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STATE OF THE AIR® 2012

AMERICAN LUNG ASSOCIATION®

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Acknowledgments

The *American Lung Association State of the Air® 2012* is the result of the hard work of many people:

In the American Lung Association National Headquarters: Paul G. Billings, who supervised the work; Janice E. Nolen, MS, who directed the project, analyzed data, wrote the text, and coordinated print and web presentations; Nick Suka-chevin, who analyzed data and coordinated field outreach and e-advocacy; Kholla Ahmad, who assisted in the data analysis; Zach Jump, MA, and Elizabeth Lancet, MPH, who converted the raw data into meaningful tables and comparisons and calculated all the population data; Susan Rappaport, MPH, who supervised the data analysis; Norman Edelman, MD, who reviewed the science and health discussions; Jean Haldorsen, who supervised production and creative for the print edition; Betty Yuan-Cardinal, who supervised the online production; Todd Nimirowski, who directed the online presentation; Katherine Barry-Ishibashi who managed content production online; Laura Lavelle, who developed e-outreach and the e-cards; and Carrie Martin, Mary Havell, Gregg Tubbs and Mike Townsend who coordinated internal and external communications and media outreach.

In the nationwide American Lung Association: All Lung Association field offices reviewed and commented on the data for their states. Hard-working staff across the nation went out of their way to ensure that their state and local air directors were in the loop.

Outside the American Lung Association: Allen S. Lefohn of A.S.L. and Associates, who compiled the data; Deborah Shprentz, who researched and reviewed the science; Beaconfire Consulting, who made enhancements to the website features; Randy Tibbott of Our Designs, Inc., who designed the print version; Randy Krum of InfoNewt, LLC, who created the online infographics; and Cindy Wright of CJW Associates, who developed marketing and field materials.

Great appreciation goes to the National Association of Clean Air Administrators, who along with their Executive Director Bill Becker, strove to make this report better through their comments, review and concerns. Many of their members reviewed and commented on the individual state data presented and the methodology to help make this report more accurate. We appreciate them as our partners in the fight against air pollution. This report should in no way be construed as a comment on the work they do.

A key partner in this work is the U.S. Environmental Protection Agency. The professional staff of the Agency has long been dedicated to the fight for clean air.

The American Lung Association assumes sole responsibility for the content of the *American Lung Association State of the Air 2012*.

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Fighting for Air

Designed by Our Designs, Inc., Nashville, TN
Printing and binding by Hard Copy Printing, New York, NY

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The State of the Air 2012

State of the Air 2012 shows that

cleaning up air pollution produces healthier air

across the nation.

18 cities had their fewest unhealthy ozone days in any State of the Air report.

Thanks to the Clean Air Act, we've made great progress in cleaning up air pollution from across the U.S. The *State of the Air 2012* shows that the air quality in many places has improved, but that over 127 million people—41 percent of the nation—still suffer pollution levels that are too often dangerous to breathe. Unhealthy air remains a threat to the lives and health of millions of people in the United States, despite great progress. Air pollution lingers as a widespread and dangerous reality even as some seek to weaken the Clean Air Act, the public health law that has driven the cuts in pollution since 1970.

The *State of the Air 2012* report looks at levels of ozone and particle pollution found in official monitoring sites across the United States in 2008, 2009, and 2010. The report uses the most current quality-assured nationwide data available for these analyses.

For particle pollution, the report examines fine particulate matter ($PM_{2.5}$) in two different ways: averaged year-round (annual average) and over short-term levels (24-hour). For both ozone and short-term particle pollution, the analysis uses a weighted average number of days that allows recognition of places with higher levels of pollution. For the year-round particle pollution rankings, the report uses averages calculated and reported by the U.S. Environmental Protection Agency (EPA). For comparison, the *State of the Air 2011* report covered data from 2007, 2008 and 2009.[1]

Overall Trends

Thanks to stronger standards for pollutants and for the sources of pollution, the United States has seen continued reduction in ozone and particle pollution as

1 A complete discussion of the sources of data and the methodology is included in the chapter, Methodology.

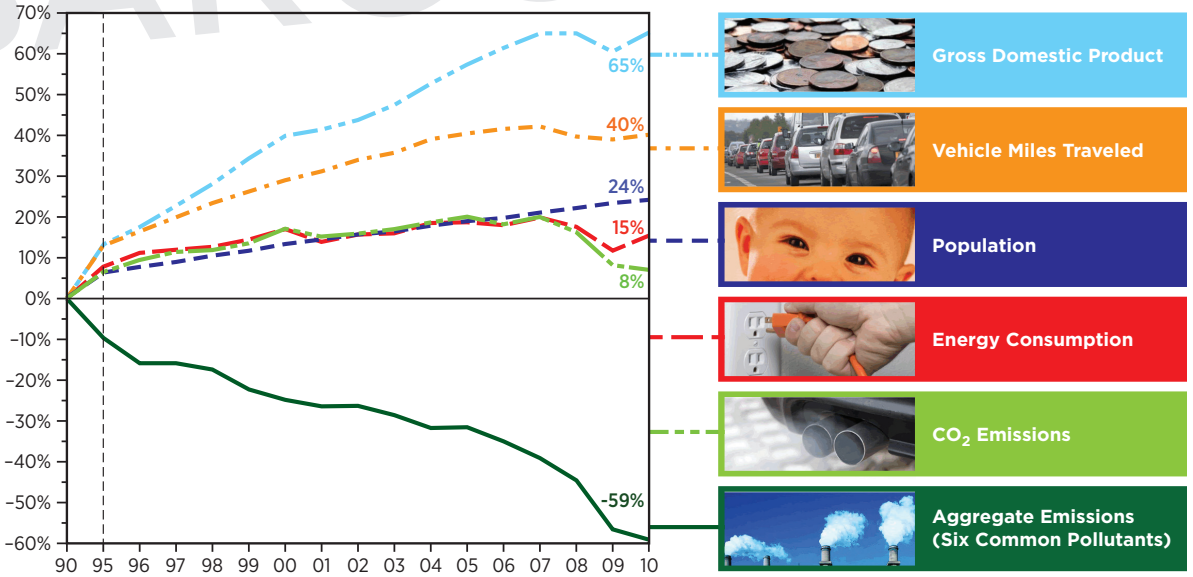

Figure 1. Since 1990, the air we breathe has gotten much cleaner, as shown on this chart. That progress comes thanks to the Clean Air Act. Even as the economy continues to recover from the recession, emissions targeted by the tools in the Clean Air Act continue to drop. (Source: U.S. EPA, Our Nation's Air: Status and Trends Through 2010. February 2012. http://www.epa.gov/air/airtrends/2011/index.html.) Data for CO_2 emissions only goes through 2009.

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well as other pollutants for decades. The chart from the EPA on the previous page shows that since 1990, the air has gotten cleaner while the population, the economy, energy use and miles driven increased greatly. Even as the economy begins to improve after the recession, air emissions continue to drop.

Air quality has improved greatly since 2001. As of 2010[2]:

- Ozone is 13 percent lower;
- Year-round particle pollution is 24 percent lower; and
- Short-term particle pollution is 28 percent lower.

Ozone

Twenty two of the 25 cities with the most ozone pollution improved their air quality over the past year's report. More than half of the country's most smog-polluted cities experienced their best year yet. However, people living there are still forced to breathe air that reaches dangerous levels.

All but two cities with the most year-round particle pollution improved since the last report.

Los Angeles, CA remained the city with the worst ozone pollution problem, but reported its fewest unhealthy ozone days since the State of the Air reports began. Of the 25 metropolitan areas most polluted by ozone, eighteen reported the fewest unhealthy ozone days[3]: Los Angeles, CA; Visalia, CA; Bakersfield, CA; Sacramento, CA; San Diego, CA; Houston, TX; Dallas-Fort Worth, TX; Washington-Baltimore, DC-MD-VA; El Centro, CA; New York, NY; Charlotte, NC; Phoenix, AZ; Pittsburgh, PA; Birmingham, AL; Cincinnati, OH; Baton Rouge, LA; Philadelphia, PA; and Atlanta, GA.

Year-round Particle Pollution

The *State of the Air 2012* finds continued progress in cutting year-round particle pollution, compared to the 2011 report. Thanks to reductions in emissions from coal-fired power plants and the transition to cleaner diesel fuels and engines, cleaner air shows up repeatedly in the monitoring data, especially in the eastern U.S.

All but three cities with the most year-round particle pollution improved over the previous report.[4] Philadelphia, PA, Fairbanks, AK, and Columbus, GA each had worse average year-round levels in 2008-2010 than in 2007–2009. Bakersfield, CA, remained the city with the highest year-round average levels. Improving over the previous report were these 24 metropolitan areas: Bakersfield, CA; Hanford, CA; Los Angeles, CA; Visalia, CA; Fresno, CA; Phoenix, AZ; Cincinnati, OH; Louisville, KY; St. Louis, MO; Philadelphia, PA; Birmingham, AL; Weirton-Steubenville, WV-OH; Indianapolis, IN; Cleveland, OH; Dayton, OH; Charleston, WV; Huntington, WV; Parkersburg, WV; Wheeling, WV; Houston, TX; Atlanta, GA; Davenport, IA; Fairmont, WV; and Hagerstown, MD.

Four cities moved to the list of the most polluted cities this year despite having improved annual particle average levels because other cities made greater improvements. Those cities included Wheeling, WV; Atlanta, GA; Fairmont, WV; and Davenport, IA.

Six cities that had previously been ranked among the most polluted improved enough to fall out of the list: Detroit, MI; New York, NY; Lancaster, PA; York, PA; Modesto, CA; and Knoxville, TN. This report marks the first time Detroit and York have been off this list entirely.

Twenty of these cities actually had average year-round particle pollution below the official "safe" level, the EPA-adopted

2 U.S. Environmental Protection Agency. Our Nation's Air: Status and Trends Through 2010. February 2012. EPA-454/R-12-001. http://www.epa.gov/air/airtrends/2011/index.html.

3 Full names for all these metropolitan areas can be found in the tables showing the most polluted and cleanest cities. The full metropolitan areas often include multiple counties, incorporated cities and counties in adjacent states.

4 The usual list of 25 cities with the most year-round particle pollution actually includes 27 cities because of ties in the rankings values among many cities.

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national air quality standard. However, that standard is out of date. The American Lung Association and other public health and medical groups have long supported a much more protective national air quality standard for particle pollution. The Lung Association has taken legal action to require EPA to update the particle pollution standards.

Short-term Particle Pollution

Nine cities dropped off the list of the 25 cities with the worst short-term levels of particle pollution in 2008-2010.

Among the 26 cities with the worst short-term levels of particle pollution, thirteen cities improved in 2008-2010: that is, they had fewer unhealthy days or lower daily levels. In addition, nine cities that were on this list in previous reports moved off the list entirely, including one—Birmingham, AL—that had been on since the list began. Twelve of the cities on the list had more high particle days in 2008-2010 than in the previous report. Although "short-term" particle pollution looks at the same type of pollution that the year-round levels do, this measure focuses on the spikes in particle levels that can last from hours to days. Those days or weeks of high levels can be dangerous, even deadly.

In 2008-2010, these thirteen cities improved, cutting their average number of days with high particle levels: Bakersfield, CA(still ranked most polluted); Fresno, CA; Pittsburgh, PA; Salt Lake City, UT; Provo, UT; Visalia, CA; Eugene-Springfield, OR; Stockton, CA; Chicago, IL; San Diego, CA; Sacramento, CA; Davenport, IA; Philadelphia, PA. Nine previously ranked cities had improved enough to drop off the most polluted list this year: Birmingham, AL; Louisville, KY; Phoenix, AZ; San Jose-San Francisco-Oakland, CA; Wheeling, WV; Seattle-Tacoma, WA; Macon, GA; Portland, OR; and Madison, WI. Four cities had their lowest average yet, despite still being among the 25 most polluted: Pittsburgh, PA; Visalia, CA; Philadelphia, PA; and San Diego, CA.

Five cities were never ranked on this list before but moving to this list because so many other cities had fewer unhealthy air days: Las Cruces, NM; Harrisburg, PA; Washington, DC-Baltimore, MD; South Bend, IN; and Yakima, WA. The remaining cities on the list had more days or higher daily levels than in the last report: Hanford, CA; Los Angeles, CA; Modesto, CA; Logan, UT; Milwaukee, WI; Fairbanks, AK; Merced, CA; and Green Bay, WI.

Cleanest Cities

Only one city emerged as the cleanest for all three categories: Santa Fe-Espanola, NM. Five cities ranked as the cleanest cities for both ozone and year-round particle pollution:

- Bismarck, ND
- Duluth, MN-WI
- Honolulu, HI
- Port S. Lucie-Sebastian-Vero Beach, FL.
- Rapid City, SD

Seven cities ranked as the cleanest for both ozone and short-term particle pollution:

- Brownsville-Harlingen-Raymondville, TX
- Champaign-Urbana, IL
- Decatur, IL
- Florence-Muscle Shoals, AL
- Monroe-Bastrop, LA
- Peoria-Canton, IL
- Springfield, IL

Fifteen cities ranked as the cleanest for both measures of particle pollution:

- Albuquerque, NM
- Bangor, ME
- Burlington, VT
- Cape Coral-Fort Myers, FL
- Cheyenne, WY
- Claremont-Lebanon, NH-VT
- Colorado Springs, CO
- Flagstaff, AZ
- Fort Collins-Loveland, CO
- Gainesville, FL
- Palm Bay-Melbourne-Titusville, FL
- Prescott, AZ
- Salinas, CA
- Sarasota, FL
- Tucson, AZ

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Over **5.7 million** people in the US live in counties where the outdoor air failed all three tests.

