

2008 Proposed Ozone Designations

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MISSOURI
DEPARTMENT OF
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Presentation Overview

- EPA's 2008 Ozone Standard
- Designation Process Overview
 - Stakeholder Process
 - Critical questions for area designation
 - EPA Guidance
- Proposed Designation Recommendations
 - Summary for each violating area
- Timeline for Implementation
- Next Steps

EPA's 2008 Ozone Standard

- Primary standard – 75 parts per billion (ppb)
- Secondary standard – 75 ppb
- Area meets the new standard if design value (average of 4th highest 8-hour average at each monitor over three years) is less than or equal to 75 ppb

2008 Ozone Designation Process

- Designation process is mandated by the Clean Air Act
- States are required to provide recommendations, based on available monitoring data and other information
- Governor provides final recommendation for counties to the EPA (designation as attainment, nonattainment, or unclassifiable)
- EPA makes final decision regarding nonattainment areas

2008 Ozone Designation Process – Stakeholder Process

- Series of three meetings in areas that contained violating monitors (St. Louis, Kansas City, Springfield, and Cape Girardeau/Perryville)
- Attended by: industry representatives, environmental interests, county commissioners, mayors, county health departments, regional planning organizations, local air quality control agencies, neighboring state agencies, EPA Region VII, Congressional aides

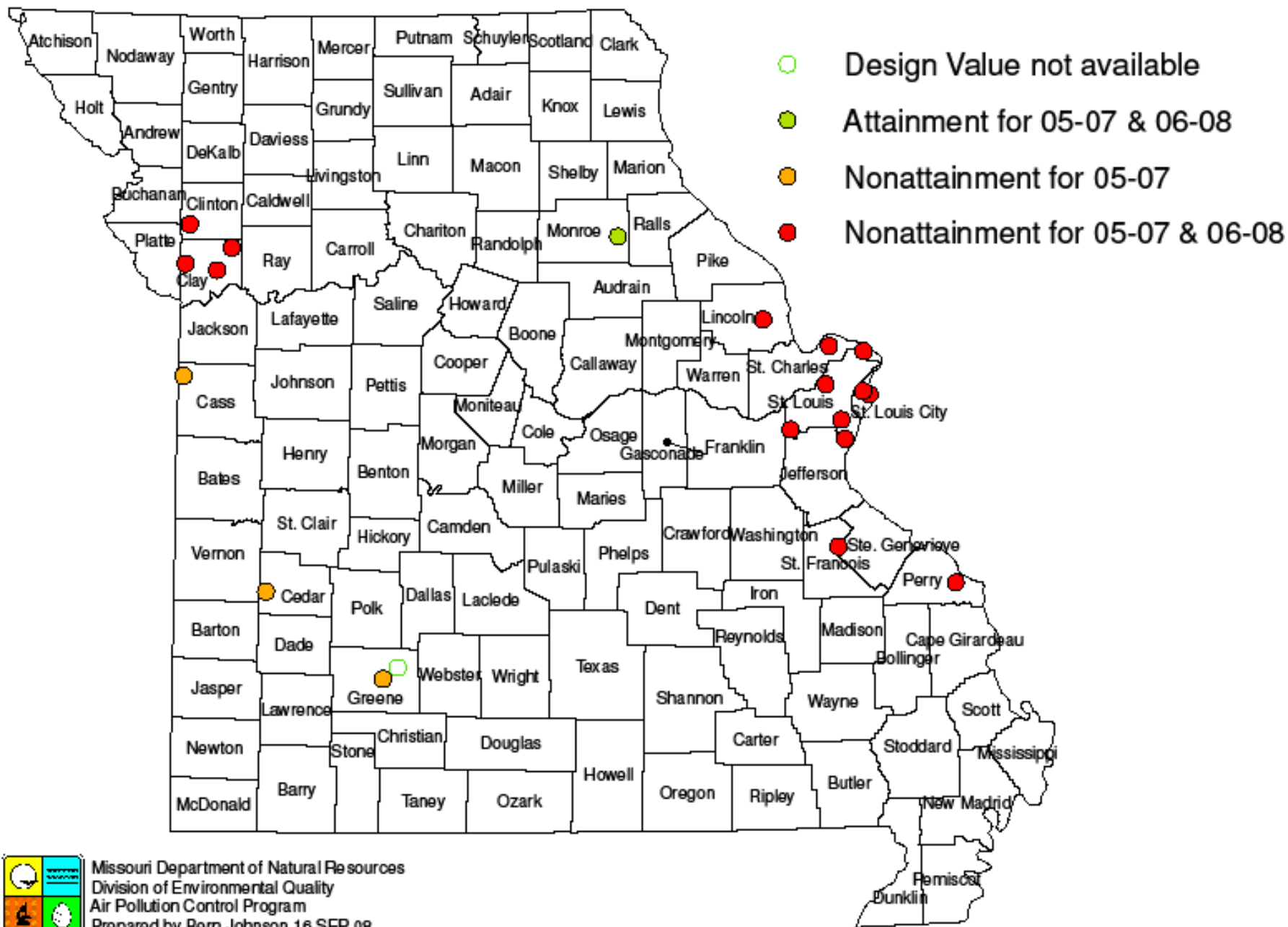
2008 Ozone Designation Process – Stakeholder Process (con't)

