



Brian Adams, Coordinator  
Air Quality Control  
Department of Environmental Services  
P.O. Box 8368  
Springfield, MO 65801-8368  
(417)864-1412

May 13, 2013

Lachala R. Kemp  
Ozone Advance Coordinator  
U.S. EPA Region VII  
11201 Renner Blvd  
Lenexa, KS 66129

Dear Ms Kemp:

The City of Springfield, Missouri in collaboration with the Ozarks Clean Air Alliance and the Ozarks Transportation Organization is submitting their 2013 Clean Air Action Plan (CAAP) to be used in participation in the EPA's Ozone Advance program.

The 2013 CAAP is a guide for citizens to help preserve and improve the air quality in the Springfield metropolitan region.

Please call or email Barbara Lucks, OCAA Chair, regarding this document at (417) 864-2005 or [blucks@springfieldmo.gov](mailto:blucks@springfieldmo.gov)

Sincerely,

A handwritten signature in black ink that reads 'Brian Adams'.

Brian Adams, Coordinator  
Springfield Air Quality Control

cc: Barbara Lucks



# **Clean Air Action Plan for Southwest Missouri**

**Serving as the Southwest Missouri Area Path Forward for Ozone and PM Advance Programs**

Update Approved by OCAA May 10, 2013

# Table of Contents

**Table of Contents**..... i

**Acknowledgements** ..... 1

CAAP Workgroup (OCAA Members) .....1

OCAA Member Organizations.....1

Other Stakeholder Organizations .....1

**Introduction**..... 2

Ozarks Clean Air Alliance .....2

Clean Air Action Plan .....2

Ozone Advance .....2

PM Advance .....3

National Ambient Air Quality Standards.....4

Ground-Level Ozone .....4

Fine Particulate Matter (PM<sub>2.5</sub>).....4

Southwest Missouri Region .....5

**Emissions** ..... 6

Ozone Forming Emissions in Southwest Missouri .....6

Ozone Design Values .....8

PM<sub>2.5</sub> Forming Emissions in Southwest Missouri .....9

PM<sub>2.5</sub> Design Values .....10

**Education**..... 11

Description.....11

Additional Benefits .....11

Previous Accomplishments.....12

**Energy Conservation/Utility**..... 12

Description.....12

Additional Benefits .....12

Previous Accomplishments.....13

**Transportation**..... 13

Description.....13

Additional Benefits .....13

Previous Accomplishments.....14

<b>Technical Assistance .....</b>	<b>15</b>
Description.....	15
Additional Benefits .....	15
Previous Accomplishments.....	15
<b>Citizen Initiatives .....</b>	<b>15</b>
Description.....	15
Additional Benefits .....	16
Previous Accomplishments.....	16
<b>Appendix A – Map of Ozarks Clean Air Alliance Region.....</b>	<b>17</b>
<b>Appendix B – Letters of Support .....</b>	<b>18</b>

## Acknowledgements

The Ozarks Clean Air Alliance (OCAA) would like to thank the following members for their participation in developing the Clean Air Action Plan for Southwest Missouri. The OCAA members and other stakeholders reviewed the draft plan prior to completion of the final version.

### CAAP Workgroup (OCAA Members)

- **Barbara Lucks, City of Springfield (Chair)**
- **Natasha Longpine, Ozarks Transportation Organization (Vice-Chair)**
- Brian Adams, City of Springfield
- Richard Barnes, Missouri Department of Natural Resources
- J. Howard Fisk, Fisk Transportation
- Dave Fraley, City Utilities of Springfield
- Sara Garretson, City of Springfield
- Daniel Hedrick, City Utilities of Springfield
- Becky Heffren, Empire District Electric Company
- David Hutchison, City of Springfield
- Zach Miller, Murney Associates, REALTORS
- Suzan Morang, Joplin Health Department
- Doug Neidigh, Mercy Health System
- Tana Pulles, City of Springfield
- Jeff Seifried, Springfield Area Chamber of Commerce
- Andrew Seiler, Missouri Department of Transportation
- Trent Sims, Community Partnership of the Ozarks
- Paul Vitzthum, Missouri Department of Natural Resources
- Ann Wallenmeyer, Springfield Public Schools
- Todd Wiesehan, Christian County

### OCAA Member Organizations

- American Lung Association
- Associated Electric Cooperative
- City of Battlefield
- City of Rogersville
- City of Springfield
- City of Strafford
- City of Willard
- City Utilities of Springfield
- Christian County Commission
- Choose Environmental Excellence
- Drury University
- Empire District Electric
- Environmental Task Force of Jasper & Newton Counties
- Greater Springfield Board of REALTORS®
- Greene County Commission
- Greene County Highway Department
- J. Howard Fisk Transportation Group
- Missouri Department of Natural Resources
- Missouri State University
- Murney Associates, REALTORS
- Ozarks Green Building Council
- Ozarks Technical Community College
- Partnership for Sustainability
- Rick's Automotive
- Show Me Yards and Neighborhoods
- Southwest Area Manufacturers Association
- Springfield Area Chamber of Commerce
- Springfield-Greene County Health Department
- Springfield Public Schools
- University of Missouri Extension

### Other Stakeholder Organizations

- City of Branson
- City of Hollister
- City of Ozark
- City of Nixa
- City of Monett
- City of Joplin Health Department

- College of the Ozarks
- Environmental Advisory Board of Springfield and Greene County
- Jasper County Health Department
- Stone County Commission
- Taney County Health Department
- Taney County Commission

## Introduction

### Ozarks Clean Air Alliance

The Ozarks Clean Air Alliance (OCAA) was created as a response to the needs and issues identified in an environmental health assessment conducted in 2002. The result of this assessment project by the Springfield-Greene County Health Department was the creation of “The State of the Environment for Springfield and Greene County: A Report and Recommendations.” This comprehensive report was coordinated through the Community Partnership’s Environmental Collaborative and the Environmental Advisory Board.

The data and information used in this assessment were compiled through research of both electronic and standard published materials. A great deal of information was also obtained through personal interviews with contacts in many environmental disciplines. These disciplines include: population growth and urban sprawl, water quality/quantity, air quality, solid waste management, community health, environmental education and environmental justice. The full report can be viewed at <http://www.ozarksenvironment.com>.

