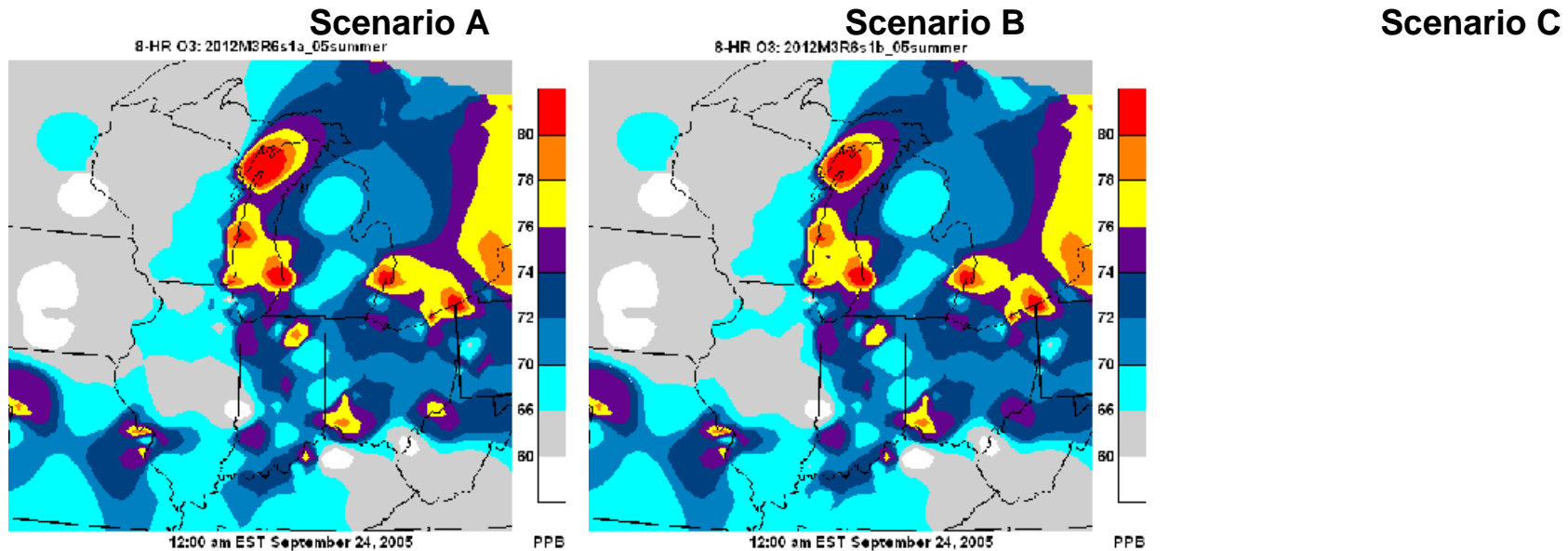
- Bumpdown; moderate to marginal
- 3 early reduction control programs
- Attainment status
 - started redesignation Spring 07('05-'07)
 - violate standard in July '07
 - ('06-'08) attain; re-doing redesignation

S.E. Michigan Ozone

New 75 ppb standard

- AQD to make designation recommendation March '09 ('06-'08 data)
- EPA makes final designation March 2010 ('07-'09 data)
- SIP due 2013
- Map of '06-'08 nonattaining areas
- LADCO modeling for 2012 with & without CAIR
- AQD to begin evaluating new voc and nox controls
- Mi. joins states; letter to EPA to control beyond CAIR, other national rules (boilers, etc.)