People At Risk

Looking at the nation as a whole, the American Lung Association *State of the Air 2012* finds—

- **More than 4 in 10 people (41%) in the United States live in counties that have unhealthful levels of either ozone or particle pollution.**
  Over 127.2 million Americans live in the 235 counties where they are exposed to unhealthful levels of air pollution in the form of either ozone or short-term or year-round levels of particles.
- **Nearly 4 in 10 people in the United States (38.5%) live in areas with unhealthful levels of ozone.**
  Counties that were graded F for ozone levels have a combined population of almost 116.7 million. These people live in the 195 counties where the monitored air quality places them at risk for decreased lung function, respiratory infection, lung inflammation and aggravation of respiratory illness. The actual number who breathe unhealthy levels of ozone is likely much larger, since this number does not include people who live in adjacent counties in metropolitan areas where no monitors exist.
- **Nearly one in six (16.1%) of people in the United States live in an area with unhealthful short-term levels of particle pollution.**
  Nearly 50 million Americans live in 66 counties that experienced too many days with unhealthy spikes in particle pollution, a decrease from the last report. Short-term spikes in particle pollution can last from hours to several days and can increase the risk of heart attacks, strokes and emergency-room visits for asthma and cardiovascular disease, and most importantly, can increase the risk of early death.
- **Nearly 6.4 million people (2.1%) in the United States live in an area with unhealthful year-round levels of particle pollution.**
  These people live in areas where chronic levels are regularly a threat to their health. Even when levels are fairly low, exposure to particles over time can increase risk of hospitalization for asthma, damage to the lungs and, significantly, increase the risk of premature death.
- **Over 5.7 million people (1.9%) in the United States live in six counties with unhealthful levels of all three: ozone and short-term and year-round particle pollution.**

With the risks from airborne pollution so great, the American Lung Association seeks to inform people who may be in danger. Many people are at greater risk because of their age or because they have asthma or other chronic lung disease, cardiovascular disease or diabetes. The following list identifies the numbers of people in each at-risk group.

- **People with Asthma—**Nearly 2.5 million children and over 7.4 million adults with asthma live in parts of the United States with very high levels of ozone. Over 3.1 million adults and over 940,000 children with asthma live in areas with high levels of short-term particle pollution. Over 382,000 adults and over 125,000 children with asthma live in counties with unhealthful levels of year-round particle pollution.
- **Older and Younger—**Over 13.7 million adults age 65 and over and nearly 29 million children age 18 and under live in counties with unhealthful ozone levels. Over 5.6 million seniors and over 12.5 million children live in counties with unhealthful short-term levels of particle pollution. Over 765,000 seniors and over 1.7 million children live in counties with unhealthful levels of year-round particle pollution.
- **Chronic Bronchitis and Emphysema—**Over 3.7 million people with chronic bronchitis and nearly 1.6 million with emphysema live in counties with unhealthful ozone levels. Over 1.5 million people with chronic bronchitis and over 652,000 with emphysema live in counties with unhealthful levels of short-term particle pollution. Over 196,000 people with chronic bronchitis and more than 84,000 with emphysema live in counties with unhealthful year-round levels of particle pollution.

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The nation must

keep the Clean Air Act strong

to protect public health.

- **Cardiovascular Disease—**Over 11.6 million people with cardiovascular diseases live in counties with unhealthful levels of short-term particle pollution; nearly 1.5 million live in counties with unhealthful levels of year-round particle pollution. Cardiovascular diseases include coronary heart disease, heart attacks, strokes, hypertension and angina pectoris.
- **Diabetes—**Over 3.1 million people with diabetes live in counties with unhealthful levels of short-term particle pollution; over 409,000 live in counties with unhealthful levels of year-round particle pollution. Research indicates that because diabetics are already at higher risk of cardiovascular disease, they may face increased risk due to the impact of particle pollution on their cardiovascular systems.
- **Poverty—**Over 16.9 million people with incomes meeting the federal poverty definition live in counties with unhealthful levels of ozone. Over 7.9 million people in poverty live in counties with unhealthful levels of short-term particle pollution, and over 1.1 million live in counties with unhealthful year-round levels of particle pollution. Evidence shows that people who have low incomes may face higher risk from air pollution.

What Needs To Be Done

Many major challenges require the Administration and Congress to take steps to protect the health of the public. Here are a few that the American Lung Association calls for to improve the air we all breathe.

- **Protect the Clean Air Act.** The continued improvement shown in the State of the Air report is possible because of the Clean Air Act, the nation's strong public health law that the U.S. Congress passed 40 years ago. The Act requires that the EPA and each state take steps to clean up the air. Some members of Congress are proposing changes to the Clean Air Act that could dismantle progress made in the last 40 years. The nation must keep that law strong to continue to protect public health.
- **Clean up dirty power plants.** Over 400 coal-fired power plants in over 40 states are among the largest contributors to particulate pollution, ozone, mercury, and global warming. Their pollution blows across state lines into states hundreds of miles away. They produce 84 known hazardous air pollutants, including arsenic, mercury, dioxins, formaldehyde and hydrogen chloride, as shown in the Lung Association report Toxic Air: The Case for Cleaning Up Coal-fired Power Plants. In 2011, EPA issued the final rules that will cut the emissions that create ozone and particle pollution and, for the first time, set national limits on the toxic pollutants they can emit. However, some have challenged these standards in the courts. The Lung Association has taken legal steps to defend EPA's efforts. Congress needs to support EPA's actions to clean these plants up.
- **Clean up industrial, commercial and institutional boilers and incinerators.** Boilers provide power and fuel processes for industry, commercial facilities and institutions. Similar to power plants, but smaller, boilers are also more numerous: there are 1.5 million of them. Many produce toxic air emissions, including the same toxic emissions that power plants produce. EPA needs to adopt strong final standards to limit emissions from these boilers.
- **Clean up the existing fleet of dirty diesel vehicles and heavy equipment.** Rules EPA put in effect over the past several years mean that new diesel vehicles and equipment must be much cleaner. Still, the vast majority of diesel trucks, buses, and heavy equipment (such as bulldozers) will likely be in use for thousands more miles, spewing dangerous diesel exhaust into communities and neighborhoods. The good news is that affordable technology exists to cut emissions by 90 percent. Congress needs to fund EPA's diesel cleanup ("retrofit") program. Congress should also require that clean diesel equipment be used in federally-funded construction programs.
- **Strengthen the particle pollution standards.** In 2006, EPA failed to strengthen the annual standard for fine particles,

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despite the near unanimous recommendation by their official science advisors. EPA tightened the 24-hour standard, though not to the level the Lung Association and other public health groups recommended. Last year, the Lung Association and its partners issued Sick of Soot, a report that showed that EPA can save thousands of lives each year by dramatically strengthening the annual average and the 24-hour standards. However, EPA ignored its own deadlines to complete the review, failing to complete steps essential to protecting public health. The Lung Association filed legal action against EPA to require them to follow the law.

- **Clean up harmful emissions from tailpipes.** EPA needs to set new pollution standards for cars, light trucks, SUVs and reduced sulfur in gasoline to reduce nitrogen oxides, hydrocarbons, and particle pollution emissions. Science shows that people who live or work near highways or busy roads bear a disproportionate health burden from air pollution. Cleaner gasoline will reduce pollution from every car on the road. Cleaner cars will help reduce this impact for all, but especially those who live closest to the traffic.

What You Can Do

Individual citizens can do a great deal to help reduce air pollution outdoors as well. Simple but effective ways include—

- **Send a message to Congress:** Don't block the power plant mercury and air toxic standards. Send a message to your Senators urging them to support cleaner, healthier air and oppose measures to block or delay the cleanup of hazardous air pollutants from coal-fired power plants.
- **Share your story.** Do you or any member of your family have a personal reason to want healthier, cleaner air? Let us know how healthy air affects you.
- **Drive less.** Combine trips, walk, bike, carpool or vanpool, and use buses, subways or other alternatives to driving. Vehicle emissions are a major source of air pollution. Support community plans that provide ways to get around that don't require a car, such as more sidewalks, bike trails and transit systems.
- **Use less electricity.** Turn out the lights and use energy-efficient appliances. Generating electricity is one of the biggest sources of pollution, particularly in the eastern United States.
- **Don't burn wood or trash.** Burning firewood and trash are among the largest sources of particles in many parts of the country. If you must use a fireplace or stove for heat, convert your woodstoves to natural gas, which has far fewer polluting emissions. Compost and recycle as much as possible and dispose of other waste properly; don't burn it. Support efforts in your community to ban outdoor burning of construction and yard wastes. Avoid the use of outdoor hydronic heaters, also called outdoor wood boilers, which are frequently much more polluting than woodstoves.
- **Make sure your local school system requires clean school buses**, which includes replacing or retrofitting old school buses with filters and other equipment to reduce emissions. Make sure your local schools don't idle their buses, a step that can immediately reduce emissions.
- **Get involved.** Participate in your community's review of its air pollution plans and support state and local efforts to clean up air pollution. To find your local air pollution control agency, go to www.4cleanair.org.

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People at Risk from Short-term Particle Pollution (24-Hour $PM_{2.5}$)

	Chronic Diseases							Age Groups			
In Counties where the Grades were:	**Adult Asthma**	**Pediatric Asthma**	**Chronic Bronchitis**	**Emphysema**	**Cardiovascular Disease**	**Diabetes**	**Poverty**	**Under 18**	**65 and Over**	**Total Population**	**Number of Counties**
Grade A (0.0)	3,850,344	1,224,778	1,905,610	833,454	14,471,898	4,030,494	8,839,813	13,861,895	7,536,519	58,147,157	243
Grade B (0.3-0.9)	3,568,530	1,186,378	1,762,544	756,566	13,283,796	3,757,038	7,537,702	13,118,052	6,647,407	54,306,512	174
Grade C (1.0-2.0)	2,326,283	715,258	1,107,507	473,125	8,315,275	2,248,692	4,991,486	7,825,896	4,205,037	33,868,423	73
Grade D (2.1-3.2)	1,171,958	378,178	547,168	242,111	4,178,787	1,192,706	2,737,614	3,966,057	2,209,184	16,609,067	34
Grade F (3.3+)	3,109,432	941,537	1,565,247	652,865	11,625,599	3,114,187	7,967,442	12,502,881	5,658,542	49,674,998	66
National Population in Counties with $PM_{2.5}$ Monitors	14,360,662	4,543,611	7,055,175	3,032,982	53,159,909	14,683,567	32,757,753	52,441,719	26,942,976	217,604,676	643

People at Risk from Year-Round Particle Pollution (Annual $PM_{2.5}$)

	Chronic Diseases							Age Groups			
In Counties where the Grades were:	**Adult Asthma**	**Pediatric Asthma**	**Chronic Bronchitis**	**Emphysema**	**Cardiovascular Disease**	**Diabetes**	**Poverty**	**Under 18**	**65 and Over**	**Total Population**	**Number of Counties**
Pass	12,905,672	4,082,684	6,318,917	2,710,055	47,563,023	13,124,798	29,160,892	46,770,173	24,005,443	194,829,442	516
Fail	382,438	125,818	196,209	84,375	1,475,571	409,357	1,136,616	1,722,011	765,217	6,339,080	8
National Population in Counties with $PM_{2.5}$ Monitors	14,360,662	4,543,611	7,055,175	3,032,982	53,159,909	14,683,567	32,757,753	52,441,719	26,942,976	217,604,676	643

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People at Risk from Ozone

		Chronic Diseases					Age Groups			
In Counties where the Grades were:		**Adult Asthma**	**Pediatric Asthma**	**Chronic Bronchitis**	**Emphysema**	**Poverty**	**Under 18**	**65 and Over**	**Total Population**	**Number of Counties**
Grade A	(0.0)	1,454,784	439,754	732,759	323,723	3,076,002	5,210,044	2,955,503	22,162,912	159
Grade B	(0.3-0.9)	1,688,567	510,866	837,603	377,760	3,865,120	5,840,390	3,549,351	25,090,373	141
Grade C	(1.0-2.0)	2,427,953	769,798	1,156,558	504,780	5,253,405	8,422,366	4,537,246	35,296,806	150
Grade D	(2.1-3.2)	1,633,953	474,629	757,376	329,220	3,389,677	5,146,451	2,961,895	22,799,427	72
Grade F	(3.3+)	7,415,180	2,464,572	3,726,745	1,577,970	16,902,832	28,997,486	13,716,301	116,672,535	195
National Population in Counties with Ozone Monitors		14,879,994	4,742,206	7,337,644	3,168,500	33,049,382	54,567,936	28,214,041	225,921,110	761

Note: The *State of the Air 2012* covers the period 2008-2010. A complete discussion of the methodology begins on page 40.