- The first meetings were to provide a brief overview of the new standard and review the designation process
- Second meetings were to provide technical information to stakeholders used in the designation evaluation
- The final meetings were designed to provide a recommendation to stakeholders and allow opportunity for comment before the proposed recommendation was heard by the Air Conservation Commission

Two Critical Questions for Designation

- Test #1 – Does a monitor in the area violate the standard?
- Test #2 – Do ozone precursor emission sources in each county contribute to ozone concentrations over the standard?
- If a monitor violates the standard, then that area is designated nonattainment and other "upwind" counties are also considered based on contribution

2008 Ozone Network



Design Values in Missouri

- St. Louis
 - 89 ppb (2005-07) 85 ppb (2006-08)
- Kansas City
 - 87 ppb (2005-07) 81 ppb (2006-08)
- Springfield
 - 77 ppb (2005-07) 73 ppb (2006-08)
- Farrar (Perry County)
 - 80 ppb (2005-07) 77 ppb (2006-08)
- El Dorado Springs (Cedar County)
 - 76 ppb (2005-07) 72 ppb (2006-08)

Answers to Critical Questions

- The monitored violation question is based on ozone sampling data and is the easier of the two questions to answer
- The contribution to violation question is based primarily on ozone precursor emissions within each county and the meteorological likelihood that those emissions impact the “downwind” violating monitor on high ozone days

EPA Guidance

- EPA has guidance from the previous ozone designation effort in 2003 that highlights eleven criteria to evaluate nonattainment boundaries
- These criteria have been utilized to develop the proposed recommendation for all counties in Missouri