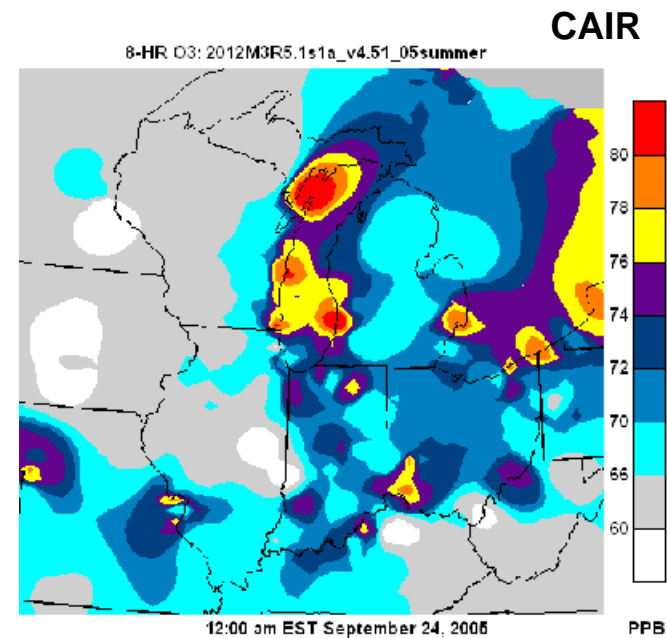
Ozone Concentrations: 2012



Number of Sites > NAAQS

0.08 ppm/0.075 ppb

	A	B	C	CAIR
IL	0/3	0/3		0/1
IN	0/5	0/4		0/3
MI	0/9	0/8		0/6
OH	0/18	0/14		0/11
WI	0/10	0/9		0/9
Total	0/45	0/38		0/30



West Michigan Ozone

80 ppb

- Holland monitor still violating
- West Mi. study and EPA decision on subpart 1 areas
- Upwind states' redesignations based on '06-'08 data

West Michigan Ozone

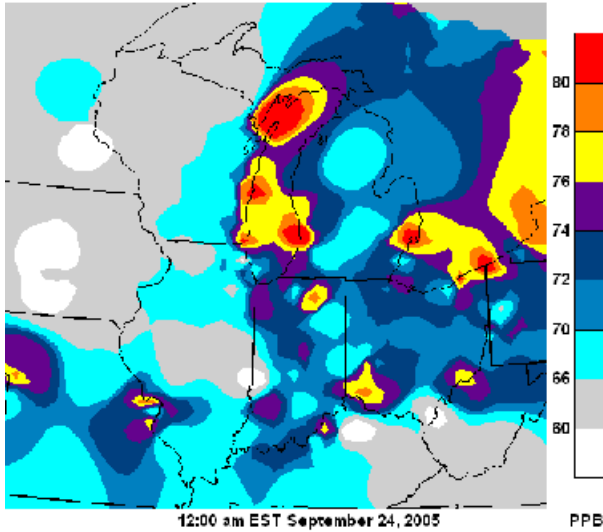
New 75 ppb standard

- Several counties violating
- Statewide '06-'08 levels
- Modeling results; CAIR and non-CAIR

Ozone Concentrations: 2012

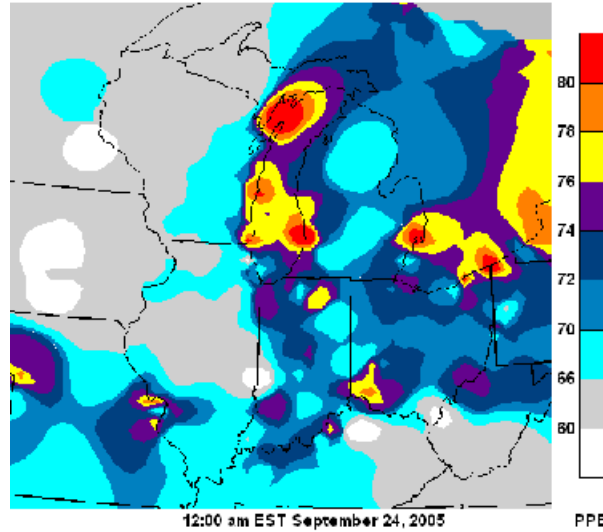
Scenario A

8-HR O3: 2012M3R6s1a_05summer



Scenario B

8-HR O3: 2012M3R6s1b_05summer



Scenario C

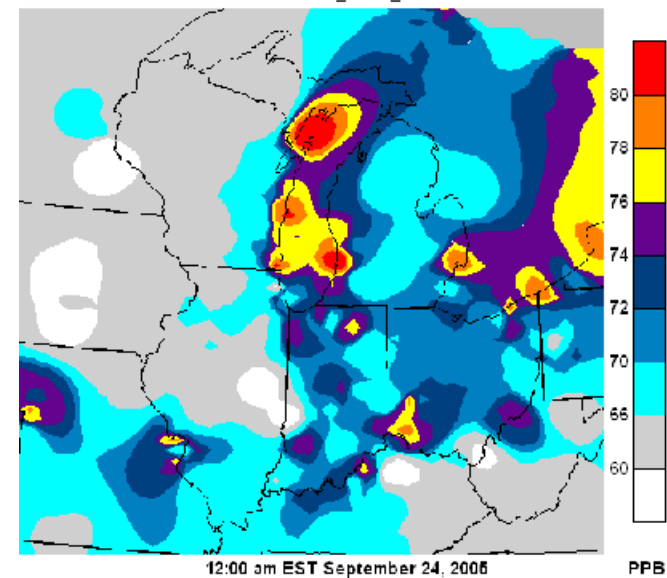
Number of Sites > NAAQS

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IN	0/5	0/4		0/3
MI	0/9	0/8		0/6
OH	0/18	0/14		0/11
WI	0/10	0/9		0/9
Total	0/45	0/38		0/30