For air quality, it became clear from the beginning that a community educational initiative needed to occur before opinion information could be collected from residents. Appropriately, the primary recommendations coming out of the Air Quality workgroup were centered on community education through the establishment of an ongoing regional committee. Like other natural resources, the quality of air does not begin or end at the city or county line. Therefore a regional committee was created to address air quality issues in the Ozarks region.

The Ozarks Clean Air Alliance now guides the region's education and outreach efforts to reduce the negative effects of air pollution. OCAA brings together vested individuals and both public and private representatives who are dedicated to raising awareness and understanding of today's air quality issues. OCAA will work to create opportunities to voluntarily reduce the emissions that cause air pollution. Additional information can be found on the OCAA website – <http://www.showmecleanair.com>.

### Clean Air Action Plan

The first task of the Ozarks Clean Air Alliance was the development of a Clean Air Action Plan (CAAP). This was modeled after the Ozone Flex Program in place with the Environmental Protection Agency (EPA) at the time. The initial CAAP sought to capture all the activities taking place throughout the region that contributed to improving air quality. The previous accomplishments listed throughout this document capture the efforts highlighted in the original CAAP. The CAAP was adopted in 2009 and updated in 2010. This update of the Clean Air Action Plan coincides with the timing for the initial goals of the CAAP and will serve as the Path Forward document required as part of the EPA Ozone Advance and PM Advance programs.

### Ozone Advance

Ozone Advance is a program that helps areas continue to meet the National Ambient Air Quality Standards (NAAQS) for ground-level ozone. EPA lists these goals for the Ozone Advance program:

- Help attainment areas reduce emissions in order to ensure continued health protection,
- Better position areas to remain in attainment, and
- Efficiently direct available resources toward actions to address ozone problems quickly.

In addition to receiving help and guidance from EPA in implementing emission-reduction measures, participants may also receive additional benefits through the program:

- Early reductions can generally be accounted for either (1) within an eventual SIP baseline, with regard to reductions achieved before the baseline year, or (2) as a control measure, with regard to reductions achieved after the baseline year.
- EPA's Diesel Emissions Reduction Act (DERA) program may provide preferred status to Ozone Advance participants, as well.

In May of 2012, the Ozarks Clean Air Alliance, in partnership with the City of Springfield, and the Ozarks Transportation Organization, requested to participate in the Ozone Advance program. As stated in the participation request letter, the benefits of participating were described as:

- Reducing air pollution in terms of ozone as well as other air pollutants
- Ensuring continued healthy ozone levels
- Maintaining the ozone NAAQS
- Helping avoid violations of the ozone NAAQS that could lead to a future non-attainment designation
- Increasing public awareness about ground-level ozone as an air pollutant
- Targeting limited resources toward actions to address ozone problems quickly

Within one year of the letter date, May 29, 2012, OCAA is expected to create a Path Forward letter, which describes the measures and programs an area will implement, along with a schedule for implementation, of each measure and program selected. An action plan can be submitted in place of the Path Forward letter. This Clean Air Action Plan serves as this document for the southwest Missouri region. The action plan should, at a minimum, include the following sections:

- Introduction
- Description of the measures and programs to be implemented, responsible parties, how the measure will be implemented
- Implementation schedule for each measure and program
- Provisions for public and stakeholder involvement

Participation in Ozone Advance is for a period of five years or longer. The program does not create or avoid any regulatory requirements. More about the EPA Ozone Advance program can be found on the Ozone Advance website - <http://www.epa.gov/ozoneadvance/>.

### PM Advance

PM Advance is a new program that accomplishes similar goals as the Ozone Advance Program, promoting local actions to reduce fine particulate pollution (PM<sub>2.5</sub>), and its precursors, in attainment areas, helping these areas maintain the PM<sub>2.5</sub> National Ambient Air Quality Standards.

Improvements in air quality could:

- Help ensure continued health protection over the long term,
- Provide state, tribal, and local governments with a cushion against potential future violations of the PM<sub>2.5</sub> NAAQS,
- Better position an area to achieve air quality concentrations that enable it to avoid a nonattainment designation with respect to any future revised NAAQS,
- Allow for greater ability to choose from control measures and programs that make the most sense for the area and that are cost-effective,
- Result in multi-pollutant benefits; for example, reductions of nitrogen oxides can lead to lower ambient fine particulate matter levels as well as lower ambient ozone levels.

The Ozarks Clean Air Alliance, with the City of Springfield and the Ozarks Transportation Organization, is submitting a letter requesting participation in the PM Advance Program. Like Ozone Advance, the PM Advance program does not create or remove any existing statutory or regulatory requirements and participants are encouraged to commit for at least one 5-year term.

### National Ambient Air Quality Standards

The Clean Air Act, which was last amended in 1990, requires EPA to set National Ambient Air Quality Standards for pollutants considered harmful to public health and the environment. EPA has set National Ambient Air Quality Standards for six principal pollutants, including carbon monoxide, lead, nitrogen dioxide, ozone, particulate matter, and sulfur dioxide (<http://www.epa.gov/air/criteria.html>).

### Ground-Level Ozone

Ozone is a gas composed of three atoms of oxygen. Ozone occurs both in the Earth's upper atmosphere and at ground level. Ozone can be beneficial or detrimental, depending on where it is found. Ozone is beneficial in the upper atmosphere as it provides protection from the sun's ultraviolet rays. Ozone is harmful at ground level and can cause significant adverse health and environmental effects.

Ground-level ozone is not emitted directly into the air. It is formed by a chemical reaction between volatile organic compounds (VOCs) and oxides of nitrogen (NO<sub>x</sub>) in the presence of sunlight. Emissions from industrial facilities, electric utilities, motor vehicle exhaust, gasoline vapors, and chemical solvents are some of the major sources of NO<sub>x</sub> and VOCs. Ozone pollution is of greater concern during the summer months because strong sunlight and hot weather result in high ozone concentrations. For the Springfield region, Ozone Season is considered to be between March and October.

### Fine Particulate Matter (PM<sub>2.5</sub>)

As described by the EPA, particulate matter is a complex mixture of extremely small particles and liquid droplets, comprised of a number of components, including acids (such as nitrates and sulfates), organic chemicals, metals, and soil or dust particles. Fine Particles, such as those found in smoke and haze, are 2.5 micrometers in diameter and smaller. These particles can be directly emitted from sources such as forest fires, or they can form when gases emitted from power plants, industries, and automobiles react in the air.