People at Risk In 25 U.S. Cities Most Polluted by Short-term Particle Pollution (24-hour $PM_{2.5}$)

2012 Rank[1]	Metropolitan Statistical Areas	Total Population[2]	Under 18[3]	65 and Over[3]	Pediatric Asthma[4,8]	Adult Asthma[5,8]	Chronic Bronchitis[6,8]	Emphysema[7,8]	CV Disease[9]	Diabetes[10]	Poverty[11]
1	Bakersfield-Delano, CA	839,631	254,081	75,437	16,855	44,572	24,047	9,398	173,566	47,097	172,531
2	Fresno-Madera, CA	1,081,315	320,356	110,683	21,251	57,991	31,596	12,865	231,750	63,239	276,242
3	Hanford-Corcoran, CA	152,982	42,548	12,030	2,822	8,348	4,423	1,619	31,019	8,299	29,606
4	Los Angeles-Long Beach-Riverside, CA	17,877,006	4,565,478	1,951,619	302,853	1,017,973	557,067	228,858	4,109,426	1,125,917	2,869,935
5	Modesto, CA	514,453	147,158	54,831	9,762	28,134	15,444	6,401	114,432	31,427	100,554
6	Pittsburgh-New Castle, PA	2,447,393	494,323	424,210	47,100	192,733	88,118	42,691	702,228	210,278	292,906
7	Salt Lake City-Ogden-Clearfield, UT	1,744,886	533,826	153,471	36,709	110,172	49,331	19,048	353,672	79,802	210,795
8	Logan, UT-ID	125,442	40,137	10,337	2,658	7,717	3,345	1,228	23,253	5,195	18,653
9	Fairbanks, AK	97,581	25,001	6,375	1,731	7,184	2,919	1,026	20,296	3,491	8,804
10	Merced, CA	255,793	80,698	23,960	5,353	13,302	7,191	2,853	52,121	14,142	58,212
11	Provo-Orem, UT	526,810	185,814	34,500	12,777	30,927	12,976	4,395	87,084	18,883	75,775
12	Visalia-Porterville, CA	442,179	144,124	41,779	9,561	22,675	12,297	4,931	89,570	24,362	108,143
13	Eugene-Springfield, OR	351,715	69,689	52,781	5,256	26,830	12,309	5,587	95,028	20,424	65,849
14	Green Bay, WI	306,241	75,104	38,204	6,671	19,118	10,013	4,367	76,174	16,251	31,524
15	Stockton, CA	685,306	200,724	71,181	13,315	37,106	20,338	8,380	150,333	41,250	128,331
16	Las Cruces, NM	209,233	55,858	25,881	4,456	14,971	6,503	2,806	48,910	12,556	52,262
17	Harrisburg-Carlisle-Lebanon, PA	683,043	152,398	102,609	14,521	52,634	23,488	10,866	183,301	54,575	71,977
18	Chicago-Naperville-Michigan City, IL-IN-WI	9,686,021	2,431,946	1,110,997	236,714	668,440	307,949	129,526	2,300,130	626,492	1,304,822
18	San Diego-Carlsbad-San Marcos, CA	3,095,313	724,168	351,425	48,038	181,080	99,026	40,726	730,127	199,827	445,556
20	Milwaukee-Racine-Waukesha, WI	1,751,316	431,446	221,571	38,324	109,226	57,101	24,984	434,587	92,773	267,038
21	Sacramento—Arden-Arcade—Yuba City, CA-NV	2,461,780	610,637	306,306	40,690	143,119	79,611	34,539	603,037	166,939	361,014
22	Davenport-Moline-Rock Island, IA-IL	379,690	89,568	57,111	7,347	24,569	12,863	5,987	100,626	25,407	49,380
22	Philadelphia-Camden-Vineland, PA-NJ-DE-MD	6,533,683	1,526,723	871,837	149,002	483,714	217,185	96,168	1,660,434	479,061	821,977
22	Washington-Baltimore-Northern Virginia, DC-MD-VA-WV	8,526,282	2,013,794	928,610	219,161	554,909	275,715	113,600	2,045,032	568,526	770,807
25	South Bend-Elkhart-Mishawaka, IN-MI	563,834	146,933	74,786	13,197	39,968	18,121	8,102	139,037	41,734	87,904
25	Yakima, WA	243,231	74,038	28,122	4,453	16,242	7,193	3,096	54,119	12,716	57,612

EMBARGOED

Notes:

1. Cities are ranked using the highest weighted average for any county within that Combined or Metropolitan Statistical Area.
2. **Total Population** represents the at-risk populations for all counties within the respective Combined or Metropolitan Statistical Area.
3. Those **18 and under** and **65 and over** are vulnerable to $PM_{2.5}$ and are, therefore, included. They should not be used as population denominators for disease estimates.
4. **Pediatric asthma** estimates are for those under 18 years of age and represent the **estimated** number of people who had asthma in 2010 based on state rates (BRFSS) applied to population estimates (U.S. Census).
5. **Adult asthma** estimates are for those 18 years and older and represent the **estimated** number of people who had asthma in 2010 based on state rates (BRFSS) applied to population estimates (U.S. Census).
6. **Chronic bronchitis** estimates are for adults 18 and over who had been diagnosed in 2010, based on national rates (NHIS) applied to population estimates (U.S. Census).
7. **Emphysema** estimates are for adults 18 and over who have been diagnosed within their lifetime, based on national rates (NHIS) applied to population estimates (U.S. Census).
8. Adding across rows does not produce valid estimates, e.g., summing pediatric and adult asthma and/or emphysema and chronic bronchitis.
9. **CV disease** is cardiovascular disease and estimates are based on National Heart Lung and Blood Institute (NHLBI) estimates of cardiovascular disease applied to population estimates (U.S. Census).
10. **Diabetes** estimates are for adults 18 and over who have been diagnosed within their lifetime, based on state rates (BRFSS) applied to population estimates (U.S. Census).
11. **Poverty** estimates come from the U.S. Census Bureau and are for all ages.

People at Risk In 25 U.S. Cities Most Polluted by Year-Round Particle Pollution (Annual $PM_{2.5}$)

2012 Rank[1]	Metropolitan Statistical Areas	Total Population[2]	Under 18[3]	65 and Over[3]	Pediatric Asthma[4,8]	Adult Asthma[5,8]	Chronic Bronchitis[6,8]	Emphysema[7,8]	CV Disease[9]	Diabetes[10]	Poverty[11]
1	Bakersfield-Delano, CA	839,631	254,081	75,437	16,855	44,572	24,047	9,398	173,566	47,097	172,531
2	Hanford-Corcoran, CA	152,982	42,548	12,030	2,822	8,348	4,423	1,619	31,019	8,299	29,606
3	Los Angeles-Long Beach-Riverside, CA	17,877,006	4,565,478	1,951,619	302,853	1,017,973	557,067	228,858	4,109,426	1,125,917	2,869,935
4	Visalia-Porterville, CA	442,179	144,124	41,779	9,561	22,675	12,297	4,931	89,570	24,362	108,143
5	Fresno-Madera, CA	1,081,315	320,356	110,683	21,251	57,991	31,596	12,865	231,750	63,239	276,242
6	Pittsburgh-New Castle, PA	2,447,393	494,323	424,210	47,100	192,733	88,118	42,691	702,228	210,278	292,906
7	Phoenix-Mesa-Glendale, AZ	4,192,887	1,107,561	514,712	103,850	297,158	130,677	56,150	981,249	250,407	676,590
8	Cincinnati-Middletown-Wilmington, OH-KY-IN	2,172,191	541,640	265,863	52,022	159,476	70,437	30,544	534,359	160,761	297,254
9	Louisville-Jefferson County-Elizabethtown-Scottsburg, KY-IN	1,427,483	344,414	181,225	35,354	110,720	46,992	20,586	358,161	108,671	212,960
10	Philadelphia-Camden-Vineland, PA-NJ-DE-MD	6,533,683	1,526,723	871,837	149,002	483,714	217,185	96,168	1,660,434	479,061	821,977
10	St. Louis-St. Charles-Farmington, MO-IL	2,902,951	691,253	388,478	73,624	197,528	96,454	42,981	740,304	207,624	377,927
12	Birmingham-Hoover-Cullman, AL	1,208,453	288,331	158,949	33,120	72,591	39,865	17,598	304,358	112,760	202,352
12	Steubenville-Weirton, OH-WV	124,454	24,792	23,112	2,020	8,511	4,573	2,282	36,997	11,773	20,060
14	Cleveland-Akron-Elyria, OH	2,881,937	662,604	431,376	62,126	213,261	98,669	45,842	772,244	233,293	432,423
14	Fairbanks, AK	97,581	25,001	6,375	1,731	7,184	2,919	1,026	20,296	3,491	8,804
14	Indianapolis-Anderson-Columbus, IN	2,080,782	537,309	239,468	47,240	147,611	65,880	27,927	494,231	147,661	301,412
17	Charleston, WV	304,284	65,632	48,538	4,292	17,296	10,731	5,088	84,858	28,530	46,065
17	Columbus-Auburn-Opelika, GA-AL	456,564	110,875	50,422	11,202	26,911	14,390	5,876	105,741	36,206	91,276
17	Dayton-Springfield-Greenville, OH	1,072,891	249,314	162,307	23,376	79,087	36,454	16,955	284,970	86,115	169,263
20	Huntington-Ashland, WV-KY-OH	287,702	61,997	46,625	5,241	19,615	10,019	4,736	78,785	25,083	58,538
20	Parkersburg-Marietta, WV-OH	162,056	34,684	27,634	2,635	10,369	5,771	2,802	46,088	14,900	25,008
20	Wheeling, WV-OH	147,950	29,212	26,446	2,303	9,922	5,402	2,650	43,340	13,886	23,309
23	Houston-Baytown-Huntsville, TX	6,051,363	1,683,279	523,789	127,325	322,604	180,163	69,512	1,298,152	411,138	992,603
24	Atlanta-Sandy Springs-Gainesville, GA-AL	5,618,431	1,489,486	515,559	134,057	319,422	171,459	67,219	1,244,401	391,674	851,796
24	Davenport-Moline-Rock Island, IA-IL	379,690	89,568	57,111	7,347	24,569	12,863	5,987	100,626	25,407	49,380
24	Fairmont-Clarksburg, WV	150,614	31,567	25,022	2,064	8,632	5,333	2,547	42,216	14,143	25,906
24	Hagerstown-Martinsburg, MD-WV	269,140	63,595	36,178	5,950	16,130	8,980	4,009	69,007	21,349	31,317

EMBARGOED

Notes:
1. Cities are ranked using the highest design value for any county within that Combined or Metropolitan Statistical Area.
2. **Total Population** represents the at-risk populations for all counties within the respective Combined or Metropolitan Statistical Area.
3. Those **18 and under** and **65 and over** are vulnerable to $PM_{2.5}$ and are, therefore, included. They should not be used as population denominators for disease estimates.
4. **Pediatric asthma** estimates are for those under 18 years of age and represent the **estimated** number of people who had asthma in 2010 based on state rates (BRFSS) applied to population estimates (U.S. Census).
5. **Adult asthma** estimates are for those 18 years and older and represent the **estimated** number of people who had asthma in 2010 based on state rates (BRFSS) applied to population estimates (U.S. Census).
6. **Chronic bronchitis** estimates are for adults 18 and over who had been diagnosed in 2010, based on national rates (NHIS) applied to population estimates (U.S. Census).
7. **Emphysema** estimates are for adults 18 and over who have been diagnosed within their lifetime, based on national rates (NHIS) applied to population estimates (U.S. Census).
8. Adding across rows does not produce valid estimates, e.g., summing pediatric and adult asthma and/or emphysema and chronic bronchitis.
9. **CV disease** is cardiovascular disease and estimates are based on National Heart Lung and Blood Institute (NHLBI) estimates of cardiovascular disease applied to population estimates (U.S. Census).
10. **Diabetes** estimates are for adults 18 and over who have been diagnosed within their lifetime, based on state rates (BRFSS) applied to population estimates (U.S. Census).
11. **Poverty** estimates come from the U.S. Census Bureau and are for all ages.

People at Risk In 25 Most Ozone-Polluted Cities

2012 Rank[1]	Metropolitan Statistical Areas	Total Population[2]	Under 18[3]	65 and Over[3]	Pediatric Asthma[4,8]	Adult Asthma[5,8]	Chronic Bronchitis[6,8]	Emphysema[7,8]	Poverty[9]
1	Los Angeles-Long Beach-Riverside, CA	17,877,006	4,565,478	1,951,619	302,853	1,017,973	557,067	228,858	2,869,935
2	Visalia-Porterville, CA	442,179	144,124	41,779	9,561	22,675	12,297	4,931	108,143
3	Bakersfield-Delano, CA	839,631	254,081	75,437	16,855	44,572	24,047	9,398	172,531
4	Fresno-Madera, CA	1,081,315	320,356	110,683	21,251	57,991	31,596	12,865	276,242
5	Hanford-Corcoran, CA	152,982	42,548	12,030	2,822	8,348	4,423	1,619	29,606
6	Sacramento--Arden-Arcade--Yuba City, CA-NV	2,461,780	610,637	306,306	40,690	143,119	79,611	34,539	361,014
7	San Diego-Carlsbad-San Marcos, CA	3,095,313	724,168	351,425	48,038	181,080	99,026	40,726	445,556
8	Houston-Baytown-Huntsville, TX	6,051,363	1,683,279	523,789	127,325	322,604	180,163	69,512	992,603
9	San Luis Obispo-Paso Robles, CA	269,637	50,841	41,022	3,373	16,916	9,556	4,342	36,179
10	Merced, CA	255,793	80,698	23,960	5,353	13,302	7,191	2,853	58,212
11	Modesto, CA	514,453	147,158	54,831	9,762	28,134	15,444	6,401	100,554
12	Dallas-Fort Worth, TX	6,697,402	1,850,846	617,125	140,000	357,872	200,820	78,933	960,577
13	Washington-Baltimore-Northern Virginia, DC-MD-VA-WV	8,526,282	2,013,794	928,610	219,161	554,909	275,715	113,600	770,807
14	El Centro, CA	174,528	51,098	18,152	3,390	9,415	5,139	2,104	36,666
15	New York-Newark-Bridgeport, NY-NJ-CT-PA	22,085,649	5,059,741	2,906,533	496,081	1,609,241	733,058	321,030	2,893,957
16	Chico, CA	220,000	46,168	33,817	3,063	13,391	7,563	3,464	43,392
16	Philadelphia-Camden-Vineland, PA-NJ-DE-MD	6,533,683	1,526,723	871,837	149,002	483,714	217,185	96,168	821,977
18	Charlotte-Gastonia-Salisbury, NC-SC	2,402,623	610,448	269,005	55,318	136,032	75,955	31,737	367,170
19	Phoenix-Mesa-Glendale, AZ	4,192,887	1,107,561	514,712	103,850	297,158	130,677	56,150	676,590
20	Pittsburgh-New Castle, PA	2,447,393	494,323	424,210	47,100	192,733	88,118	42,691	292,906
21	Birmingham-Hoover-Cullman, AL	1,208,453	288,331	158,949	33,120	72,591	39,865	17,598	202,352
21	Cincinnati-Middletown-Wilmington, OH-KY-IN	2,172,191	541,640	265,863	52,022	159,476	70,437	30,544	297,254
23	Stockton, CA	685,306	200,724	71,181	13,315	37,106	20,338	8,380	128,331
24	Baton Rouge-Pierre Part, LA	825,905	204,083	89,297	16,955	41,518	26,153	10,735	130,090
25	Atlanta-Sandy Springs-Gainesville, GA-AL	5,618,431	1,489,486	515,559	134,057	319,422	171,459	67,219	851,796

EMBARGOED

Notes:
1. Cities are ranked using the highest weighted average for any county within that Combined or Metropolitan Statistical Area.
2. **Total Population** represents the at-risk populations for all counties within the respective Combined or Metropolitan Statistical Area.
3. Those **18 and under** and **65 and over** are vulnerable to $PM_{2.5}$ and are, therefore, included. They should not be used as population denominators for disease estimates.
4. **Pediatric asthma** estimates are for those under 18 years of age and represent the **estimated** number of people who had asthma in 2010 based on state rates (BRFSS) applied to population estimates (U.S. Census).
5. **Adult asthma** estimates are for those 18 years and older and represent the **estimated** number of people who had asthma in 2010 based on state rates (BRFSS) applied to population estimates (U.S. Census).
6. **Chronic bronchitis** estimates are for adults 18 and over who had been diagnosed in 2010, based on national rates (NHIS) applied to population estimates (U.S. Census).
7. **Emphysema** estimates are for adults 18 and over who have been diagnosed within their lifetime, based on national rates (NHIS) applied to population estimates (U.S. Census).
8. Adding across rows does not produce valid estimates, e.g., summing pediatric and adult asthma and/or emphysema and chronic bronchitis.
9. **Poverty** estimates come from the U.S. Census Bureau and are for all ages.