CAIR

8-HR O3: 2012M3R5.1s1a_v4.51_05summer

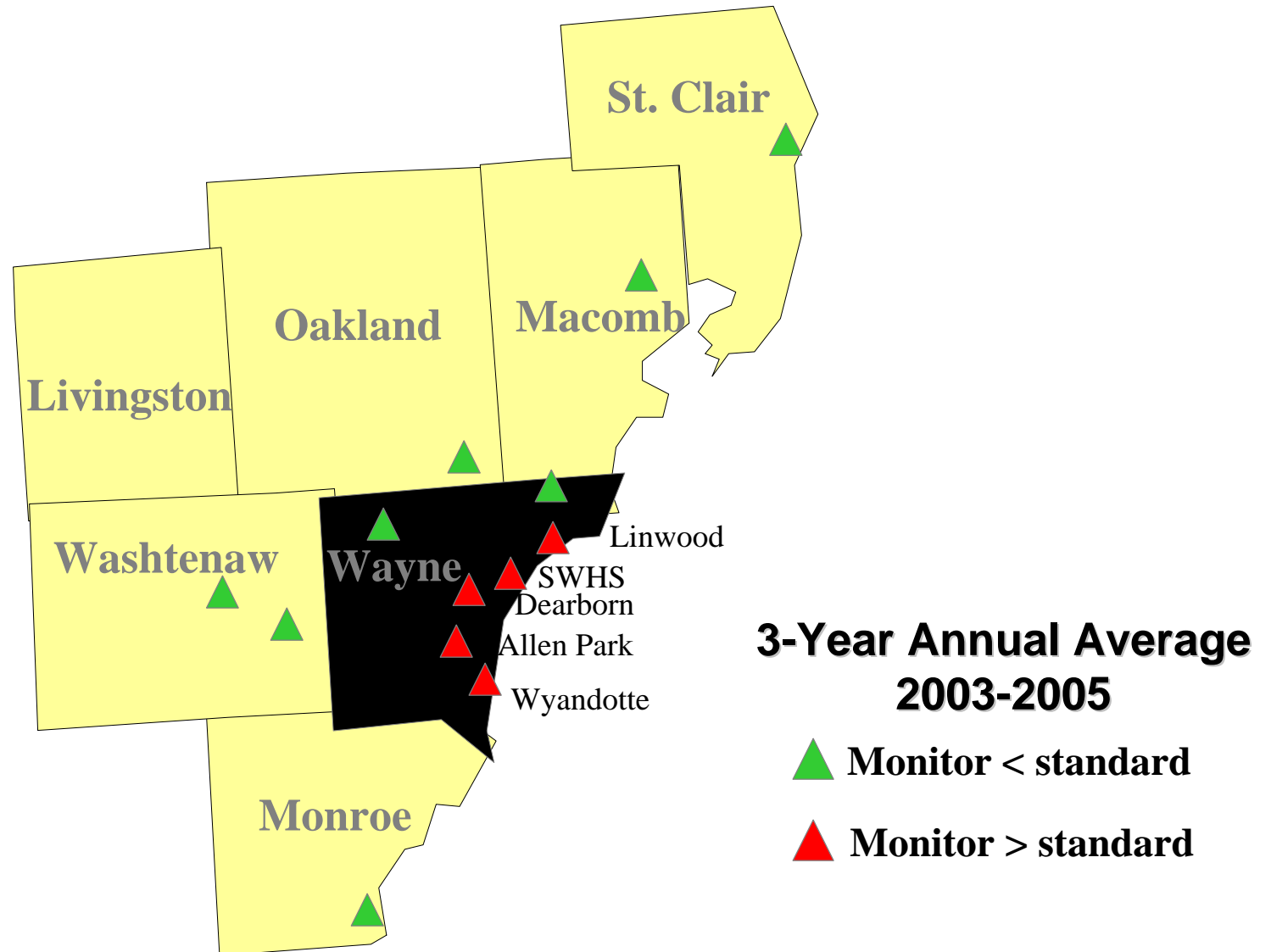


PM2.5

Annual standard

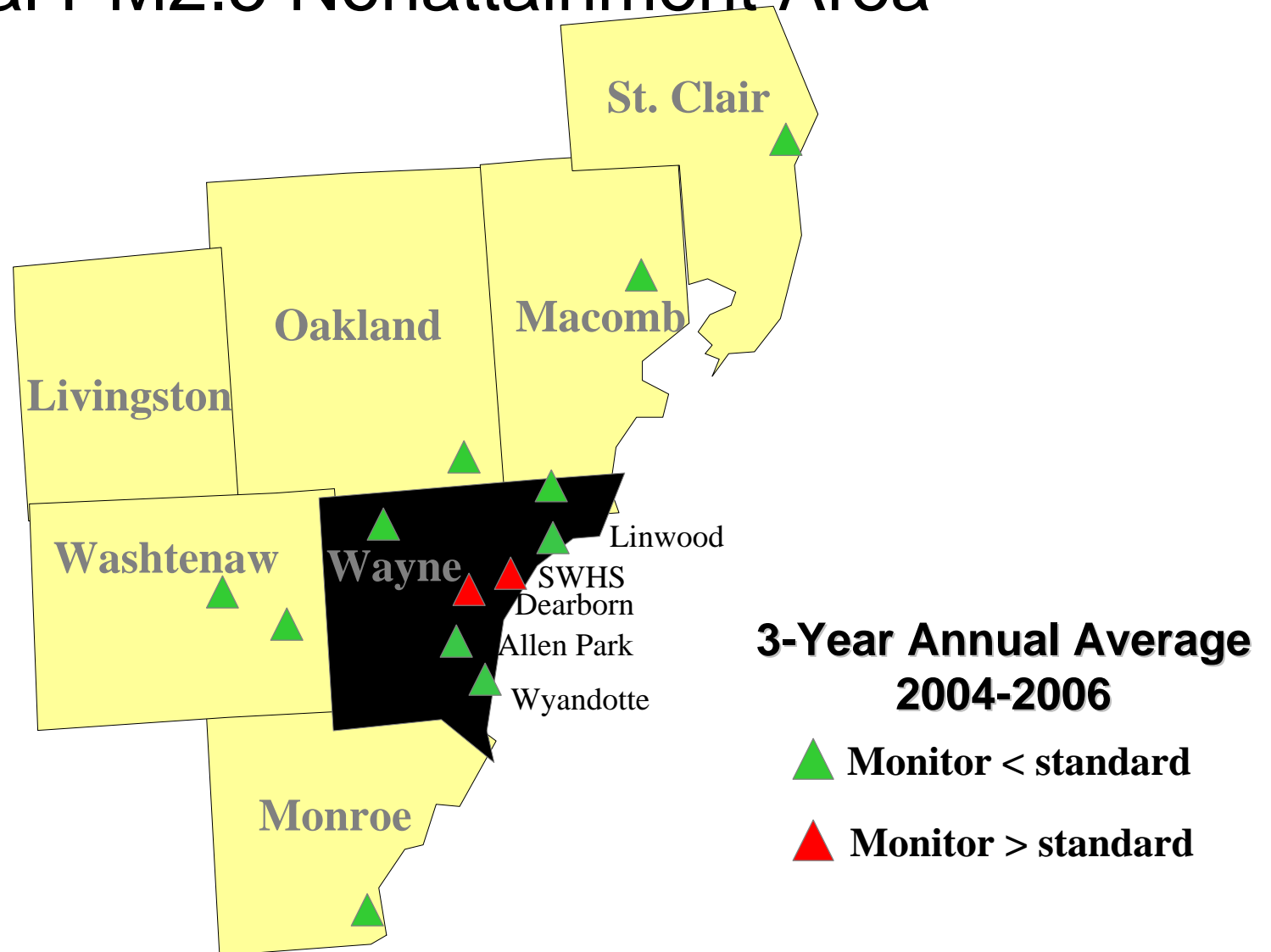
- Map of counties
- Historically high pm area
- Violating monitors past several years
- Weight of evidence SIP with 2010 attainment
- Emission reductions at Severstal, rail yard, etc.
- '08 monitoring shows continuing progress

Southeast Michigan Annual PM2.5 Nonattainment Area



Source: SEMCOG

Southeast Michigan Annual PM2.5 Nonattainment Area



Source: SEMCOG

Southeast Michigan Annual PM2.5 Nonattainment Area





**CSX
Railyard**
200 yds

200 yds

**Dearborn
monitor**

375 yds

**Detroit
Industrial
Generation**
375 yards


Severstal


PM2.5

New 24 hour standard

- State designation recommendation
- Show levels; rationale for 3 area s.e. mi. and Kent
- EPA designates December '08
- SIP due early 2012
- SEMOS study, etc.
- Modeling results