The guidance memo from EPA about the PM Advance program states that fine particle concentrations in many cities are affected by a combination of regional and local emissions. While the sources for the Ozone precursors

NOX and VOCs are more easily identifiable, the sources for PM precursors can be much more varied. Participants in both programs are encouraged to implement strategies that address both pollutants.

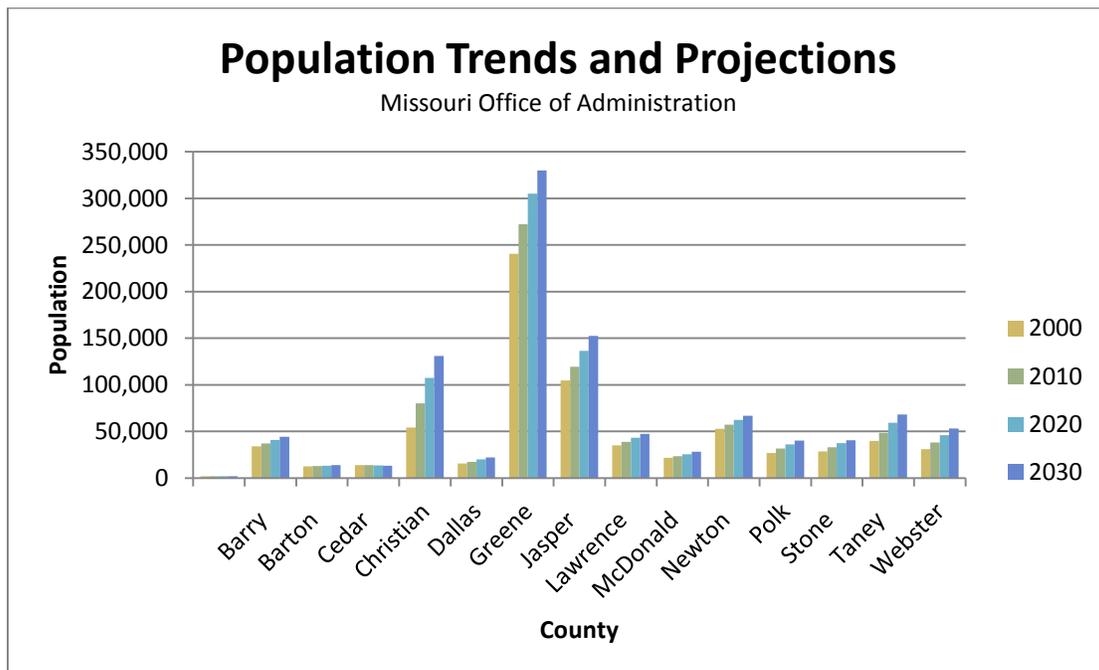
### Southwest Missouri Region

The Ozarks Clean Air Alliance currently serves a 15 county region:

- |              |              |             |
|--------------|--------------|-------------|
| 1. Barry     | 6. Dallas    | 11. Newton  |
| 2. Barton    | 7. Greene    | 12. Polk    |
| 3. Cedar     | 8. Jasper    | 13. Stone   |
| 4. Christian | 9. Lawrence  | 14. Taney   |
| 5. Dade      | 10. McDonald | 15. Webster |

This region was chosen based on existing planning boundaries while also taking into consideration the location of the air quality monitors for the region. Fourteen of the counties are included within two regional planning commissions, the Southwest Missouri Council of Governments and the Harry S Truman Coordinating Council. The fifteenth county, Cedar County, was included because of its ozone monitor. This monitor is considered to be a background monitor, yet it has days that read higher than the Springfield region. A map of the southwest Missouri region can be seen in Appendix A.

The focus of most strategies in this Plan is in the Springfield metropolitan area. One, because the Joplin region is in the process of developing their own Alliance and Plan, and two, because initial modeling indicates that just four counties could be part of the potential non-attainment area. These are Christian, Greene, Stone, and Taney Counties. Even though this is the case, the OCAA is still dedicated to providing education and information to the entire 15-county area. This is evidenced through the DERA program funding which has been made available through OCAA for entities in all fifteen counties.



Southwest Missouri continues to experience substantial growth. Although growth benefits the region in many ways, it is important to recognize the negative aspects, such as air pollution, that need to be managed. The goal of the CAAP is to implement proactive and feasible voluntary strategies to protect public health and the environment while sustaining growth in the region.

## Emissions

### Ozone Forming Emissions in Southwest Missouri

Emissions of NO<sub>x</sub> and VOC's that can contribute to the formation of ground-level ozone in Southwest Missouri are generated from various sources including motor vehicle emissions, gasoline vapors, chemical solvents, businesses/industrial emissions, power plant emissions, gas-powered off-road equipment and natural sources. These emissions are typically placed into categories of Area Sources, Mobile, Non-Road, Natural, and Point Sources. Point Sources can be broken down into two subcategories called Electric Generating Units (EGU) and Non-Electric Generating Units (Non-EGU). Here are some common examples of different air pollution sources per category:

#### Electric Generating Units (EGU):

- Power plants

#### Non-Electric Generating Units (Non-EGU):

- Factories
- Industrial and commercial boilers
- Chemical processing
- Large petroleum storage facilities

#### Area:

- Small businesses (dry cleaners, autobody shops, printers, painting operations, gas stations, etc.)
- Homes (wood combustion, furnaces, paint and solvent use, etc.)
- Office buildings (heating sources, etc.)
- Wildfires
- Waste disposal (landfills)
- Agricultural sources (open burning, pesticide application, tilling, feedlots, etc.)

#### Mobile:

- Cars
- Motorcycles
- Trucks
- Heavy-duty trucks (Semi-tractor trailers, dump trucks, etc.)