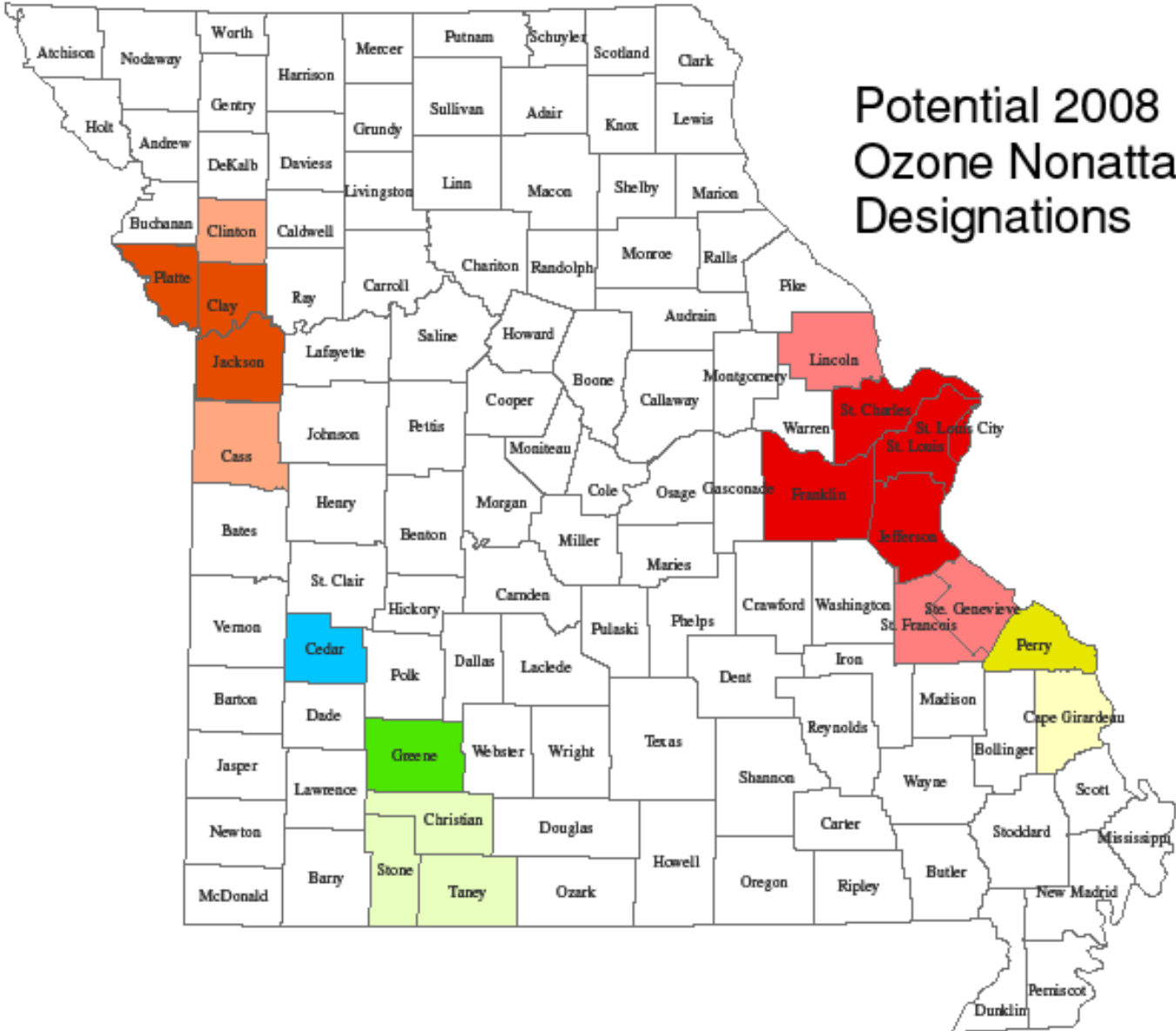
EPA Eleven Boundary Criteria










- Emissions and air quality in adjacent areas
- Population density and degree of urbanization (significant difference from surrounding area)
- Ozone monitoring data in surrounding area
- Location of emission sources
- Traffic and commuting patterns
- Expected growth (extent, pattern and rate)

EPA Eleven Boundary Criteria (cont.)

- Meteorology (weather and transport patterns)
- Geography/topography
- Jurisdictional boundaries (counties, air districts, current nonattainment area)
- Level of control of emission sources
- Regional emission reductions

Potential 2008 Ozone Nonattainment Designations



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|----------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
|  Downwind Monitor violation - EDS |  Potential contribution - Springfield |  Potential contribution - Farrar |
|  Monitor violation - Kansas City |  Monitor violation - Springfield |  Downwind monitor violation - Farrar |
|  Maintenance - Kansas City | |  Monitor Violation - St. Louis |
| | |  Nonattainment - St. Louis |

Summary of Draft Recommendation for Each Area

- Kansas City
 - Current 8-hour Maintenance Area (Clay, Jackson, Platte)
 - Two additional violating/contributing counties (Clinton, Cass)
- St. Louis
 - Current 8-hour Nonattainment Area (Franklin, Jefferson, St. Charles, St. Louis, City of St. Louis)
 - Three additional violating/contributing counties (Lincoln, St. Francois, Ste. Genevieve)

Summary of Proposed Recommendation for Each Area (con't)

■ Springfield

- 2005-07 - Monitored Violation (Greene)
 - Three additional contributing counties (Christian, Stone, Taney)
- 2006-08 – Entire Area Attainment

■ El Dorado Springs

- 2005-07 – Monitored Violation (Cedar)
 - Potential designation under Clean Air Act Section 182(h) – Rural Transport
- 2006-08 – Attainment

Summary of Proposed Recommendation for Each Area (con't)

- Southeast Missouri
 - Violating Monitor (Perry)
 - One additional contributing county (Cape Girardeau)

Timeline for Implementation

Submit Recommendation to EPA	March 2009
EPA to Make Final Designations	March 2010
Effective Date of Designations	Approximately 2010
State Implementation Plans Due	Approximately 2013
Attainment Dates	2013-2030 depending on severity of problem

Next Steps

- Comment period for proposed recommendations closes
 - December 12 at 5 PM
- Evaluate and respond to comments
- Consider making any changes
- Propose for adoption at February 3rd Missouri Air Conservation Commission meeting
- Submit final approved designation to EPA
 - March 12, 2009

QUESTIONS????