PM_{2.5}

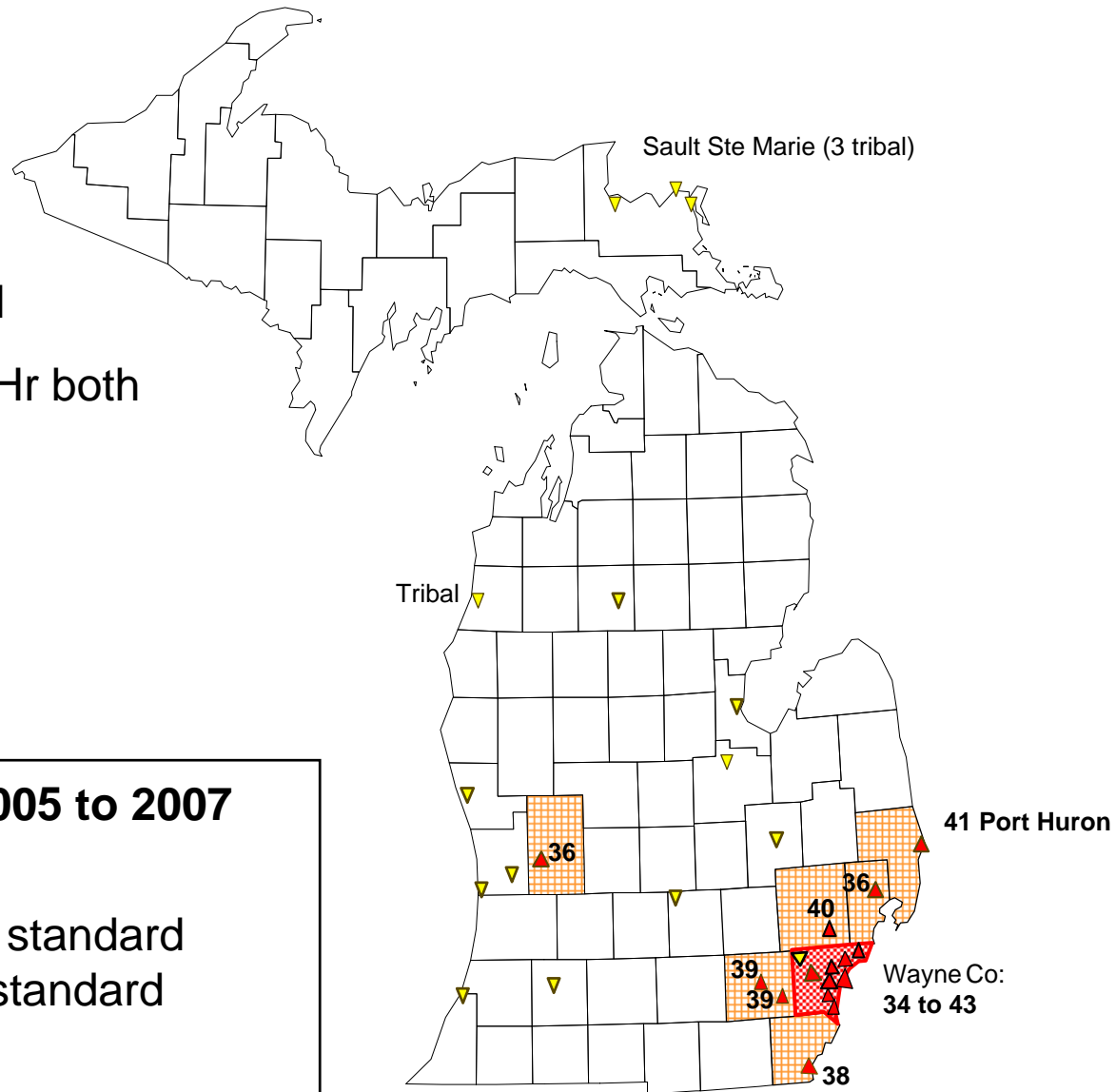
 > 24-Hr standard

 > Annual & >24-Hr both

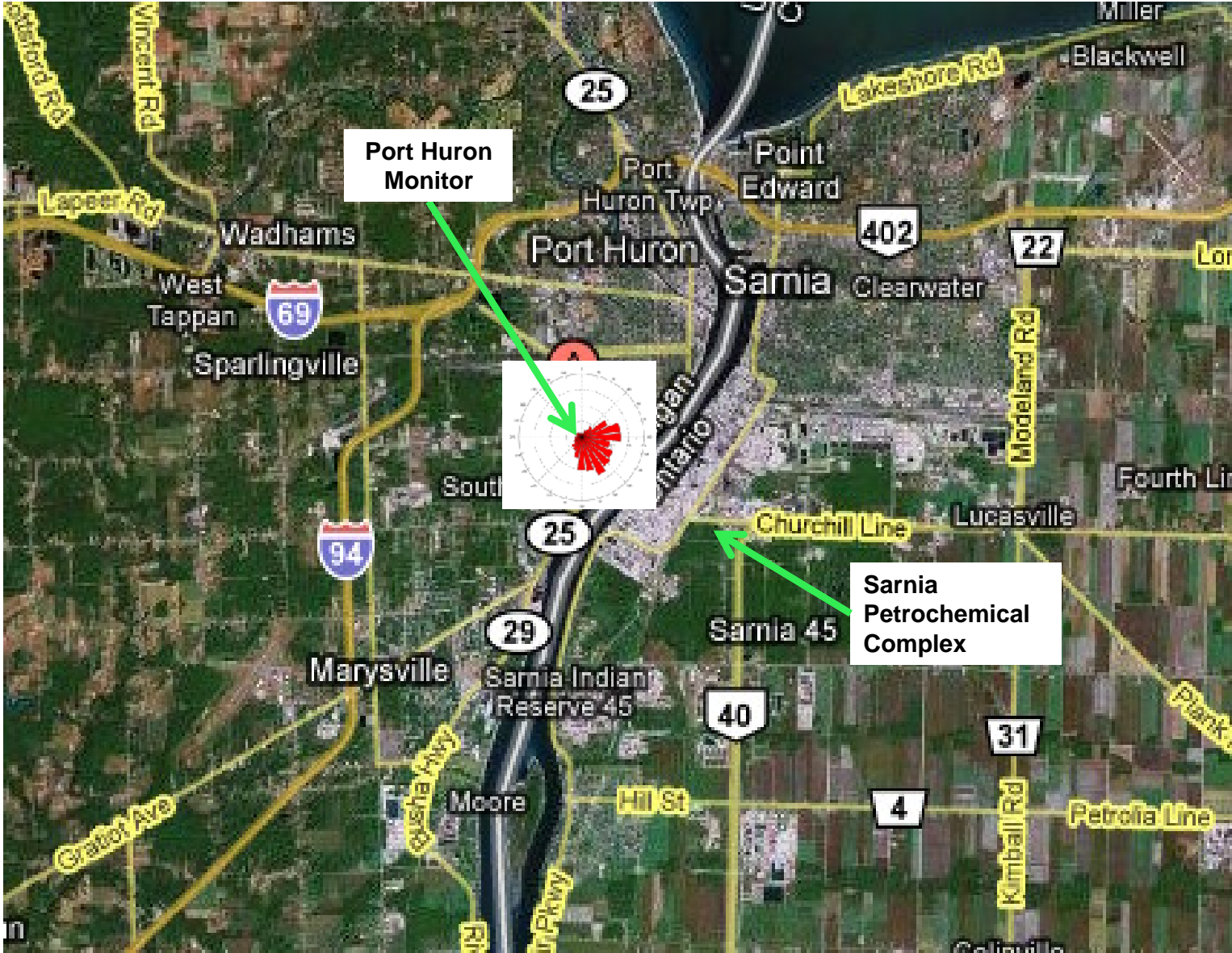
24-hour PM_{2.5} – 2005 to 2007