#### Nonroad:

- Construction equipment (excavators, bull dozers, skid steers, etc.)
- Lawn and garden gasoline-powered equipment (lawn mowers, grass trimmers, chain saws, leaf blowers, chippers, etc.)
- Off-road motorcycles and ATV's
- Golf carts
- Snowmobiles
- Boats
- Farm equipment (tractors, sprayers, balers, etc)

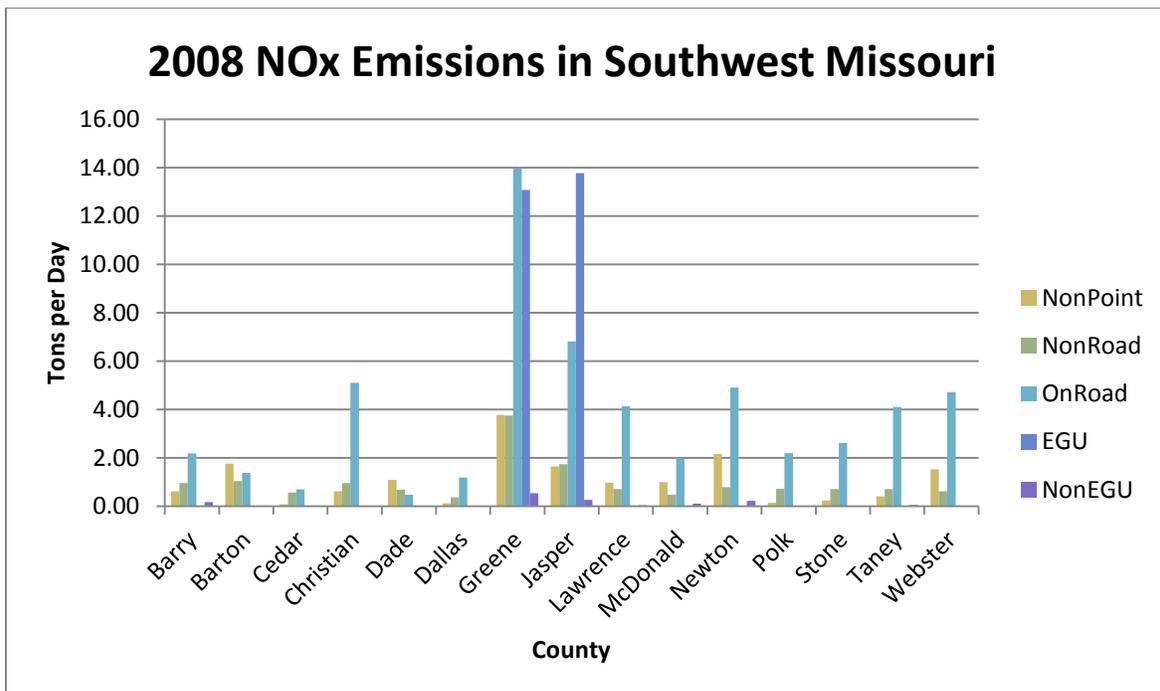
- Aircrafts

**Natural:**

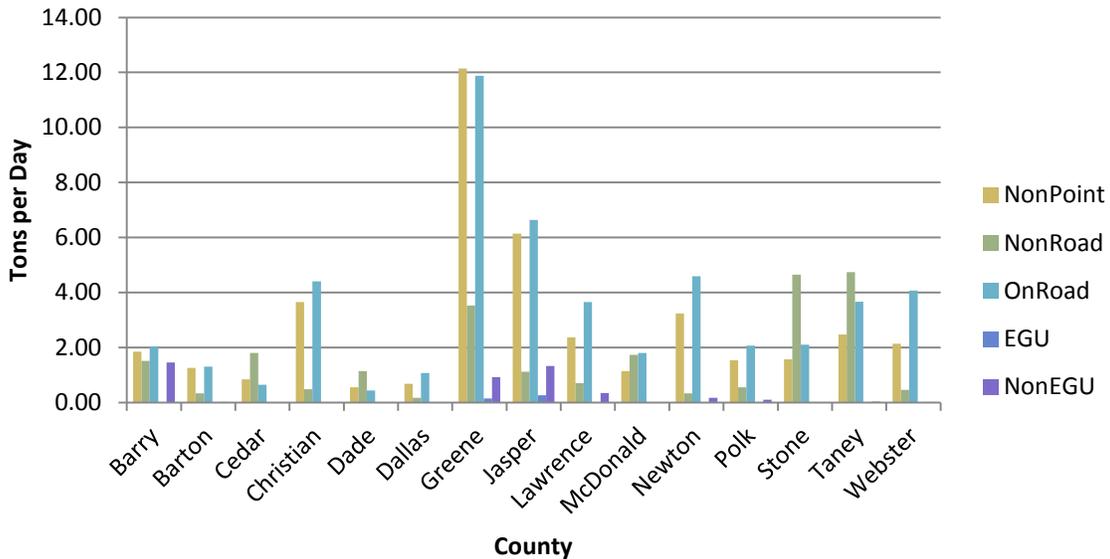
- Plants and trees emit VOC's (biogenic sources)
- Biologic decay emits NOx

Plants and trees provide tremendous resources including air pollutant removal, oxygen production and cooling benefits. The CAAP does not include strategies to reduce natural sources of air pollution. The CAAP only focuses on strategies to reduce emissions from man-made sources of air pollution.

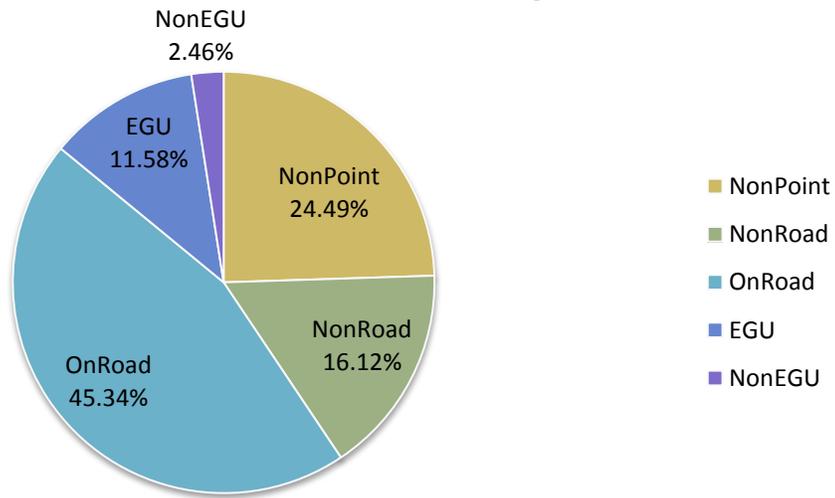
The following graphs show the amount (tons per day) of NOx & VOC emissions from man-made source categories by county. This data was provided by Missouri DNR. Note: Graph data are from 2008 base year.