People at Risk in 25 Counties Most Polluted by Short-term Particle Pollution (24-hour $PM_{2.5}$)

2012 Rank[1]	County	ST	Total Population[2]	At-Risk Groups									High $PM_{2.5}$ Days in Unhealthy Ranges, 2008–2010	
				Under 18[3]	65 and Over[3]	Pediatric Asthma[4,8]	Adult Asthma[5,8]	Chronic Bronchitis[6,8]	Emphysema[7,8]	CV Disease[9]	Diabetes[10]	Poverty[11]	Weighted Avg.[12]	Grade[13]
1	Kern	CA	839,631	254,081	75,437	16,855	44,572	24,047	9,398	173,566	47,097	172,531	53.8	F
2	Fresno	CA	930,450	277,507	93,421	18,409	49,721	27,034	10,932	197,670	53,861	245,330	41.2	F
3	Kings	CA	152,982	42,548	12,030	2,822	8,348	4,423	1,619	31,019	8,299	29,606	29.8	F
4	Riverside	CA	2,189,641	620,108	258,586	41,135	120,166	66,447	28,441	498,296	137,270	354,768	28.8	F
5	Stanislaus	CA	514,453	147,158	54,831	9,762	28,134	15,444	6,401	114,432	31,427	100,554	26.8	F
6	Allegheny	PA	1,223,348	241,663	205,059	23,026	96,938	43,705	20,759	344,552	102,934	141,453	26.3	F
7	Hawaii	HI	185,079	42,280	26,834	4,662	13,426	6,404	2,964	50,212	12,390	33,285	23.5	F
8	Los Angeles	CA	9,818,605	2,402,208	1,065,699	159,352	566,147	308,756	125,611	2,266,565	619,371	1,699,264	20.3	F
9	Salt Lake	UT	1,029,655	299,781	89,367	20,614	66,384	29,531	11,231	210,224	47,227	139,675	19.3	F
10	Cache	UT	112,656	35,639	8,694	2,451	6,988	2,985	1,062	20,466	4,503	17,323	15.0	F
11	Shoshone	ID	12,765	2,660	2,537	122	915	474	245	3,910	985	2,606	12.7	F
12	Fairbanks North Star Borough	AK	97,581	25,001	6,375	1,731	7,184	2,919	1,026	20,296	3,491	8,804	11.8	F
13	Merced	CA	255,793	80,698	23,960	5,353	13,302	7,191	2,853	52,121	14,142	58,212	11.7	F
14	Utah	UT	516,564	181,977	33,457	12,514	30,344	12,705	4,280	85,060	18,413	74,539	11.5	F
15	Weber	UT	231,236	69,311	23,388	4,766	14,730	6,698	2,713	48,982	11,201	31,542	10.0	F
16	Tulare	CA	442,179	144,124	41,779	9,561	22,675	12,297	4,931	89,570	24,362	108,143	9.8	F
17	Muscatine	IA	42,745	11,164	5,843	695	2,476	1,393	635	10,809	2,403	5,782	9.2	F
18	Lane	OR	351,715	69,689	52,781	5,256	26,830	12,309	5,587	95,028	20,424	65,849	8.7	F
19	Brown	WI	248,007	61,823	28,789	5,491	15,440	7,963	3,378	59,793	12,676	24,829	7.0	F
20	San Joaquin	CA	685,306	200,724	71,181	13,315	37,106	20,338	8,380	150,333	41,250	128,331	6.8	F
21	Lemhi	ID	7,936	1,576	1,758	73	582	308	167	2,602	659	1,660	6.7	F
21	Doña Ana	NM	209,233	55,858	25,881	4,456	14,971	6,503	2,806	48,910	12,556	52,262	6.7	F
23	Plumas	CA	20,007	3,601	4,154	239	1,308	784	410	6,527	1,886	3,012	6.5	F
23	Lewis and Clark	MT	63,395	14,376	8,757	990	4,455	2,189	996	17,049	3,474	7,041	6.5	F
25	San Bernardino	CA	2,035,210	594,588	181,348	39,442	109,976	59,433	23,199	429,655	116,882	362,099	6.3	F
25	Cumberland	PA	235,406	48,712	36,745	4,641	18,484	8,232	3,818	64,210	19,126	16,451	6.3	F

EMBARGOED

Notes:

1. Counties are ranked by weighted average. See note 12 below.
2. **Total Population** represents the at-risk populations in counties with $PM_{2.5}$ monitors.
3. Those **18 and under** and **65 and over** are vulnerable to $PM_{2.5}$ and are, therefore, included. They should not be used as population denominators for disease estimates.
4. **Pediatric asthma** estimates are for those under 18 years of age and represent the estimated number of people who had asthma in 2010 based on state rates (BRFSS) applied to population estimates (U.S. Census).
5. **Adult asthma** estimates are for those 18 years and older and represent the estimated number of people who had asthma in 2010 based on state rates (BRFSS) applied to population estimates (U.S. Census).
6. **Chronic bronchitis** estimates are for adults 18 and over who had been diagnosed in 2010, based on national rates (NHIS) applied to population estimates (U.S. Census).
7. **Emphysema** estimates are for adults 18 and over who have been diagnosed within their lifetime, based on national rates (NHIS) applied to population estimates (U.S. Census).
8. Adding across rows does not produce valid estimates, e.g., summing pediatric and adult asthma and/or emphysema and chronic bronchitis.
9. **CV disease** estimates are based on National Heart Lung and Blood Institute (NHLBI) estimates of cardiovascular disease applied to population estimates (U.S. Census).
10. **Diabetes** estimates are for adults 18 and over who have been diagnosed within their lifetime, based on state rates (BRFSS) applied to population estimates (U.S. Census).
11. **Poverty** estimates come from the U.S. Census Bureau and are for all ages.
12. The **Weighted Average** was derived by counting the number of days in each unhealthful range (orange, red, purple, maroon) in each year (2008-2010), multiplying the total in each range by the assigned standard weights (i.e., 1 for orange, 1.5 for red, 2.0 for purple, 2.5 for maroon), and calculating the average.
13. **Grade** is assigned by weighted average as follows: A=0.0, B=0.3-0.9, C=1.0-2.0, D=2.1-3.2, F=3.3+.

People at Risk in 25 Counties Most Polluted by Year-round Particle Pollution (Annual $PM_{2.5}$)

2012 Rank[1]	County	ST	Total Population[2]	At-Risk Groups									$PM_{2.5}$ Annual, 2008–2010	
				Under 18[3]	65 and Over[3]	Pediatric Asthma[4,8]	Adult Asthma[5,8]	Chronic Bronchitis[6,8]	Emphysema[7,8]	CV Disease[9]	Diabetes[10]	Poverty[11]	Design Value[12]	Grade[13]
1	Kern	CA	839,631	254,081	75,437	16,855	44,572	24,047	9,398	173,566	47,097	172,531	21.2	Fail
2	Hawaii	HI	185,079	42,280	26,834	4,662	13,426	6,404	2,964	50,212	12,390	33,285	18.4	Fail
3	Kings	CA	152,982	42,548	12,030	2,822	8,348	4,423	1,619	31,019	8,299	29,606	17.1	Fail
4	Riverside	CA	2,189,641	620,108	258,586	41,135	120,166	66,447	28,441	498,296	137,270	354,768	17.0	Fail
5	Tulare	CA	442,179	144,124	41,779	9,561	22,675	12,297	4,931	89,570	24,362	108,143	16.5	Fail
6	Fresno	CA	930,450	277,507	93,421	18,409	49,721	27,034	10,932	197,670	53,861	245,330	16.4	Fail
7	Allegheny	PA	1,223,348	241,663	205,059	23,026	96,938	43,705	20,759	344,552	102,934	141,453	16.0	Fail
8	Pinal	AZ	375,770	99,700	52,071	9,348	26,593	11,852	5,331	90,685	23,143	51,500	15.4	Fail
9	San Bernardino	CA	2,035,210	594,588	181,348	39,442	109,976	59,433	23,199	429,655	116,882	362,099	14.5	Pass
10	Los Angeles	CA	9,818,605	2,402,208	1,065,699	159,352	566,147	308,756	125,611	2,266,565	619,371	1,699,264	14.4	Pass
10	Hamilton	OH	802,374	189,640	106,863	17,781	58,986	26,553	11,754	202,912	61,013	144,741	14.4	Pass
12	Clark	IN	110,232	26,109	14,055	2,295	8,021	3,640	1,591	27,699	8,299	13,632	14.1	Pass
13	Madison	IL	269,282	61,246	38,428	6,026	18,844	9,096	4,119	70,216	19,162	38,068	13.8	Pass
13	Chester	PA	498,886	124,055	63,875	11,820	37,427	16,456	7,308	126,487	37,464	31,172	13.8	Pass
15	Jefferson	AL	658,466	154,528	86,443	17,750	39,726	21,754	9,558	165,636	61,402	119,809	13.7	Pass
15	Brooke	WV	24,069	4,577	4,602	299	1,411	895	449	7,255	2,432	3,402	13.7	Pass
17	Fairbanks North Star Borough	AK	97,581	25,001	6,375	1,731	7,184	2,919	1,026	20,296	3,491	8,804	13.6	Pass
17	Marion	IN	903,393	226,505	96,102	19,914	64,968	28,268	11,496	207,757	61,762	184,537	13.6	Pass
17	Cuyahoga	OH	1,280,122	290,262	198,541	27,215	95,026	44,014	20,639	345,470	104,479	227,716	13.6	Pass
20	Butler	OH	368,130	92,604	42,484	8,683	26,590	11,775	4,989	88,365	26,449	48,197	13.4	Pass
20	Westmoreland	PA	365,169	72,611	68,877	6,919	28,801	13,508	6,795	109,780	33,020	37,017	13.4	Pass
22	Summit	OH	541,781	123,575	78,968	11,586	40,213	18,517	8,509	144,235	43,524	82,194	13.3	Pass
23	Muscogee	GA	189,885	48,598	22,082	4,368	10,973	5,950	2,500	44,288	13,916	36,998	13.2	Pass
23	Jefferson	KY	741,096	171,807	99,095	18,239	59,161	24,702	10,939	188,884	57,395	125,861	13.2	Pass
23	Montgomery	OH	535,153	123,279	81,041	11,559	39,549	18,186	8,441	141,939	42,886	93,697	13.2	Pass
23	Kanawha	WV	193,063	39,734	32,315	2,598	11,111	6,919	3,322	54,988	18,465	28,101	13.2	Pass

EMBARGOED

Notes:

1. Counties are ranked by design value. See note 12 below.
2. **Total Population** represents the at-risk populations in counties with $PM_{2.5}$ monitors.
3. Those **18 and under** and **65 and over** are vulnerable to $PM_{2.5}$ and are, therefore, included. They should not be used as population denominators for disease estimates.
4. **Pediatric asthma** estimates are for those under 18 years of age and represent the estimated number of people who had asthma in 2010 based on state rates (BRFSS) applied to population estimates (U.S. Census).
5. **Adult asthma** estimates are for those 18 years and older and represent the estimated number of people who had asthma in 2010 based on state rates (BRFSS) applied to population estimates (U.S. Census).
6. **Chronic bronchitis** estimates are for adults 18 and over who had been diagnosed in 2010, based on national rates (NHIS) applied to population estimates (U.S. Census).
7. **Emphysema** estimates are for adults 18 and over who have been diagnosed within their lifetime, based on national rates (NHIS) applied to population estimates (U.S. Census).
8. Adding across rows does not produce valid estimates, e.g., summing pediatric and adult asthma and/or emphysema and chronic bronchitis.
9. **CV disease** is cardiovascular disease and estimates are based on National Heart Lung and Blood Institute (NHLBI) estimates of cardiovascular disease applied to population estimates (U.S. Census).
10. **Diabetes** estimates are for adults 18 and over who have been diagnosed within their lifetime, based on state rates (BRFSS) applied to population estimates (U.S. Census).
11. **Poverty** estimates come from the U.S. Census Bureau and are for all ages.
12. The **Design Value** is the calculated concentration of a pollutant based on the form of the National Ambient Air Quality Standard, and is used by EPA to determine whether the air quality in a meets the standard. The source for the Design Values is http://www.epa.gov/air/airtrends/pdfs/PM25_DesignValues_20082010_FinalRevised.xlsx, downloaded September 24, 2011.
13. Grades are based on EPA's determination of meeting or failure to meet the NAAQS for annual $PM_{2.5}$ levels during 2008-2010. Counties meeting the NAAQS received grades of Pass; counties not meeting the NAAQS received grades of Fail.