County-by-County Summary for "New" Counties in Kansas City

- **Clinton County (Nonattainment)**
 - Combined emissions under 10 TPD (VOC - 3.2 TPD and NO_x – 3.2 TPD)
 - Trimble monitor in violation of the standard (2005-07 design value – 85 ppb; 2006-08 design value – 79 ppb)
 - Moderate connection to the current Kansas City maintenance area (4,156 residents working in KC MA)
 - Meteorological analysis illustrates the Trimble monitor is a recipient of ozone and precursors from the upwind Kansas City area)
 - 31% population growth between 2000 and 2020 (nearly 25,000 in 2020)
 - Located in the Kansas City MSA, adjacent to the Kansas City maintenance area

County-by-County Summary for "New" Counties in Kansas City

- **Cass County (Nonattainment)**
 - Combined emissions over 15 TPD (VOC - 8.9 TPD and NOx – 9.4 TPD)
 - Richards Gebaur South monitor violates the 8-hour ozone standard using 2005-07 (design value – 77 ppb), but demonstrates attainment of standard (design value – 72 ppb) using current 2006-08 data
 - Largest connection to the Kansas City maintenance area for a county outside the area
 - 48% projected population growth between 2000 and 2020 (over 120,000 people in 2020)
 - Located within the Kansas City MSA, and upwind of the current Kansas City ozone maintenance area

County-by-County Summary for "New" Counties in St. Louis

- **Lincoln County (Nonattainment)**
 - Combined emissions under 15 TPD (VOC - 6.1 TPD and NOx – 7.2 TPD)
 - Farrar monitor in violation of 1997 standard (2005-07 design value – 87 ppb)
 - 9,467 residents work in current St. Louis nonattainment area
 - Meteorological analysis is not supportive of frequent contribution
 - 2nd highest population growth rate in Missouri between 2000 and 2020 (91%)
 - Located adjacent to the current St. Louis nonattainment area and in the St. Louis MSA

County-by-County Summary for “New” Counties in St. Louis

■ **St. Francois County (Nonattainment)**

- Combined emissions under 15 TPD (VOC - 5.5 TPD and NOx – 5.1 TPD)
- Representative Bonne Terre monitor in violation of the standard (2005-07 design value – 83 ppb)
- Largest amount of working residents outside the St. Louis MSA work in the current St. Louis nonattainment area (6,144)
- 25% population growth between 2000 and 2020 (nearly 70,000 in 2020)
- Located adjacent to the current St. Louis nonattainment area and the St. Louis MSA

County by County Rationale for "New" Counties in St. Louis

- **Ste. Genevieve County (Nonattainment)**
 - Combined emissions over 30 TPD (VOC - 5.8 TPD and NOx – 30.2 TPD)
 - Bonne Terre monitor in violation of the standard (design value – 83 ppb) – downwind impact from St. Louis emissions
 - Limited connection to St. Louis metropolitan area (along I-55)
 - Meteorological analysis is supportive of frequent contribution
 - Flat population projection between 2000 and 2020
 - Located adjacent to the current St. Louis nonattainment area, but not in MSA

County-by-County Summary for Southeast Missouri

- **Perry County (Nonattainment)**
 - Combined emissions under 15 TPD (VOC - 4.6 TPD and NOx – 6.4 TPD)
 - Farrar monitor in violation of the standard (2005-07 design value – 80 ppb and 2006-08 design value – 77 ppb)
 - Limited connection to the Cape Girardeau MSA
 - Meteorological analysis is somewhat supportive of frequent contribution
 - 25% population growth between 2000 and 2020
 - Located adjacent to the Cape Girardeau μ SA

County-by-County Summary in Southeast Missouri

- **Cape Girardeau (Nonattainment)**
 - Combined emissions over 25 TPD (VOC - 9.0 TPD and NOx – 16.8 TPD)
 - No ozone monitoring in county
 - Cape Girardeau is its own metropolitan area with an employment base of nearly 40,000 employees
 - Meteorological analysis is supportive of frequent contribution to Farrar
 - 16% population growth between 2000 and 2020 (nearly 80,000 in 2020)

Summary for Southwest Missouri

- Greene County and Cedar County contained a violating monitor for 2005-07, but both monitors are in compliance for 2006-08
- Greene, Christian, Taney, and Stone Counties were found to have sufficient contribution to the Springfield monitor to warrant inclusion if the area is in violation of the new standard
- Cedar County emissions do not have sufficient contribution to any violation and Cedar will be recommended for designation under the “rural transport” provisions of the Clean Air Act