## 2008 VOC Emissions in Southwest Missouri



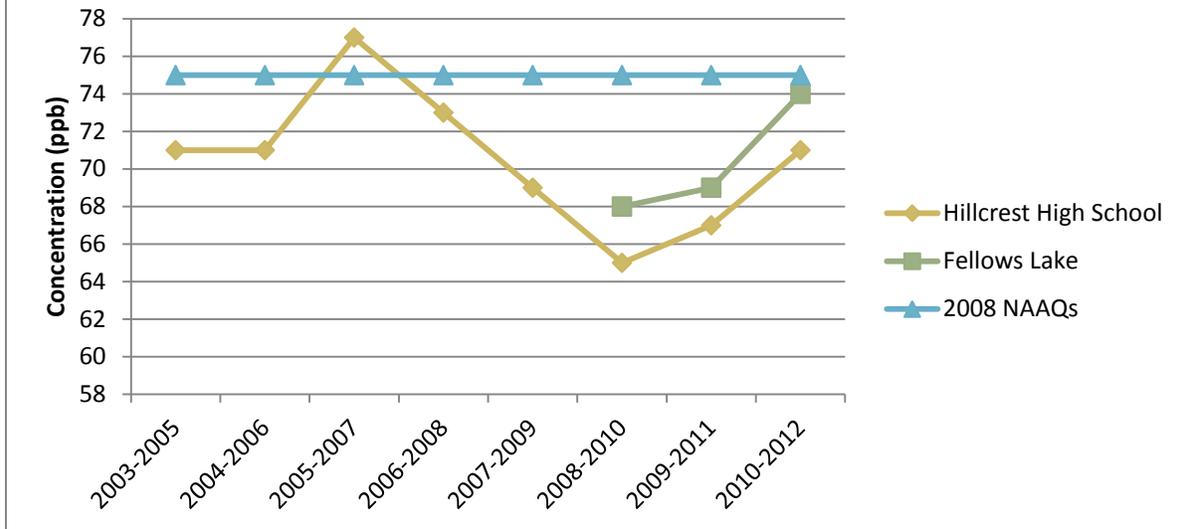
## 2008 NOx and VOC Emissions by Source



### Ozone Design Values

The following chart shows the design values for ozone monitoring conducted in Greene County since 2003. The ozone design value is the 3-year average of the fourth highest 8-hour ozone level for each year. A violation occurs if an area's ozone design value exceeds the 8-hour ambient air quality standard established by the EPA. In March 2008, EPA lowered the 8-hour standard from 84 parts per billion to 75 parts per billion.

## 2003-2012 Springfield, MO Area Ozone Design Value Trends



### PM<sub>2.5</sub> Forming Emissions in Southwest Missouri

Particulate matter emissions in southwest Missouri can come from a variety of sources. Emissions of sulfur dioxide, oxides of nitrogen, and volatile organic compounds are precursors for particulate matter formation, in addition to other natural sources, though their presence cannot be directly correlated to a PM value. Other chemical components to PM include ammonia, organic carbon, and elemental carbon.

#### Dust:

- Road and soil dust
- Biomass burning
  - Agricultural burning
  - Residential wood combustion
- Construction dust
- Natural source wind erosion

#### Fuel Combustion:

- Electric utility combustion
- Industrial fuel combustion

#### Mobile:

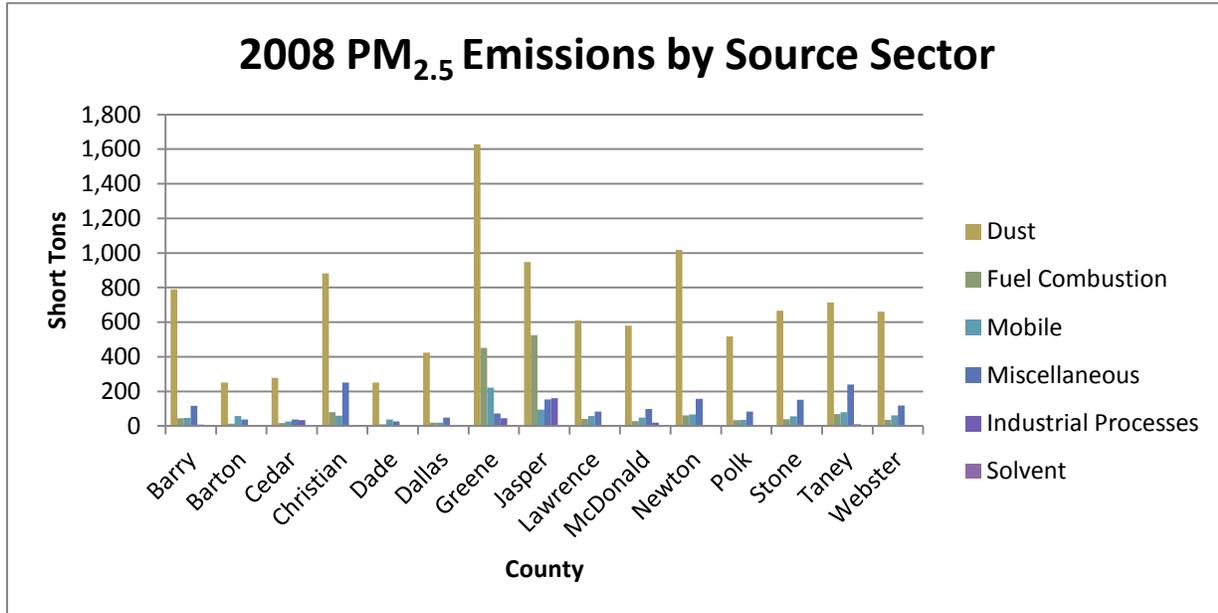
- Diesel and gasoline fueled vehicles
- Friction from components such as tires and brakes