People at Risk in 25 Most Ozone-Polluted Counties

2012 Rank[1]	County	ST	Total Population[2]	At-Risk Groups							High Ozone Days in Unhealthy Ranges, 2008–2010	
				Under 18[3]	65 and Over[3]	Pediatric Asthma[4,8]	Adult Asthma[5,8]	Chronic Bronchitis[6,8]	Emphysema[7,8]	Poverty[9]	Weighted Avg.[10]	Grade[11]
1	San Bernardino	CA	2,035,210	594,588	181,348	39,442	109,976	59,433	23,199	362,099	127.8	F
2	Riverside	CA	2,189,641	620,108	258,586	41,135	120,166	66,447	28,441	354,768	111.3	F
3	Tulare	CA	442,179	144,124	41,779	9,561	22,675	12,297	4,931	108,143	95.7	F
4	Kern	CA	839,631	254,081	75,437	16,855	44,572	24,047	9,398	172,531	95.0	F
5	Los Angeles	CA	9,818,605	2,402,208	1,065,699	159,352	566,147	308,756	125,611	1,699,264	86.2	F
6	Fresno	CA	930,450	277,507	93,421	18,409	49,721	27,034	10,932	245,330	61.5	F
7	Kings	CA	152,982	42,548	12,030	2,822	8,348	4,423	1,619	29,606	42.3	F
8	Sacramento	CA	1,418,788	363,053	158,551	24,083	81,006	44,570	18,564	234,470	41.5	F
9	El Dorado	CA	181,058	41,175	26,524	2,731	11,057	6,392	3,002	16,825	27.2	F
10	San Diego	CA	3,095,313	724,168	351,425	48,038	181,080	99,026	40,726	445,556	25.2	F
11	Harris	TX	4,092,459	1,147,835	333,487	86,823	217,153	119,788	44,982	758,916	24.3	F
12	Placer	CA	348,432	85,085	53,562	5,644	20,512	11,765	5,556	31,489	24.2	F
13	San Luis Obispo	CA	269,637	50,841	41,022	3,373	16,916	9,556	4,342	36,179	23.0	F
13	Ventura	CA	823,318	211,915	96,309	14,057	47,178	26,210	11,194	89,880	23.0	F
15	Merced	CA	255,793	80,698	23,960	5,353	13,302	7,191	2,853	58,212	22.5	F
16	Nevada	CA	98,764	19,106	19,174	1,267	6,321	3,754	1,922	11,456	22.0	F
17	Stanislaus	CA	514,453	147,158	54,831	9,762	28,134	15,444	6,401	100,554	21.5	F
18	Tarrant	TX	1,809,034	507,061	161,385	38,355	96,149	53,843	20,989	258,595	21.2	F
19	Mariposa	CA	18,251	3,242	3,821	215	1,196	717	376	2,665	19.8	F
20	Harford	MD	244,826	60,410	30,564	7,155	15,428	8,092	3,566	16,715	19.2	F
21	Uintah	UT	32,588	10,857	2,997	747	1,977	894	356	4,594	18.0	F
22	Madera	CA	150,865	42,849	17,262	2,842	8,270	4,562	1,933	30,912	16.7	F
23	Imperial	CA	174,528	51,098	18,152	3,390	9,415	5,139	2,104	36,666	15.7	F
24	Fairfield	CT	916,829	227,019	124,075	25,492	63,223	30,325	13,680	84,125	13.7	F
25	Amador	CA	38,091	6,393	7,865	424	2,512	1,495	772	4,286	12.7	F

EMBARGOED

Notes:

1. Counties are ranked by weighted average. See note 10 below.
2. **Total Population** represents the at-risk populations in counties with $PM_{2.5}$ monitors.
3. Those **18 and under** and **65 and over** are vulnerable to $PM_{2.5}$ and are, therefore, included. They should not be used as population denominators for disease estimates.
4. **Pediatric asthma** estimates are for those under 18 years of age and represent the estimated number of people who had asthma in 2010 based on state rates (BRFSS) applied to population estimates (U.S. Census).
5. **Adult asthma** estimates are for those 18 years and older and represent the estimated number of people who had asthma in 2010 based on state rates (BRFSS) applied to population estimates (U.S. Census).
6. **Chronic bronchitis** estimates are for adults 18 and over who had been diagnosed in 2010, based on national rates (NHIS) applied to population estimates (U.S. Census).
7. **Emphysema** estimates are for adults 18 and over who have been diagnosed within their lifetime, based on national rates (NHIS) applied to population estimates (U.S. Census).
8. Adding across rows does not produce valid estimates, e.g., summing pediatric and adult asthma and/or emphysema and chronic bronchitis.
9. **Poverty** estimates come from the U.S. Census Bureau and are for all ages.
10. The **Weighted Average** was derived by counting the number of days in each unhealthful range (orange, red, purple) in each year (2008-2010), multiplying the total in each range by the assigned standard weights (i.e., 1 for orange, 1.5 for red, 2.0 for purple), and calculating the average.
11. Grade is assigned by weighted average as follows: A=0.0, B=0.3-0.9, C=1.0-2.0, D=2.1-3.2, F=3.3+.

Cleanest U.S. Cities for Short-term Particle Pollution (24-hour $PM_{2.5}$)[1]

Metropolitan Statistical Area	Population
Albuquerque, NM	887,077
Alexandria, LA	153,922
Amarillo, TX	249,881
Asheville-Brevard, NC	457,948
Athens-Clarke County, GA	192,541
Atlantic City-Hammonton, NJ	274,549
Austin-Round Rock-Marble Falls, TX	1,716,289
Bangor, ME	153,923
Baton Rouge-Pierre Part, LA	825,905
Beckley-Oak Hill, WV	124,898
Bowling Green, KY	125,953
Brownsville-Harlingen-Raymondville, TX	428,354
Burlington-South Burlington, VT	211,261
Cape Coral-Fort Myers, FL	618,754
Champaign-Urbana, IL	231,891
Charleston-North Charleston-Summerville, SC	664,607
Charlotte-Gastonia-Salisbury, NC-SC	2,402,623
Cheyenne, WY	91,738
Claremont-Lebanon, NH-VT	218,466
Clarksville, TN-KY	273,949
Colorado Springs, CO	645,613
Columbia-Newberry, SC	805,106
Corpus Christi-Kingsville, TX	460,662
Decatur, IL	110,768
Dover, DE	162,310
Farmington, NM	130,044
Fayetteville, NC	366,383
Fayetteville-Springdale-Rogers, AR-MO	463,204
Flagstaff, AZ	134,421
Florence, SC	205,566
Florence-Muscle Shoals, AL	147,137
Fort Collins-Loveland, CO	299,630
Fort Smith, AR-OK	298,592
Gainesville, FL	264,275
Gulfport-Biloxi-Pascagoula, MS	411,066
Hattiesburg, MS	142,842
Hickory-Lenoir-Morganton, NC	365,497
Hot Springs, AR	96,024
Houma-Bayou Cane-Thibodaux, LA	208,178
Jackson-Humboldt, TN	165,108
Jackson-Yazoo City, MS	567,122
Lafayette-Acadiana, LA	550,134
Lake Charles-Jennings, LA	231,201
Lakeland-Winter Haven, FL	602,095
Lansing-East Lansing-Owosso, MI	534,684
Little Rock-North Little Rock-Pine Bluff, AR	877,091
Longview-Marshall, TX	280,000
Lubbock-Levelland, TX	307,825
Lumberton-Laurinburg, NC	170,325
Lynchburg, VA	252,634
McAllen-Edinburg-Pharr, TX	774,769
Mobile-Daphne-Fairhope, AL	595,257
Monroe-Bastrop, LA	204,420
Niles-Benton Harbor, MI	156,813
Oklahoma City-Shawnee, OK	1,322,429
Orlando-Deltona-Daytona Beach, FL	2,818,120
Owensboro, KY	114,752
Paducah-Mayfield, KY-IL	135,883
Palm Bay-Melbourne-Titusville, FL	543,376
Pensacola-Ferry Pass-Brent, FL	448,991
Peoria-Canton, IL	416,255
Pocatello, ID	90,656
Prescott, AZ	211,033
Pueblo, CO	159,063
Rocky Mount, NC	152,392
Salinas, CA	415,057
San Antonio-New Braunfels, TX	2,142,508
Santa Fe-Espanola, NM	184,416
Sarasota-Bradenton-Punta Gorda, FL	862,259
Shreveport-Bossier City-Minden, LA	439,811
Springfield, IL	210,170
Syracuse-Auburn, NY	742,603
Tampa-St. Petersburg-Clearwater, FL	2,783,243
Texarkana, TX-Texarkana, AR	136,027
Tucson, AZ	980,263
Tulsa-Bartlesville, OK	988,454
Wichita-Winfield, KS	659,372
Yuma, AZ	195,751

EMBARGOED

Note:
1. This list represents cities with the lowest levels of short term $PM_{2.5}$ air pollution. Monitors in these cities reported no days with unhealthful $PM_{2.5}$ levels.

Top 25 Cleanest U.S. Cities for Year-round Particle Pollution (Annual $PM_{2.5}$)[1]

Rank[2]	Design Value[3]	Metropolitan Statistical Area	Population
1	4.1	Santa Fe-Espanola, NM	184,416
2	4.2	Cheyenne, WY	91,738
3	5.0	Prescott, AZ	211,033
4	5.4	Tucson, AZ	980,263
5	5.6	Albuquerque, NM	887,077
6	5.9	Redding, CA	177,223
7	6.0	Colorado Springs, CO	645,613
8	6.1	Flagstaff, AZ	134,421
9	6.3	Anchorage, AK	380,821
9	6.3	Boise City-Nampa, ID	616,561
11	6.4	Salinas, CA	415,057
12	6.6	Fort Collins-Loveland, CO	299,630
12	6.6	Rapid City, SD	126,382
14	6.8	Cape Coral-Fort Myers, FL	618,754
14	6.8	Claremont-Lebanon, NH-VT	218,466
14	6.8	Sarasota-Bradenton-Punta Gorda, FL	862,259
17	6.9	Palm Bay-Melbourne-Titusville, FL	543,376
18	7.1	Bismarck, ND	108,779
18	7.1	Duluth, MN-WI	279,771
20	7.3	Burlington-South Burlington, VT	211,261
21	7.4	Bangor, ME	153,923
21	7.4	Gainesville, FL	264,275
23	7.5	El Centro, CA	174,528
23	7.5	Honolulu, HI	953,207
23	7.5	Port St. Lucie-Sebastian-Vero Beach, FL	562,135

Notes:
1. This list represents cities with the lowest levels of annual $PM_{2.5}$ air pollution.
2. Cities are ranked by using the highest design value for any within that metropolitan area.
3. The **Design Value** is the calculated concentration of a pollutant based on the form of the National Ambient Air Quality Standard, and is used by EPA to determine whether the air quality in a county meets the standard. The source for the Values is http://www.epa.gov/air/airtrends/pdfs/PM25_DesignValues_20082010_FinalRevised.xlsx, downloaded September 24, 2011.

Cleanest U.S. Cities for Ozone Air Pollution[1]

Metropolitan Statistical Area	Population
Ames-Boone, IA	115,848
Appleton-Oshkosh-Neenah, WI	392,660
Bend-Prineville, OR	178,711
Bismarck, ND	108,779
Bloomington-Normal, IL	169,572
Brownsville-Harlingen-Raymondville, TX	428,354
Brunswick, GA	112,370
Cedar Rapids, IA	257,940
Champaign-Urbana, IL	231,891
Coeur d'Alene, ID	138,494
Davenport-Moline-Rock Island, IA-IL	379,690
Decatur, IL	110,768
Des Moines-Newton-Pella, IA	639,784
Dothan-Enterprise-Ozark, AL	245,838
Duluth, MN-WI	279,771
Eugene-Springfield, OR	351,715
Fargo-Wahpeton, ND-MN	231,674
Florence-Muscle Shoals, AL	147,137
Fond du Lac-Beaver Dam, WI	190,392
Gadsden, AL	104,430
Honolulu, HI	953,207
Janesville, WI	160,331
La Crosse, WI-MN	133,665
Laredo, TX	250,304
Lincoln, NE	302,157
Logan, UT-ID	125,442
Madison-Baraboo, WI	630,569
Minneapolis-St. Paul-St. Cloud, MN-WI	3,615,902
Monroe-Bastrop, LA	204,420
Muncie, IN	117,671
Naples-Marco Island, FL	321,520
Ocala, FL	331,298
Peoria-Canton, IL	416,255
Port St. Lucie-Sebastian-Vero Beach, FL	562,135
Rapid City, SD	126,382
Rochester, MN	186,011
Rockford-Freeport-Rochelle, IL	450,639
Santa Fe-Espanola, NM	184,416
Savannah-Hinesville-Fort Stewart, GA	425,528
Sioux Falls, SD	228,261
Spokane, WA	471,221
Springfield, IL	210,170
Terre Haute, IN	172,425
Tuscaloosa, AL	219,461
Waterloo-Cedar Falls, IA	167,819
Wausau-Merrill, WI	162,806

Note:
1. This list represents cities with no monitored ozone air pollution in unhealthful ranges using the Air Quality Index based on 2008 NAAQS.