 = Yellow meets standard

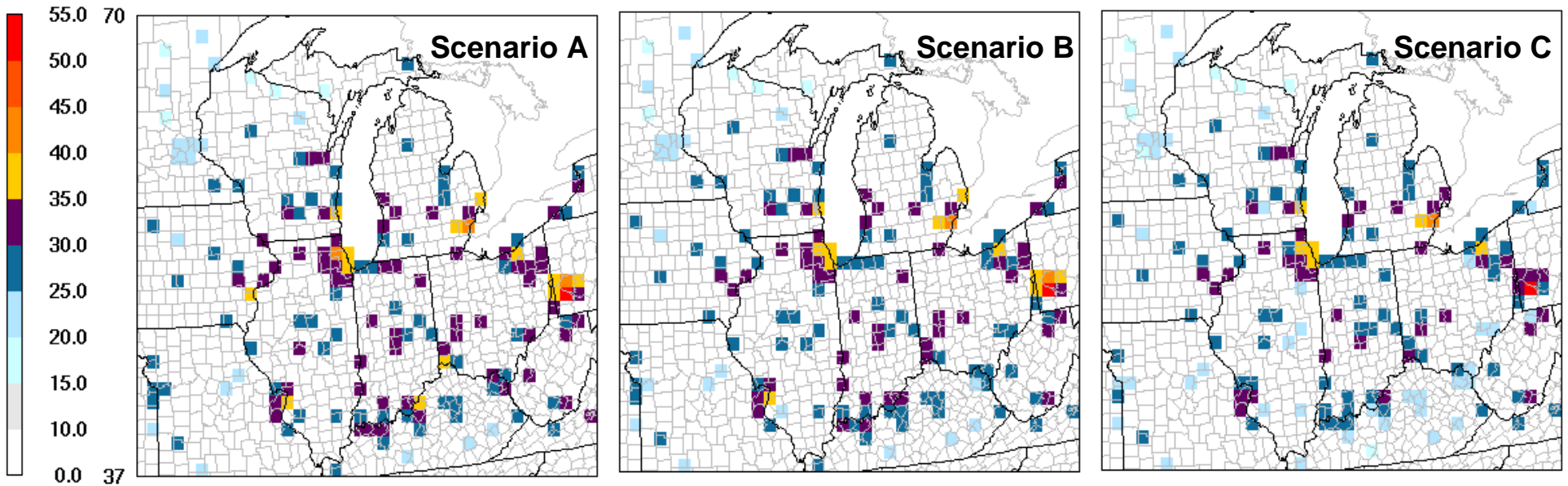
 = Red violates standard



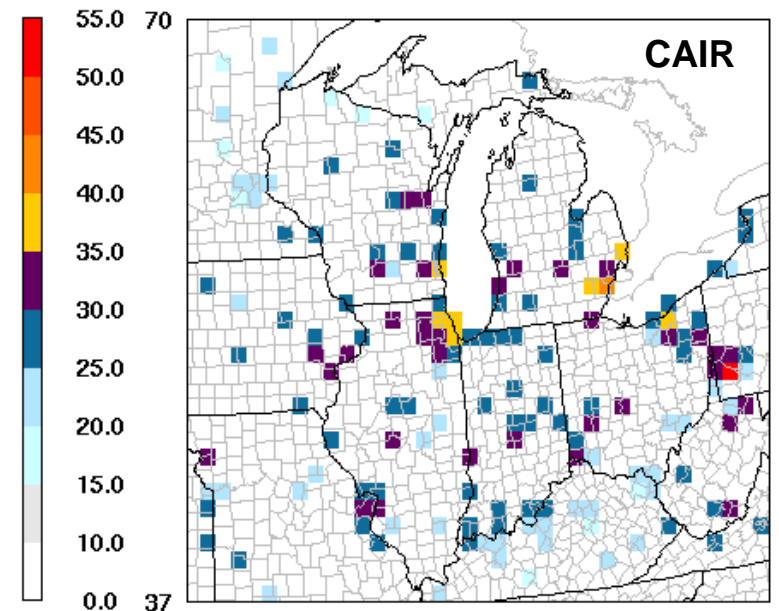
Port Huron Monitor