#### Industrial Processes

#### Solvent

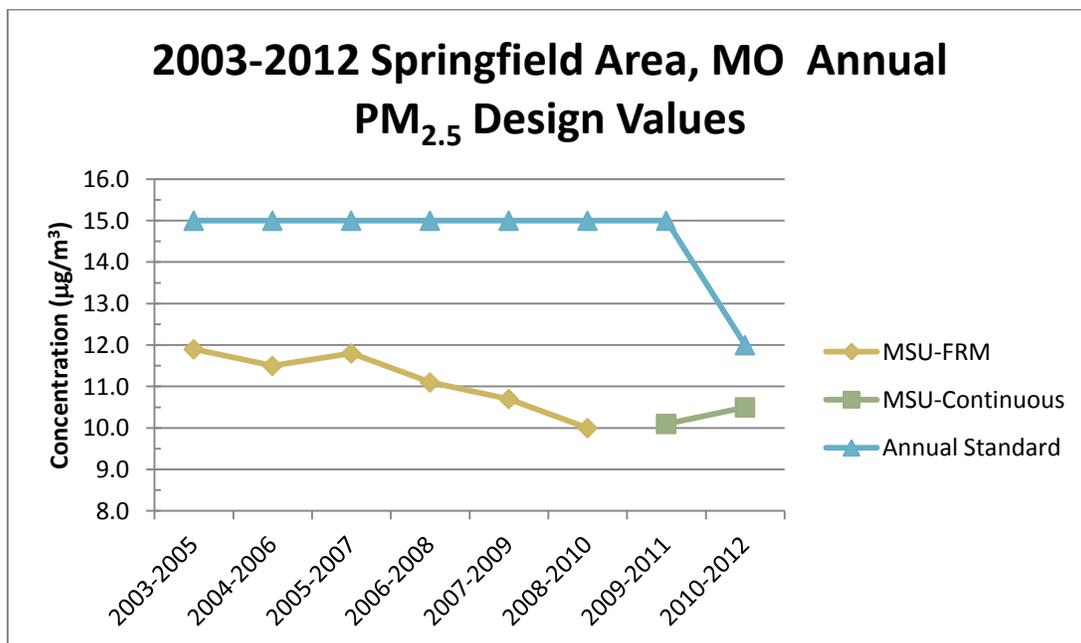
#### Miscellaneous

The southwest Missouri region experiences some seasonality with its PM<sub>2.5</sub> emissions, especially in the winter with residential wood burning, however, values are beginning to peak during the summer months as well.



### PM<sub>2.5</sub> Design Values

The following chart shows the design values for PM<sub>2.5</sub> monitoring conducted in Greene County since 2003. The PM<sub>2.5</sub> design value is based on the average of three consecutive years. A violation occurs if an area's PM<sub>2.5</sub> design value exceeds the annual average standard established by the EPA. In 2012, EPA lowered the annual PM<sub>2.5</sub> standard from 15 µg/m<sup>3</sup> to 12 µg/m<sup>3</sup>.



# Emissions Reduction Strategies

The strategies identified in the Clean Air Action Plan can be implemented by organizations and individuals in the region to reduce air pollution. The unavailability of photochemical modeling data, however, prevents the region from quantifying the impacts of various strategies. Many of these strategies, though, have been shown effective in other communities, providing numerous benefits such as protection of the public health and environment, the prevention of state and federal regulations following a non-attainment designation, and the following community benefits: reducing air pollutants from contaminating surface water; improving community health by encouraging bicycling and walking; conserving natural resources; reducing dependency on foreign oil; and fiscal savings for individuals, businesses, local governments, and other organizations.

The purpose of the Clean Air Action Plan is to implement viable voluntary strategies that can reduce the formation of ground-level ozone and fine particulate matter. There must be strong support and participation by local governments, industries, organizations, and the public for the program to be successful. Appendix B includes a list of those organizations in the region that support the efforts of the Ozarks Clean Air Alliance. In addition to this general support, OCAA is also working with organizations in the region to provide letters of commitment for specific strategies relevant to their operations (i.e., idle reduction program, Ozone Workplace Network, etc.).

## Education

### Description

Air quality awareness applies to both the general public and businesses. Increasing this awareness allows people to understand and make decisions based upon the air quality forecasts. Businesses can make changes based upon their understanding of the broader environmental impacts of everyday activities. Educating and informing citizens using the local media and area schools on ways to reduce ozone and fine particulate formation is the main focus of this section. A long term goal for educating the region is recognition that there is value in these activities and to help others own the process of air quality education as well.

### Additional Benefits

Besides Ozone, additional air pollutants such as SO<sub>2</sub>, particulates, toxic pollutants, CO, and greenhouse gases would be reduced. There would be reduced consumption of natural resources and reduced costs to individuals, businesses, and the community. Additional expenses which would arise from regulations related to non-attainment could be avoided as well.

Strategies	Short-Term	Long-Term
<b>Educational Tools for Schools</b>	School-based Green Program – Social Media, Science Based (Find supportive curriculum, make links available), WOLF	Incorporate air quality into conservation education
<b>Scouts and other Youth Conservation Programs</b>	Promote badges and sponsor curriculum at camps	Awareness for air quality programs throughout scouting
<b>Public Service Announcements</b>	Work with Springfield PIO and CityView to develop PSAs	Marketing Plan

<b>Ozone Alert Messages on DMSs</b>	Display Ozone alert messages on MoDOT Springfield's 17 roadside message boards (DMS) for commuters for the next day air quality forecast when ground-level ozone is anticipated at Orange or Red Levels	
<b>Speaker's Bureau</b>	Develop and promote speakers and topics	
<b>ShowMeCleanAir.com Website</b>	Promote and continue to update with current air quality information	Connection through partner agencies
<b>Ozone Workplace Network Program</b>	Continue to sign-up new workplaces	
<b>Social Media</b>	Facebook, YouTube, Twitter, RSS	Connection through partner agencies
<b>Agricultural Education Program</b>	Develop a program to educate the agricultural community on specific strategies	

### Previous Accomplishments

OCAA members give periodic presentations to various community groups about air quality issues and the Clean Air Action Plan. The ShowMeCleanAir.com website is already in place. The Ozone Workplace Network Program was implemented in 2008 to improve the awareness level of individuals and companies about ozone pollution and to call area employers and employees to action to reduce ozone levels on forecasted high ozone days. In April of 2010, OCAA, Springfield Public Schools and Missouri DNR partnered to implement the "school-zone no-idle" program.

## Energy Conservation/Utility

### Description

This program will include the review, promotion, and implementation of energy conservation programs that can be adopted by utility providers and be made available for individuals, businesses, municipalities, and other utility users.

### Additional Benefits

Besides NOx and the resulting Ozone reductions, additional air pollutants such as SO2, particulates, toxic pollutants, CO, greenhouse gases would be reduced. Energy conservation would also reduce consumption of natural resources (coal and natural gas), reduce demand for electricity, and reduce costs for individuals, businesses, and jurisdictions.