EMBARGOED

Cleanest Counties for Short-term Particle Pollution (24-hour $PM_{2.5}$)[1]

County	State	MSAs and Respective CSA[2]
Baldwin	AL	Mobile-Daphne-Fairhope, AL
Clay	AL	
Colbert	AL	Florence-Muscle Shoals, AL
DeKalb	AL	
Mobile	AL	Mobile-Daphne-Fairhope, AL
Morgan	AL	Huntsville-Decatur, AL
Shelby	AL	Birmingham-Hoover-Cullman, AL
Talladega	AL	
Walker	AL	Birmingham-Hoover-Cullman, AL
Anchorage Municipality	AK	Anchorage, AK
Cochise	AZ	
Coconino	AZ	Flagstaff, AZ
Pima	AZ	Tucson, AZ
Yavapai	AZ	Prescott, AZ
Yuma	AZ	Yuma, AZ
Arkansas	AR	
Ashley	AR	
Crittenden	AR	Memphis, TN-MS-AR
Faulkner	AR	Little Rock-North Little Rock-Pine Bluff, AR
Garland	AR	Hot Springs, AR
Phillips	AR	
Polk	AR	
Pope	AR	
Pulaski	AR	Little Rock-North Little Rock-Pine Bluff, AR
Sebastian	AR	Fort Smith, AR-OK
Union	AR	
Washington	AR	Fayetteville-Springdale-Rogers, AR-MO
White	AR	Little Rock-North Little Rock-Pine Bluff, AR
Humboldt	CA	
Mendocino	CA	
Monterey	CA	Salinas, CA
San Benito	CA	San Jose-San Francisco-Oakland, CA
Santa Cruz	CA	San Jose-San Francisco-Oakland, CA
Siskiyou	CA	
Sonoma	CA	San Jose-San Francisco-Oakland, CA
Adams	CO	Denver-Aurora-Boulder, CO
Arapahoe	CO	Denver-Aurora-Boulder, CO
Denver	CO	Denver-Aurora-Boulder, CO
Douglas	CO	Denver-Aurora-Boulder, CO
El Paso	CO	Colorado Springs, CO
Elbert	CO	Denver-Aurora-Boulder, CO
Larimer	CO	Fort Collins-Loveland, CO
Montezuma	CO	
Pueblo	CO	Pueblo, CO
Litchfield	CT	New York-Newark-Bridgeport, NY-NJ-CT-PA
Kent	DE	Dover, DE
Sussex	DE	
Alachua	FL	Gainesville, FL
Brevard	FL	Palm Bay-Melbourne-Titusville, FL
Broward	FL	Miami-Fort Lauderdale-Pompano Beach, FL
Citrus	FL	
Escambia	FL	Pensacola-Ferry Pass-Brent, FL
Hillsborough	FL	Tampa-St. Petersburg-Clearwater, FL
Lee	FL	Cape Coral-Fort Myers, FL
Orange	FL	Orlando-Deltona-Daytona Beach, FL
Palm Beach	FL	Miami-Fort Lauderdale-Pompano Beach, FL
Pinellas	FL	Tampa-St. Petersburg-Clearwater, FL
Polk	FL	Lakeland-Winter Haven, FL
Sarasota	FL	Sarasota-Bradenton-Punta Gorda, FL
Seminole	FL	Orlando-Deltona-Daytona Beach, FL
Volusia	FL	Orlando-Deltona-Daytona Beach, FL
Clarke	GA	Athens-Clarke County, GA
Gwinnett	GA	Atlanta-Sandy Springs-Gainesville, GA-AL
Maui	HI	
Bannock	ID	Pocatello, ID
Adams	IL	
Champaign	IL	Champaign-Urbana, IL
Jersey	IL	St. Louis-St. Charles-Farmington, MO-IL
Lake	IL	Chicago-Naperville-Michigan City, IL-IN-WI
LaSalle	IL	
Macon	IL	Decatur, IL
McHenry	IL	Chicago-Naperville-Michigan City, IL-IN-WI

EMBARGOED

Notes:
1. This list represents counties with the lowest levels of short term $PM_{2.5}$ air pollution. Monitors in these counties reported no days with unhealthful $PM_{2.5}$ levels.
2. MSA and CSA are terms used by the U.S. Office of Management and Budget for statistical purposes. MSA stands for Metropolitan Statistical Area. CSA stands for Combined Statistical Area, which may include mutiple MSAs and individual counties.

Cleanest Counties for Short-term Particle Pollution (24-hour $PM_{2.5}$)[1] (cont.)

County	State	MSAs and Respective CSA[2]
Peoria	IL	Peoria-Canton, IL
Randolph	IL	
Rock Island	IL	Davenport-Moline-Rock Island, IA-IL
Sangamon	IL	Springfield, IL
Dubois	IN	
Gibson	IN	Evansville, IN-KY
Knox	IN	
LaPorte	IN	Chicago-Naperville-Michigan City, IL-IN-WI
Madison	IN	Indianapolis-Anderson-Columbus, IN
Spencer	IN	
Johnson	KS	Kansas City-Overland Park-Kansas City, MO-KS
Linn	KS	Kansas City-Overland Park-Kansas City, MO-KS
Sedgwick	KS	Wichita-Winfield, KS
Sumner	KS	Wichita-Winfield, KS
Wyandotte	KS	Kansas City-Overland Park-Kansas City, MO-KS
Boyd	KY	Huntington-Ashland, WV-KY-OH
Campbell	KY	Cincinnati-Middletown-Wilmington, OH-KY-IN
Carter	KY	
Christian	KY	Clarksville, TN-KY
Daviess	KY	Owensboro, KY
Franklin	KY	Lexington-Fayette—Frankfort—Richmond, KY
Hardin	KY	Louisville-Jefferson County-Elizabethtown-Scottsburg, KY-IN
Henderson	KY	Evansville, IN-KY
Kenton	KY	Cincinnati-Middletown-Wilmington, OH-KY-IN
Madison	KY	Lexington-Fayette—Frankfort—Richmond, KY
McCracken	KY	Paducah-Mayfield, KY-IL
Ohio	KY	
Warren	KY	Bowling Green, KY
Caddo Parish	LA	Shreveport-Bossier City-Minden, LA
Calcasieu Parish	LA	Lake Charles-Jennings, LA
East Baton Rouge Parish	LA	Baton Rouge-Pierre Part, LA
Iberville Parish	LA	Baton Rouge-Pierre Part, LA
Lafayette Parish	LA	Lafayette-Acadiana, LA
Ouachita Parish	LA	Monroe-Bastrop, LA
Rapides Parish	LA	Alexandria, LA
Tangipahoa Parish	LA	
Terrebonne Parish	LA	Houma-Bayou Cane-Thibodaux, LA
West Baton Rouge Parish	LA	Baton Rouge-Pierre Part, LA
Hancock	ME	
Kennebec	ME	
Penobscot	ME	Bangor, ME
Harford	MD	Washington-Baltimore-Northern Virginia, DC-MD-VA-WV
Bristol	MA	Boston-Worcester-Manchester, MA-RI-NH
Essex	MA	Boston-Worcester-Manchester, MA-RI-NH
Middlesex	MA	Boston-Worcester-Manchester, MA-RI-NH
Plymouth	MA	Boston-Worcester-Manchester, MA-RI-NH
Worcester	MA	Boston-Worcester-Manchester, MA-RI-NH
Berrien	MI	Niles-Benton Harbor, MI
Genesee	MI	Detroit-Warren-Flint, MI
Ingham	MI	Lansing-East Lansing-Owosso, MI
Lenawee	MI	
Macomb	MI	Detroit-Warren-Flint, MI
Manistee	MI	
Missaukee	MI	
Washtenaw	MI	Detroit-Warren-Flint, MI
Adams	MS	
Bolivar	MS	
DeSoto	MS	Memphis, TN-MS-AR
Forrest	MS	Hattiesburg, MS
Grenada	MS	
Harrison	MS	Gulfport-Biloxi-Pascagoula, MS
Hinds	MS	Jackson-Yazoo City, MS
Jackson	MS	Gulfport-Biloxi-Pascagoula, MS
Jones	MS	
Lauderdale	MS	
Lee	MS	
Cedar	MO	
Flathead	MT	

EMBARGOED

Notes:
1. This list represents counties with the lowest levels of short term $PM_{2.5}$ air pollution. Monitors in these counties reported no days with unhealthful $PM_{2.5}$ levels.
2. MSA and CSA are terms used by the U.S. Office of Management and Budget for statistical purposes. MSA stands for Metropolitan Statistical Area. CSA stands for Combined Statistical Area, which may include mutiple MSAs and individual counties.

Cleanest Counties for Short-term Particle Pollution (24-hour $PM_{2.5}$)[1] (cont.)

County	State	MSAs and Respective CSA[2]
Richland	MT	
Hall	NE	
Scotts Bluff	NE	
Belknap	NH	Boston-Worcester-Manchester, MA-RI-NH
Grafton	NH	Claremont-Lebanon, NH-VT
Hillsborough	NH	Boston-Worcester-Manchester, MA-RI-NH
Atlantic	NJ	Atlantic City-Hammonton, NJ
Essex	NJ	New York-Newark-Bridgeport, NY-NJ-CT-PA
Gloucester	NJ	Philadelphia-Camden-Vineland, PA-NJ-DE-MD
Middlesex	NJ	New York-Newark-Bridgeport, NY-NJ-CT-PA
Bernalillo	NM	Albuquerque, NM
Chaves	NM	
Grant	NM	
Lea	NM	
San Juan	NM	Farmington, NM
Santa Fe	NM	Santa Fe-Espanola, NM
Chautauqua	NY	
Essex	NY	
Niagara	NY	Buffalo-Niagara-Cattaraugus, NY
Onondaga	NY	Syracuse-Auburn, NY
Alamance	NC	Greensboro—Winston-Salem—High Point, NC
Buncombe	NC	Asheville-Brevard, NC
Caswell	NC	
Catawba	NC	Hickory-Lenoir-Morganton, NC
Cumberland	NC	Fayetteville, NC
Davidson	NC	Greensboro—Winston-Salem—High Point, NC
Duplin	NC	
Durham	NC	Raleigh-Durham-Cary, NC
Edgecombe	NC	Rocky Mount, NC
Gaston	NC	Charlotte-Gastonia-Salisbury, NC-SC
Haywood	NC	Asheville-Brevard, NC
Jackson	NC	
McDowell	NC	
Mecklenburg	NC	Charlotte-Gastonia-Salisbury, NC-SC
Mitchell	NC	
Montgomery	NC	
Robeson	NC	Lumberton-Laurinburg, NC
Rowan	NC	Charlotte-Gastonia-Salisbury, NC-SC
Swain	NC	
Watauga	NC	
Billings	ND	
Mercer	ND	
Athens	OH	
Clermont	OH	Cincinnati-Middletown-Wilmington, OH-KY-IN
Greene	OH	Dayton-Springfield-Greenville, OH
Lawrence	OH	Huntington-Ashland, WV-KY-OH
Medina	OH	Cleveland-Akron-Elyria, OH
Scioto	OH	
Caddo	OK	
Mayes	OK	
Muskogee	OK	
Oklahoma	OK	Oklahoma City-Shawnee, OK
Ottawa	OK	
Pittsburg	OK	
Sequoyah	OK	Fort Smith, AR-OK
Tulsa	OK	Tulsa-Bartlesville, OK
Multnomah	OR	Portland-Vancouver-Hillsboro, OR-WA
Umatilla	OR	
Union	OR	
Kent	RI	Boston-Worcester-Manchester, MA-RI-NH
Charleston	SC	Charleston-North Charleston-Summerville, SC
Chesterfield	SC	
Florence	SC	Florence, SC
Lexington	SC	Columbia-Newberry, SC
Oconee	SC	Greenville-Spartanburg-Anderson, SC
Richland	SC	Columbia-Newberry, SC
Spartanburg	SC	Greenville-Spartanburg-Anderson, SC
Brown	SD	
Lawrence	TN	
Madison	TN	Jackson-Humboldt, TN

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Notes:
1. This list represents counties with the lowest levels of short term $PM_{2.5}$ air pollution. Monitors in these counties reported no days with unhealthful $PM_{2.5}$ levels.
2. MSA and CSA are terms used by the U.S. Office of Management and Budget for statistical purposes. MSA stands for Metropolitan Statistical Area. CSA stands for Combined Statistical Area, which may include mutiple MSAs and individual counties.

Cleanest Counties for Short-term Particle Pollution (24-hour $PM_{2.5}$)[1] (cont.)

County	State	MSAs and Respective CSA[2]
Maury	TN	Nashville-Davidson—Murfreesboro—Columbia, TN
McMinn	TN	Chattanooga-Cleveland-Athens, TN-GA
Montgomery	TN	Clarksville, TN-KY
Putnam	TN	
Bexar	TX	San Antonio-New Braunfels, TX
Bowie	TX	Texarkana, TX-Texarkana, AR
Brewster	TX	
Cameron	TX	Brownsville-Harlingen-Raymondville, TX
Harrison	TX	Longview-Marshall, TX
Hidalgo	TX	McAllen-Edinburg-Pharr, TX
Lubbock	TX	Lubbock-Levelland, TX
Nueces	TX	Corpus Christi-Kingsville, TX
Potter	TX	Amarillo, TX
Tarrant	TX	Dallas-Fort Worth, TX
Travis	TX	Austin-Round Rock-Marble Falls, TX
Bennington	VT	
Chittenden	VT	Burlington-South Burlington, VT
Bristol city	VA	Johnson City-Kingsport-Bristol (Tri-Cities), TN-VA
Charles City	VA	Richmond, VA
Chesterfield	VA	Richmond, VA
Frederick	VA	Washington-Baltimore-Northern Virginia, DC-MD-VA-WV
Lynchburg city	VA	Lynchburg, VA
Page	VA	
Salem city	VA	Roanoke, VA
King	WA	Seattle-Tacoma-Olympia, WA
Marion	WV	Fairmont-Clarksburg, WV
Ohio	WV	Wheeling, WV-OH
Raleigh	WV	Beckley-Oak Hill, WV
Campbell	WY	
Converse	WY	
Laramie	WY	Cheyenne, WY
Sweetwater	WY	
Teton	WY	

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Notes:
1. This list represents counties with the lowest levels of short term $PM_{2.5}$ air pollution. Monitors in these counties reported no days with unhealthful $PM_{2.5}$ levels.
2. MSA and CSA are terms used by the U.S. Office of Management and Budget for statistical purposes. MSA stands for Metropolitan Statistical Area. CSA stands for Combined Statistical Area, which may include multiples and individual counties.