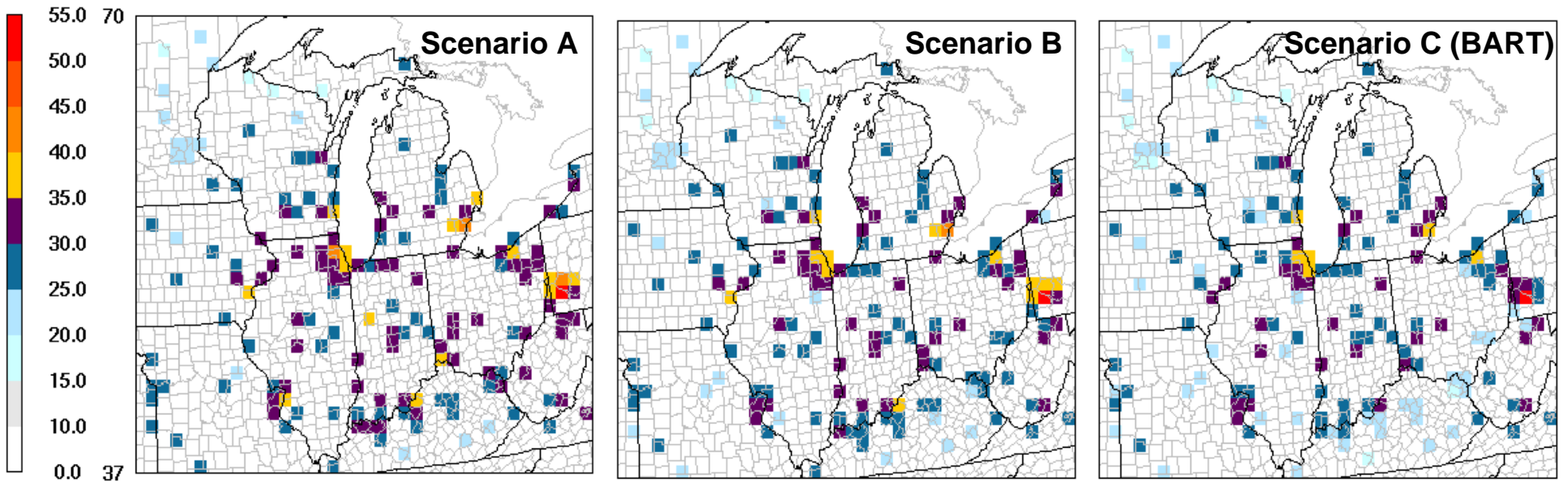
PM_{2.5} Daily Concentrations: 2012



Number of Sites > NAAQS				
	A	B	C	CAIR
IL	9	6	6	6
IN	0	0	0	0
MI	8	6	6	5
OH	3	3	2	1
WI	1	1	1	1
Total	21	16	15	13