Strategies	Short-Term	Long-Term
<b>NOx reductions from power plants</b>	In practice using low-NOx boilers	Lowering of NOx air pollutant
<b>Energy Conservation Programs</b>	Use of Energy Star appliances is promoted	Reduced energy consumption

### Pilot an innovative program

Work with area utilities to find innovative ways to reduce energy consumption

### Previous Accomplishments

City Utilities of Springfield and Empire District Electric have already taken steps to significantly reduce NOx emissions from their plants. Since base year 1998, City Utilities has reduced 1,848 tons/year of NOx from the James River Power Station and 264 tons/year of NOx from the Southwest Power Station. Since 2009, Empire District has reduced an average of 518 NOx tons/year from the Riverton Plant, 4,617 NOx tons/year from the Asbury Plant, and 820 tons/year of NOx from the Iatan 1 Plant. Empire expects they will continue to produce 15 percent to 17 percent of their total net system input with their hydro facility at Ozark Beach, Missouri and through power purchase agreements with Elk River Wind Farm, LLC and Meridian Way Wind Farm, LLC. Empire anticipates they will sell the majority of the environmental attributes associated with the wind farm generation.

In 2012, City Utilities experienced NOx emissions that were 68 percent (3,173 tons) below 2008 levels. A portion of these reductions were due to anomalous fuel market conditions that may not be reproducible in the future. City Utilities remains committed, however, to NOx control programs at its electric generating stations. In 2011, Empire District reduced 838 tons of NOx from the Riverton Plant, 4,283 tons of NOx from the Asbury Plant, and 876 tons of NOx from the Iatan 1 Plant. Improvements at the Asbury and Iatan 1 Plants are due to the installation of Selective Catalytic Reduction NOx Systems. Empire District produced 15.7 percent of their total net system input in 2011 with their hydro facility at Ozark Beach, Missouri, and through power purchase agreements with Elk River Wind Farm, LLC and Meridian Way Wind Farm LLC. Empire District has sold the majority of the environmental attributes associated with the wind farm generation.

Since October 2006, City Utilities has had an aggressive energy management and conservation effort that includes the implementation of over 17 individual programs for customers. After the sixth year, these programs have resulted in the following accumulated annual savings: the electric usage of 5,508 homes (63,453 Megawatt-hours), the natural gas usage of 3,956 homes (312,500 deca Therms), and the water usage of 2,278 homes (141,398 thousand Gallons) in the City Utilities service area. Since 2006, Empire District has implemented 19 different energy conservation incentive programs, saving its customers across four states the electric usage of 4,000 homes (47,000 MWh) and one state with lower natural gas usage. Associated Electric and Missouri Cooperatives have implemented the "Take Control and Save" program (<http://www.takecontrolandsave.coop/>).

## Transportation

### Description

Mobile sources are a significant contributor to emissions in the region. Many approaches can be taken to minimize the emissions from transportation-related sources. Actions can be taken at the individual level, by business, and through engineering and traffic management.

### Additional Benefits

Besides ozone, additional air pollutants such as SO<sub>2</sub>, particulates, toxic pollutants, CO, and greenhouse gases would be reduced. Also, businesses and individuals can save money on fuel costs and benefit from the healthy

aspects of an alternate commute. The benefits of these measures would also be felt daily through congestion reductions.

Strategies	Short-Term	Long-Term
<b>Idle Reduction Program</b>	Schools, Businesses, Government, Utilities Focus on local deliveries Use schools to educate why on no-idle (at open house) Green Score for Schools After school programs Walking school bus	
<b>Diesel Emissions Reduction</b>	Continue to seek funding No-idle on local delivery trucks Best practices from UPS and FED EX for locals	Find out what incentives would work
<b>Rideshare Program</b>	More portals for local employers Increased individual participation Provide information with GreenScore Assessments	
<b>Alternative Transportation and Commute Projects</b>	More sidewalks and trails Employee commuter transportation programs The Link Additional dedicated funding through sales taxes Improved peak hour transit service	Connected, regional bicycle and pedestrian system More park and ride lots Improved peak hour transit service
<b>Stage One Vapor Recovery</b>	Survey gas stations and distributors on readiness Pilot program to encourage participation	Standard at all gas stations
<b>Intelligent Transportation Systems</b>	Additional technologies installed – signs, adaptive signals, cameras Support TMC Advertise benefits of projects Educate about ITS OzarksTraffic.info	
<b>Congestion Management Projects</b>	Access management, dual left turn lanes, DDIs	

### Previous Accomplishments

Idle reduction policies are in place with many OCAA partners. A number of area school districts already have implemented diesel emissions reductions on their school buses. Chadwick School District has completed a propane conversion on their school bus fleet. The City of Springfield continues to increase the amount of funding included in the 1/8-cent transportation sales tax and the 1/4-cent capital improvements sales tax for alternative transportation projects. The Transportation Management Center is now completed for Springfield and MoDOT. Dynamic message signs, as well as the accompanying cameras and infrastructure, have been erected to inform motorists of traffic issues. These and a number of completed road projects contribute to less congestion on area roadways. The rideshare program continues to add new users and generate interest with employers.

## Technical Assistance

### Description

The Ozarks GreenScore Program is a joint project between Drury University Students in Free Enterprise (SIFE), Drury University's Ozark Center for Sustainable Solutions, Choose Environmental Excellence and the Partnership for Sustainability. The voluntary program provides a tool for businesses and organizations to evaluate their environmental performance and recognize those that are working to reduce the environmental impacts of their operations. The program also provides the businesses and organizations with technical assistance to continually reduce pollution beyond regulatory requirements to benefit the local air quality.

### Additional Benefits

Besides Ozone reductions, additional pollutants such as greenhouse gases, solid waste, hazardous waste, and wastewater would be reduced. Energy conservation would also reduce consumption of natural resources, reduce energy consumption, and reduce costs for businesses and jurisdictions. Several organizations certified by GreenScore programs are reporting significant energy and waste reductions resulting in thousands of dollars of cost savings.

Strategies	Short-Term	Long-Term
<b>Educate counties on the role they can play</b>	Promote energy conservation at homes and businesses	
<b>Regulatory Issues</b>	Voluntary measures to lower air pollutants to reduce health impact	Follow regulations long term impact on local industries and businesses
<b>DNR-specific technical assistance</b>	Funding sources through EPA programs	

### Previous Accomplishments

In 2008, Drury University opened the Ozarks Center for Sustainable Solutions to provide smaller businesses and organizations in the region with the region with technical assistance to identify and implement pollution prevention programs to reduce pollution and operational costs. Since 2008, OCSS has helped businesses reduce waste and conserve energy through on-site technical assistance and training classes offered through community colleges. OCSS has also facilitated the acquisition of over \$1.5 million in clean diesel funding for businesses, schools, and local governments in the region. The Ozone Workplace Network Program was implemented in 2008

## Citizen Initiatives

### Description

Due to the previous designs of gasoline powered lawnmowers, grass trimmers, etc., these devices can emit large amount of air pollutants such as NOx and VOC's. The OCAA will work with existing programs such as Ozark Greenways, Show Me Yards and Neighborhoods, and local lawn and garden equipment dealers to promote alternative equipment and practices that reduce these air pollutants.