Top 25 Cleanest Counties for Year-round Particle Pollution (Annual $PM_{2.5}$)[1]

2012 Rank[2]	County	ST	Design Value[3]
1	Santa Fe	NM	4.1
2	Elbert	CO	4.2
2	Laramie	WY	4.2
4	Hancock	ME	4.4
4	Essex	NY	4.4
4	Jackson	SD	4.4
7	Billings	ND	4.5
8	Lake	CA	4.6
8	Maui	HI	4.6
10	Teton	WY	4.7
11	Grant	NM	4.8
12	Custer	SD	4.9
13	Yavapai	AZ	5.0
14	Piscataquis	ME	5.3
15	Pima	AZ	5.4
16	Bernalillo	NM	5.6
17	Douglas	CO	5.8
17	Belknap	NH	5.8
17	Ashland	WI	5.8
20	Shasta	CA	5.9
21	El Paso	CO	6.0
21	Litchfield	CT	6.0
23	Coconino	AZ	6.1
23	San Benito	CA	6.1
23	Missaukee	MI	6.1
23	Mercer	ND	6.1

Notes:

1. This list represents counties with the lowest levels of monitored long term $PM_{2.5}$ air pollution.
2. Counties are ranked by design value.
3. The Design Value is the calculated concentration of a pollutant based on the form of the National Ambient Air Quality Standard, and is used by EPA to determine whether the air quality in a county meets the standard. The source for the Design Values is http://www.epa.gov/air/airtrends/pdfs/PM25_DesignValues_20082010_FinalRevised.xlsx, downloaded September 24, 2011

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Cleanest Counties for Ozone Air Pollution[1]

County	State	Metropolitan Statistical Area
County	ST	Metropolitan Statistical Area
Colbert	AL	Florence-Muscle Shoals, AL
Elmore	AL	Montgomery-Alexander City, AL
Etowah	AL	Gadsden, AL
Houston	AL	Dothan-Enterprise-Ozark, AL
Morgan	AL	Huntsville-Decatur, AL
Russell	AL	Columbus-Auburn-Opelika, GA-AL
Tuscaloosa	AL	Tuscaloosa, AL
Navajo	AZ	
Newton	AR	
Glenn	CA	
Humboldt	CA	
Lake	CA	
Marin	CA	San Jose-San Francisco-Oakland, CA
Mendocino	CA	
San Francisco	CA	San Jose-San Francisco-Oakland, CA
Santa Cruz	CA	San Jose-San Francisco-Oakland, CA
Siskiyou	CA	
Sonoma	CA	San Jose-San Francisco-Oakland, CA
Baker	FL	Jacksonville, FL
Collier	FL	Naples-Marco Island, FL
Columbia	FL	
Holmes	FL	
Marion	FL	Ocala, FL
St. Lucie	FL	Port St. Lucie-Sebastian-Vero Beach, FL
Volusia	FL	Orlando-Deltona-Daytona Beach, FL
Chatham	GA	Savannah-Hinesville-Fort Stewart, GA
Chattooga	GA	
Glynn	GA	Brunswick, GA
Sumter	GA	
Honolulu	HI	Honolulu, HI
Butte	ID	
Kootenai	ID	Coeur d'Alene, ID
Champaign	IL	Champaign-Urbana, IL
Clark	IL	
DuPage	IL	Chicago-Naperville-Michigan City, IL-IN-WI
Effingham	IL	
Macon	IL	Decatur, IL
McHenry	IL	Chicago-Naperville-Michigan City, IL-IN-WI
McLean	IL	Bloomington-Normal, IL
Peoria	IL	Peoria-Canton, IL
Randolph	IL	
Rock Island	IL	Davenport-Moline-Rock Island, IA-IL
Sangamon	IL	Springfield, IL
Will	IL	Chicago-Naperville-Michigan City, IL-IN-WI
Winnebago	IL	Rockford-Freeport-Rochelle, IL
Delaware	IN	Muncie, IN
Elkhart	IN	South Bend-Elkhart-Mishawaka, IN-MI
Huntington	IN	Fort Wayne-Huntington-Auburn, IN
Madison	IN	Indianapolis-Anderson-Columbus, IN
St. Joseph	IN	South Bend-Elkhart-Mishawaka, IN-MI
Vigo	IN	Terre Haute, IN
Bremer	IA	Waterloo-Cedar Falls, IA
Clinton	IA	
Linn	IA	Cedar Rapids, IA
Montgomery	IA	
Palo Alto	IA	
Polk	IA	Des Moines-Newton-Pella, IA
Scott	IA	Davenport-Moline-Rock Island, IA-IL
Story	IA	Ames-Boone, IA
Van Buren	IA	
Warren	IA	Des Moines-Newton-Pella, IA
Linn	KS	Kansas City-Overland Park-Kansas City, MO-KS
Trego	KS	
Wyandotte	KS	Kansas City-Overland Park-Kansas City, MO-KS
Jessamine	KY	Lexington-Fayette-Frankfort-Richmond, KY
Perry	KY	
Pike	KY	
Pulaski	KY	
Warren	KY	Bowling Green, KY
Ouachita Parish	LA	Monroe-Bastrop, LA
Aroostook	ME	
Oxford	ME	
Sagadahoc	ME	Portland-Lewiston-South Portland, ME
Ingham	MI	Lansing-East Lansing-Owosso, MI
Washtenaw	MI	Detroit-Warren-Flint, MI
Anoka	MN	Minneapolis-St. Paul-St. Cloud, MN-WI
Becker	MN	
Carlton	MN	Duluth, MN-WI
Goodhue	MN	Minneapolis-St. Paul-St. Cloud, MN-WI
Lake	MN	

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Note:
1. This list represents counties with no monitored ozone air pollution in unhealthful ranges using the Air Quality Index based on 2008 NAAQS.

Cleanest Counties for Ozone Air Pollution[1] (cont.)

County	State	Metropolitan Statistical Area
Lyon	MN	
Mille Lacs	MN	
Olmsted	MN	Rochester, MN
Scott	MN	Minneapolis-St. Paul-St. Cloud, MN-WI
St. Louis	MN	Duluth, MN-WI
Stearns	MN	Minneapolis-St. Paul-St. Cloud, MN-WI
Washington	MN	Minneapolis-St. Paul-St. Cloud, MN-WI
Wright	MN	Minneapolis-St. Paul-St. Cloud, MN-WI
Lauderdale	MS	
Lee	MS	
Monroe	MO	
Flathead	MT	
Douglas	NE	Omaha-Council Bluffs-Fremont, NE-IA
Lancaster	NE	Lincoln, NE
Lyon	NV	Reno-Sparks-Fernley, NV
Eddy	NM	
Lea	NM	
Luna	NM	
Sandoval	NM	Albuquerque, NM
Santa Fe	NM	Santa Fe-Espanola, NM
Swain	NC	
Billings	ND	
Burke	ND	
Burleigh	ND	Bismarck, ND
Cass	ND	Fargo-Wahpeton, ND-MN
Dunn	ND	
McKenzie	ND	
Mercer	ND	
Oliver	ND	
Adair	OK	
Cleveland	OK	Oklahoma City-Shawnee, OK
Dewey	OK	
Lincoln	OK	Oklahoma City-Shawnee, OK
Mayes	OK	
Pittsburg	OK	
Columbia	OR	Portland-Vancouver-Hillsboro, OR-WA
Deschutes	OR	Bend-Prineville, OR
Lane	OR	Eugene-Springfield, OR
Umatilla	OR	
Washington	OR	Portland-Vancouver-Hillsboro, OR-WA
Charleston	SC	Charleston-North Charleston-Summerville, SC
Colleton	SC	
Brookings	SD	
Custer	SD	
Jackson	SD	
Meade	SD	Rapid City, SD
Minnehaha	SD	Sioux Falls, SD
Brewster	TX	
Cameron	TX	Brownsville-Harlingen-Raymondville, TX
Webb	TX	Laredo, TX
Cache	UT	Logan, UT-ID
Page	VA	
Clallam	WA	
Skagit	WA	Seattle-Tacoma-Olympia, WA
Spokane	WA	Spokane, WA
Greenbrier	WV	
Ashland	WI	
Brown	WI	Green Bay, WI
Columbia	WI	Madison-Baraboo, WI
Dane	WI	Madison-Baraboo, WI
Dodge	WI	Fond du Lac-Beaver Dam, WI
Florence	WI	
Fond du Lac	WI	Fond du Lac-Beaver Dam, WI
Forest	WI	
Jefferson	WI	
La Crosse	WI	La Crosse, WI-MN
Marathon	WI	Wausau-Merrill, WI
Oneida	WI	
Outagamie	WI	Appleton-Oshkosh-Neenah, WI
Rock	WI	Janesville, WI
Sauk	WI	Madison-Baraboo, WI
St. Croix	WI	Minneapolis-St. Paul-St. Cloud, MN-WI
Vernon	WI	
Vilas	WI	
Washington	WI	Milwaukee-Racine-Waukesha, WI
Waukesha	WI	Milwaukee-Racine-Waukesha, WI
Campbell	WY	
Crook	WY	
Uinta	WY	

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Note:
1. This list represents counties with no monitored ozone air pollution in unhealthful ranges using the Air Quality Index based on 2008 NAAQS.

Health Effects of Ozone and Particle Pollution

Ozone and particle pollution are the most widespread air pollutants—and among the most dangerous. Recent research has revealed new insights into how they can harm the body—including taking the lives of infants and altering the lungs of children. All in all, the evidence shows that the risks are greater than we once thought.

Recent findings provide more evidence about the health impacts of these pollutants:

- A major review of particle pollution and other air pollutants concluded that many cause heart attacks, even when people inhale elevated levels for as little as one week.[1] This review looked at evidence from 177 studies and found that particle pollution (both fine and coarse), carbon monoxide, nitrogen oxides, and sulfur dioxide all increased the risk of heart attack.
- Particle pollution that lasts for just a short while may be causing strokes, even at levels considered safe, according to a study of Boston area patients.[2] In particular, researchers found that breathing levels of traffic-related particles were linked to increased risk of stroke within 12 to 14 hours of breathing them.
- Up to 35,700 premature deaths can be prevented in the United States every year if the Environmental Protection Agency (EPA) strengthens the health standards for particle pollution—also known as soot—according to a report, Sick of Soot: How the EPA Can Save Lives by Cleaning Up Fine Particle Pollution, released in November by the American Lung Association, Clean Air Task Force and Earthjustice. That report summarized the findings of an in-depth look at how cleaning up the particles could have powerful, life-saving benefits.[3]
- Good news: Reducing air pollution has extended life expectancy. Thanks to a drop in particle pollution between 1980 and 2000, life expectancy in 51 U.S. cities increased by five months on average, according to a 2009 analysis.[4]
- Growing evidence shows that diabetics face a greater risk from air pollution than once believed. Several studies found increased risk of several factors associated with cardiovascular risks in people with diabetes.[5] Some new research with animals indicates that fine particle pollution may impact insulin resistance and other factors.[6]
- More people may be vulnerable to air pollution than previously understood. Researchers studying people who had received kidney transplants found that long-term exposure to ozone pollution increased their risk of fatal coronary heart disease.[7]
- Lower levels of ozone and particle pollution pose bigger threats. A Canadian study showed that particle pollution levels well below those considered safe in the U.S. for these pollutants caused premature death.[8] An earlier study had found higher risk of asthma attacks and emergency room visits and hospital admissions for children with asthma.[9] Another study found that low levels of these pollutants increased the risk of hospital treatment for pneumonia and chronic obstructive pulmonary disease (COPD).[10]
- Ozone pollution can shorten life, a conclusion confirmed by a 2008 scientific review by the National Research Council.[11] Evidence warns that some segments of the population may face higher risks from dying prematurely because of ozone pollution, including communities with high unemployment or high public transit use and large African-American populations.[12]
- Could particulate matter cause lung cancer in never-smokers? That question is getting closer to being answered with a strong "yes" after researchers looked at the records of 1.2 million volunteers which found that levels of fine particles

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measured across the nation in the past few decades are linked to small, but measurable increases in lung cancer in people who never smoked.[13]

- Research is warning that obesity may place people at higher risk from particle pollution. Some studies link particle pollution to increases in measurable reactions in the body that signal harm to health.[14] The increase in the prevalence of obesity in the nation may mean that more people are at risk.
- Busy highways are high risk zones. Not only may they worsen diseases, but some evidence warns that years of breathing the pollution near busy roads may increase the risk of developing chronic diseases.
  - A growing body of evidence suggests breathing pollution from heavy traffic may cause new cases of asthma in children.[15]
  - Emerging research has found particle pollution associated with increasing the risk of new cases of three chronic diseases in adults: adult-onset asthma,[16] diabetes,[17] and COPD, especially in people who already have asthma or diabetes.[18]
  - Research had already connected pollution from heavy highway traffic to higher risks for heart attack, allergies, premature births and the death of infants around the time they are born.[19] Evidence of the impact of traffic pollution, even in a city with generally "cleaner" air, expanded the concern over the health effects of chronic exposure to exhaust from heavy traffic.[20]

Two types of air pollution dominate the problem in the U.S.: ozone and particle pollution. They aren't the only serious air pollutants: others include carbon monoxide, lead, nitrogen dioxide, and sulfur dioxide, as well as scores of toxins such as mercury, arsenic, benzene, formaldehyde, and acid gases. However, ozone and particle pollution are the most widespread pollutants.

Ozone Pollution

It may be hard to imagine that pollution could be invisible, but ozone is. The most widespread pollutant in the U.S. is also one of the most dangerous.

Scientists have studied the effects of ozone on health for decades. Hundreds of research studies have confirmed that ozone harms people at levels currently found in the United States. In the last few years, we've learned that it can also be deadly.

What Is Ozone?

Ozone (O_3) is an extremely reactive gas molecule composed of three oxygen atoms. It is the primary ingredient of smog air pollution and is very harmful to breathe. Ozone attacks lung tissue by reacting chemically with it.

The ozone layer found high in the upper atmosphere (the stratosphere) shields us from much of the sun's ultraviolet radiation. However, ozone air pollution at ground level where we can breathe it (in the troposphere) is harmful. It causes serious health problems.

Where Does Ozone Come From?

What you see coming out of the tailpipe on a car or a truck isn't ozone, but the raw ingredients for making ozone. Ozone is formed by chemical reactions in the atmosphere from two raw gases that do come out of tailpipes, smokestacks and many other sources. These essential raw ingredients for ozone are nitrogen oxides (NO_X) and hydrocarbons, also called volatile organic compounds (VOCs). They are produced primarily when fossil fuels like gasoline, oil or coal are burned or when some chemicals, like solvents, evaporate.

When NO_X and VOCs come in contact with both heat and sunlight, they combine and form ozone smog. NO_X is emitted from power plants, motor vehicles and other sources of high-heat combustion. VOCs are emitted from motor vehicles, chemical plants, refineries, factories, gas stations, paint and other sources. The formula for ozone is simple, and like any

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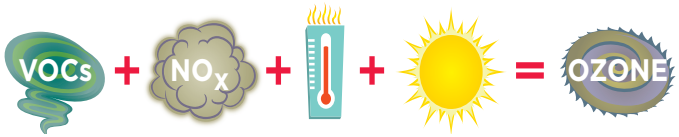
formula, the ingredients must all be present and in the right proportions to make the final product.