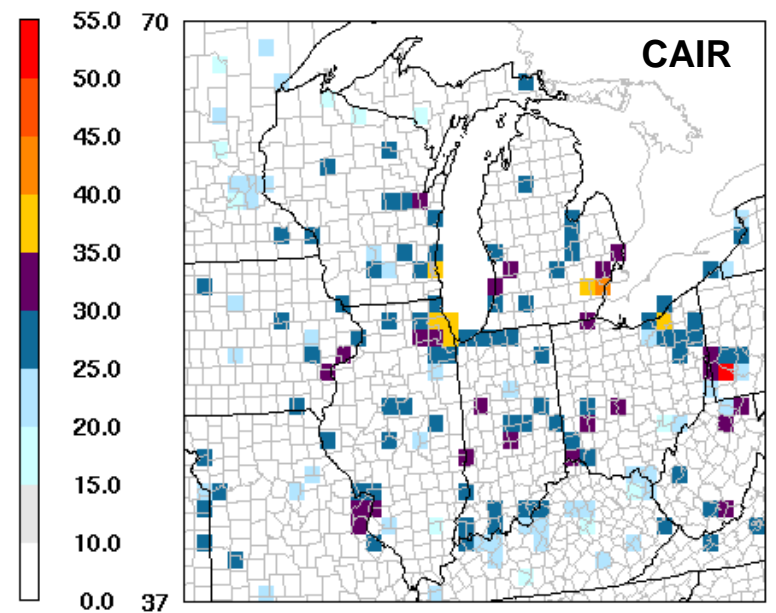


PM_{2.5} Daily Concentrations: 2018



Number of Sites > NAAQS

	A	B	C-BART	CAIR
IL	10	6	6	5
IN	4	1	0	0
MI	8	6	5	4
OH	5	3	1	0
WI	1	1	1	1
Total	28	17	13	10



Regional Haze

Reasonable progress SIP

- Rely on existing control programs primarily
- BART controls to be determined
- BART = CAIR for EGUs, but...
- Modeling shows reasonable progress level in 2018
- SIP public comment ended 10/29/08; submit to EPA in November

Visibility Impacts

Worst 20%			2018				
Site	Baseline (2000-2004)	2018 URP	Scen. A	Scen. B	Scen. C	Scen. C-BART	CAIR
BOWA1	19.86	17.94	19.09	18.87		17.95	17.94
VOYA2	19.48	17.75	18.60	18.44		17.75	17.63
SENE1	24.38	21.64	24.02	23.58		22.36	22.59
ISLE1	21.59	19.43	21.05	20.86		20.18	20.09
ISLE9	21.59	19.43	20.83	20.58		19.80	19.84
HEGL1	26.75	23.13	26.24	25.83		24.19	24.22
MING1	28.15	24.27	27.51	26.98		24.88	24.74
CACR1	26.36	22.91	25.32	24.80		23.10	22.44
UPBU1	26.27	22.82	25.31	24.79		22.75	22.59
MACA1	31.37	26.64	30.11	29.08		26.24	26.10
DOSO1	29.05	24.69	27.88	26.96		23.74	23.00
SHEN1	29.31	25.12	28.38	27.65		24.70	23.92
JARI1	29.12	24.91	28.06	27.21		24.49	24.06
BRIG1	29.01	25.05	28.10	28.07		26.33	25.21
LYBR1	24.45	21.48	24.06	23.86		22.30	21.14
ACAD1	22.89	20.45	22.88	22.76		22.10	21.49

Regional Haze

BART

- EGUs; depends on CAIR status
- 6 non-EGUs undergoing review
- New Mi. BART rule
- SIP to EPA later in 2009

LEAD

- Standard: from 1.5 ug/m³ to 0.15 ave. 3 months
- Primary and secondary NAAQS are the same
- TSP particle size; hi vol samplers available
- Population-oriented monitoring; GR and Detroit
- Source-oriented monitoring; 1 ton / yr of lead
- 1-4 sites; airports with prop planes
- Monitoring; 2010 source oriented, 2011 pop.
- EPA funding ??