### Additional Benefits

Lowers the ground-level ozone formation in the ambient air by operating alternative lawn and garden equipment is the goal.

Strategies	Short-Term	Long-Term
<b>Lawn mower change-out program</b>	Funding through federal grants	Rebate availability
<b>Gasoline-powered equipment to be replaced with manual devices</b>	Provide education to reduce use of gasoline-powered equipment	
<b>Composting yard waste</b>		Compost education programs and how-to clinics, partnering with local lawn and garden stores Promotion of area yard waste drop-off sites Commercially available local compost Success of local compost program with participation by local restaurants and lawn companies Use of local compost by area companies and jurisdictions

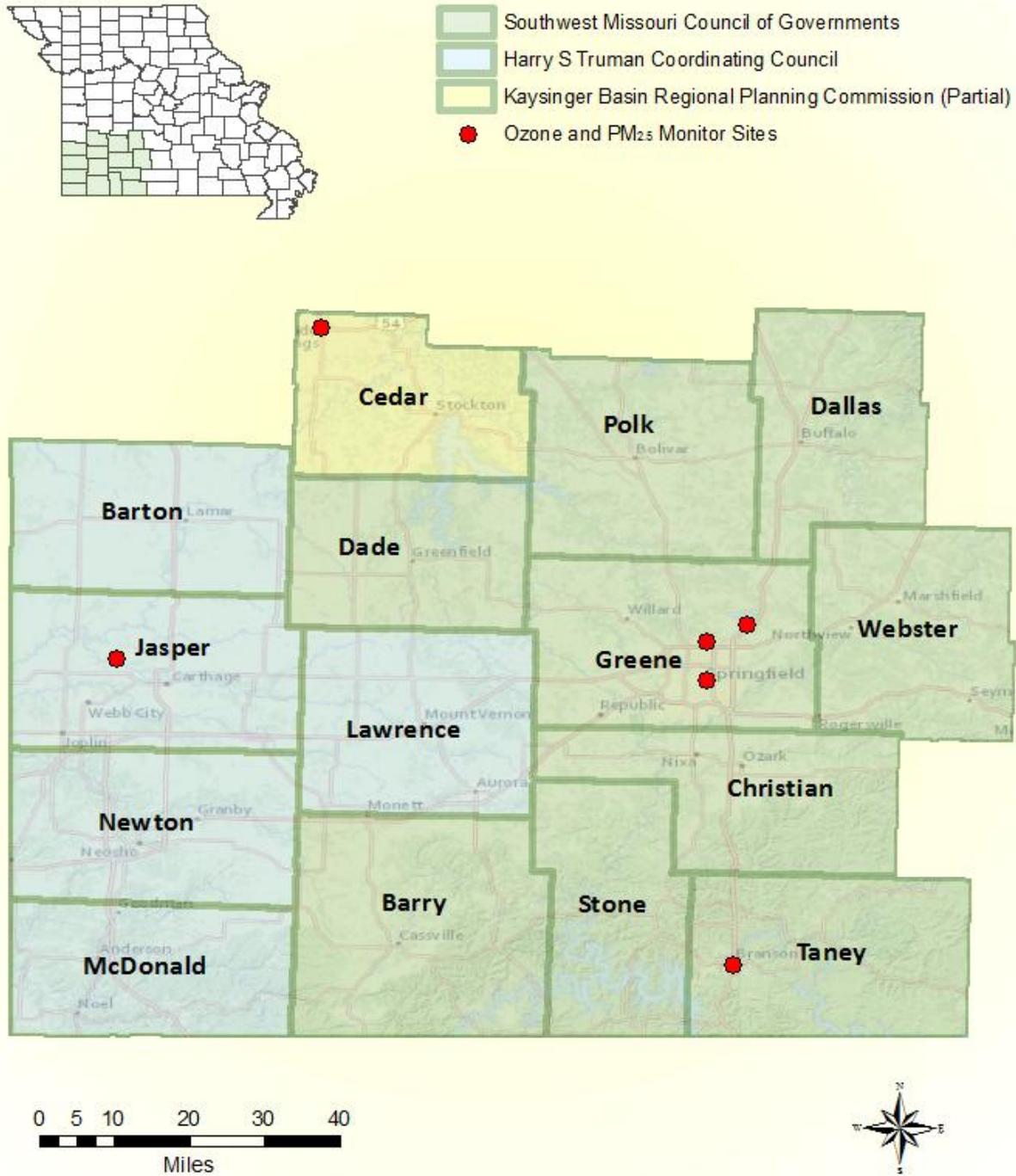
### Previous Accomplishments

OCAA is still searching for available funding through grants to support the implementation of an annual lawnmower exchange program and educational information. This program will provide rebates to individuals that recycle older gasoline powered equipment and purchase new electric or manual equipment.

# Appendix A

## Appendix A – Map of Ozarks Clean Air Alliance Region

### Ozarks Clean Air Alliance Region



# Appendix B

## Appendix B – Letters of Support

Letters of support for the activities of the Ozarks Clean Air Alliance have been received from:

- Christian County Commission
- City of Battlefield, Missouri
- City of Ozark, Missouri
- City of Rogersville, Missouri
- City of Springfield, Missouri
- City of Strafford, Missouri
- City of Willard, Missouri
- Department of Natural Resources' Air Pollution Control Program
- Drury University
- Empire District Electric
- Environmental Task Force of Jasper and Newton Counties
- Greene County Highway Department
- Missouri Department of Transportation
- Ozark Greenways, Incorporated
- Ozarks Transportation Organization
- Partnership for Sustainability
- Southwest Area Manufacturers Association
- Springfield Area Chamber of Commerce
- Springfield-Greene County Environmental Advisory Board
- Springfield-Greene County Health Department
- Springfield-Greene County Health Department, Air Quality Division
- Taney County Health Department
- Taney County, Missouri
- URS Corporation