You may have wondered why "ozone action day" warnings are sometimes followed by recommendations to avoid activities such as mowing your lawn or refilling your gas tank during daylight hours. Lawn mower exhaust and gasoline vapors are VOCs that could turn into ozone in the heat and sun. Take away the sunlight and ozone doesn't form, so refilling your gas tank after dark is better on high ozone days. Since we can't control sunlight and heat, we must reduce the chemical raw ingredients if we want to reduce ozone.

Who is at risk from breathing ozone?

Five groups of people are especially vulnerable to the effects of breathing ozone:

- children and teens;
- anyone 65 and older;
- people who work or exercise outdoors;
- people with existing lung diseases, such as asthma and chronic obstructive pulmonary disease (also known as COPD, which includes emphysema and chronic bronchitis); and
- "responders" who are otherwise healthy but for some reason react more strongly to ozone.[21]

The impact on your health can depend on many factors, however. For example, the risks would be greater if ozone levels are higher, if you are breathing faster because you're working outdoors or if you spend more time outdoors.

Lifeguards in Galveston, Texas, provided evidence of the impact of even short-term exposure to ozone on healthy, active adults in a study published in 2008. Testing the breathing capacity of these outdoor workers several times a day, researchers found that many lifeguards had greater obstruction in their airways when ozone levels were high. Because of this research, Galveston became the first city in the nation to install an air quality warning flag system on the beach.[22]

How Ozone Pollution Harms Your Health

Breathing ozone can shorten your life. Two early studies published in 2004 found strong evidence of the deadly impact of ozone in cities across the U.S. and in Europe. Even on days when ozone levels were low, the researchers found that the risk of premature death increased with higher levels of ozone. They estimated that over 3,700 deaths annually in the U.S. could be attributed to a 10-parts-per-billion increase in ozone levels.[23] Another study, published the same week, looked at 23 European cities and found similar effects on mortality from short-term exposure to ozone.[24]

Confirmation came in the summer of 2005. Three groups of researchers working independently reviewed and analyzed the research around deaths associated with short-term exposures to ozone. The three teams—at Harvard, Johns Hopkins and New York University—used different approaches but all came to similar conclusions. All three studies reported a small but robust association between daily ozone levels and increased deaths.[25] Writing a commentary on these reviews, David Bates, MD, explained how these premature deaths could occur:

> "Ozone is capable of causing inflammation in the lung at lower concentrations than any other gas. Such an effect would be a hazard to anyone with heart failure and pulmonary congestion, and would worsen the function of anyone with advanced lung disease."[26]

In 2008 a committee of the National Research Council, a division of the National Academy of Sciences, reviewed the evidence again and concluded that "short-term exposure to

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ambient ozone is likely to contribute to premature deaths." They recommended that preventing early death be included in any future estimates of the benefits of reducing ozone.[27]

New research has begun to identify which groups face higher risk of death from ozone. A study published in 2010 examined records from ten cities in Italy and found women, diabetics and older adults to have a higher risk of premature death from high ozone.[28]

Ozone at levels currently in the U.S. causes immediate health problems. Many areas in the United States produce enough ground-level ozone during the summer months to cause health problems that can be felt right away. Immediate problems—in addition to increased risk of premature death—include:

- shortness of breath;
- chest pain when inhaling;
- wheezing and coughing;
- asthma attacks;
- increased susceptibility to respiratory infections;
- increased susceptibility to pulmonary inflammation; and
- increased need for people with lung diseases, like asthma or chronic obstructive pulmonary disease (COPD), to receive medical treatment and to go to the hospital.[29]

Breathing ozone for longer periods can alter the lungs' ability to function. Two studies published in 2005 explored ozone's ability to reduce the lung's ability to work efficiently, a term called "lung function." Each study looked at otherwise healthy groups who were exposed to ozone for long periods: outdoor postal workers in Taiwan and college freshmen who were lifelong residents of Los Angeles or the San Francisco Bay area. Both studies found that the long exposure to elevated ozone levels had decreased their lung function.[30]

Inhaling ozone may affect the heart as well as the lungs. A 2006 study linked exposures to high ozone levels for as little as one hour to a particular type of cardiac arrhythmia that itself increases the risk of premature death and stroke.[31] A French study found that exposure to elevated ozone levels for one to two days increased the risk of heart attacks for middle-aged adults without heart disease.[32]

New studies warn of serious effects from breathing ozone over longer periods. With more long-term data, scientists are finding that long-term exposure—that is, for periods longer than eight hours, including days, months or years—may increase the risk of early death. Examining the records from a long-term national database, researchers found a higher risk of death from respiratory diseases associated with increases in ozone.[33] New York researchers looking at hospital records for children's asthma found that the risk of admission to hospitals for asthma increased with chronic exposure to ozone. Younger children and children from low income families were more likely to need hospital admissions even during the same time periods than other children.[34] California researchers digging into data from their long-term Southern California Children's Health Study found that some children with certain genes were more likely to develop asthma as adolescents in response to the variations in ozone levels in their communities.[35]

Breathing other pollutants in the air may make your lungs more responsive to ozone—and breathing ozone may increase your body's response to other pollutants. For example, research warns that breathing sulfur dioxide and nitrogen oxide—two pollutants common in the eastern U.S.—can make the lungs react more strongly than to just breathing ozone alone. Breathing ozone may also increase the response to allergens in people with allergies. A large study published in 2009 found that children were more likely to suffer from hay fever and respiratory allergies when ozone and $PM_{2.5}$ levels were high.[36]

Even low levels of ozone may be deadly. A large study of 48 U.S. cities looked at the association between ozone and all-cause mortality during the summer months. Ozone concentrations by city in the summer months ranged from 16 percent to

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80 percent lower than EPA currently considers safe. Researchers found that ozone at those lower levels was associated with deaths from cardiovascular disease, strokes, and respiratory causes.[37]

Particle Pollution

Ever look at dirty truck exhaust?

The dirty, smoky part of that stream of exhaust is made of particle pollution. Overwhelming evidence shows that particle pollution—like that coming from that exhaust smoke—can kill. Particle pollution can increase the risk of heart disease, lung cancer and asthma attacks and can interfere with the growth and work of the lungs.

What Is Particle Pollution?

Particle pollution refers to a mix of very tiny solid and liquid particles that are in the air we breathe. But nothing about particle pollution is simple. First of all, the particles themselves are different sizes. Some are one-tenth the diameter of a strand of hair. Many are even tinier; some are so small they can only be seen with an electron microscope. Because of their size, you can't see the individual particles. You can only see the haze that forms when millions of particles blur the spread of sunlight. You may not be able to tell when you're breathing particle pollution. Yet it is so dangerous it can shorten your life.

The differences in size make a big difference in how they affect us. Our natural defenses help us to cough or sneeze larger particles out of our bodies. But those defenses don't keep out smaller particles, those that are smaller than 10 microns (or micrometers) in diameter, or about one-seventh the diameter of a single human hair. These particles get trapped in the lungs, while the smallest are so minute that they can pass through the lungs into the blood stream, just like the essential oxygen molecules we need to survive.

Researchers categorize particles according to size, grouping them as coarse, fine and ultrafine. Coarse particles fall between 2.5 microns and 10 microns in diameter and are called $PM_{10-2.5}$. Fine particles are 2.5 microns in diameter or smaller and are called $PM_{2.5}$. Ultrafine particles are smaller than 0.1 micron in diameter[38] and are small enough to pass through the lung tissue into the blood stream, circulating like the oxygen molecules themselves. No matter what the size, particles can be harmful to your health.

Because particles are formed in so many different ways, they can be composed of many different compounds. Although we often think of particles as solids, not all are. Some are completely liquid; some are solids suspended in liquids. As the U.S. Environmental Protection Agency puts it, particles are really "a mixture of mixtures."[39] The mixtures differ between the eastern and western United States and in different times of the year. For example, the Midwest, Southeast and Northeast states have more sulfate particles than the West on average, largely due to the high levels of sulfur dioxide emitted by large, coal-fired power plants. By contrast, nitrate particles from motor vehicle exhaust form a larger proportion of the unhealthful mix in the winter in the Northeast, Southern California, the Northwest, and North Central U.S.[40]

Who Is at Risk?

Anyone who lives where particle pollution levels are high is at risk (you can take a look at levels in your state in this report). Some people face higher risk, however. People at the greatest risk from particle pollution exposure include:

- Anyone with lung disease such as asthma and chronic obstructive pulmonary disease (COPD), which includes chronic bronchitis and emphysema;
- Anyone with heart disease or diabetes[41];
- Anyone over 65;
- Infants, children and teens;
- People with low incomes; and
- People who work or are active outdoors.[42]

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Diabetics face increased risk at least in part because of their higher risk for cardiovascular disease. A 2010 study examined prevalence of diagnosed diabetes in relation to fine particle pollution in 2004-2005. The evidence suggested that air pollution is a risk factor for diabetes.[43] Traffic-related air pollution was implicated in two studies. A German study of nondiabetic women found that new cases of diabetes were more likely as levels of traffic-related pollution and particle pollution increased.[44] A similar finding of an increased risk for diabetes in women who lived near roadways came in a large study of nurses and health professionals, although that study did not find a strong association with levels of particle pollution.[45]

What Can Particles Do to Your Health?

Particle pollution can be very dangerous to breathe. Breathing particle pollution may trigger illness, hospitalization and premature death, risks showing up in new studies that validate earlier research.[46]

Good news came in 2009 from researchers who looked at the impact of the drop in year-round levels of particle pollution between 1980 and 2000 in 51 U.S. cities. Thanks to reductions in particle pollution people living in these cities had five months added to their life expectancy on average.[47] This study adds to the growing research that cleaning up air pollution improves life and health. Other researchers estimated that reductions in air pollution can be expected to produce rapid improvements in public health, with fewer deaths occurring within the first two years after reductions.[48]

Researchers are exploring possible differences in health effects of the three sizes of particles and particles from different sources, such as diesel particles from trucks and buses or sulfates from coal-fired power plants. So far, the evidence remains clear that all particles from all sources are dangerous.[49]

Short-Term Exposure Can Be Deadly

First and foremost, short-term exposure to particle pollution can kill. Peaks or spikes in particle pollution can last for hours to days. Deaths can occur on the very day that particle levels are high, or within one to two months afterward. Particle pollution does not just make people die a few days earlier than they might otherwise—these are deaths that would not have occurred if the air were cleaner.[50]

Researchers from Harvard University recently tripled the estimated risk of premature death following a review of the newer evidence from fine particle monitors ($PM_{2.5}$) in 27 U.S. cities.[51]

Particle pollution also diminishes lung function, causes greater use of asthma medications and increased rates of school absenteeism, emergency room visits and hospital admissions. Other adverse effects can be coughing, wheezing, cardiac arrhythmias and heart attacks. According to the findings from some of the latest studies, short-term increases in particle pollution have been linked to:

- death from respiratory and cardiovascular causes, including strokes;[52, 53, 54, 55]
- increased mortality in infants and young children;[56]
- increased numbers of heart attacks, especially among the elderly and in people with heart conditions;[57]
- inflammation of lung tissue in young, healthy adults;[58]
- increased hospitalization for cardiovascular disease, including strokes and congestive heart failure;[59, 60, 61]
- increased emergency room visits for patients suffering from acute respiratory ailments;[62]
- increased hospitalization for asthma among children;[63, 64, 65] and
- increased severity of asthma attacks in children.[66]

Again, the impact of even short-term exposure to particle pollution on healthy adults showed up in the Galveston lifeguard

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study, in addition to the harmful effects of ozone pollution. Lifeguards had reduced lung volume at the end of the day when fine particle levels were high.[67]

Year-Round Exposure

Breathing high levels of particle pollution day in and day out also can be deadly, as landmark studies in the 1990s conclusively showed.[68] Chronic exposure to particle pollution can shorten life by one to three years.[69] Other impacts range from premature births to serious respiratory disorders, even when the particle levels are very low.

Year-round exposure to particle pollution has also been linked to:

- increased hospitalization for asthma attacks for children living near roads with heavy truck or trailer traffic;[70, 71]
- slowed lung function growth in children and teenagers;[72, 73]
- significant damage to the small airways of the lungs;[74]
- increased risk of dying from lung cancer;[75] and
- increased risk of death from cardiovascular disease.[76]

Research into the health risks of 65,000 women over age 50 found that those who lived in areas with higher levels of particle pollution faced a much greater risk of dying from heart disease than had been previously estimated. Even women who lived within the same city faced differing risks depending on the annual levels of pollution in their neighborhood.[77]

The Environmental Protection Agency released the most thorough review of the current research on particle pollution in December 2009.[78] The Agency had engaged a panel of expert scientists, the Clean Air Scientific Advisory Committee, to help them assess the evidence, in particular research published between 2002 and May 2009. EPA concluded that particle pollution caused multiple, serious threats to health. Their findings are highlighted in the box below.

EPA Concludes Fine Particle Pollution Poses Serious Health Threats

- Causes early death (both short-term and long-term exposure)
- Causes cardiovascular harm (e.g. heart attacks, strokes, heart disease, congestive heart failure)
- Likely to cause respiratory harm (e.g. worsened asthma, worsened COPD, inflammation)
- May cause cancer
- May cause reproductive and developmental harm

—U.S. Environmental Protection *Agency, Integrated Science Assessment for Particulate Matter,* December 2009. EPA 600/R-08/139F.

Where Does Particle Pollution Come From?

Particle pollution is produced through two separate processes—mechanical and chemical.

Mechanical processes break down bigger bits into smaller bits with the material remaining essentially the same, only becoming smaller. Mechanical processes primarily create coarse particles.[79] Dust storms, construction and demolition, mining operations, and agriculture are among the activities that produce coarse particles. Tire, brake pad and road wear can also create coarse particles. Bacteria, pollen, mold, and plant and animal debris are also included as coarse particles.[80]

By contrast, chemical processes in the atmosphere create most of the tiniest fine and ultrafine particles. Combustion sources burn fuels and emit gases. These gases can vaporize and then condense to become a particle of the same chemical compound. Or, they can react with other gases or particles in the atmosphere to form a particle of a different chemical compound. Particles formed by this latter process come from the reaction of elemental carbon (soot), heavy metals, sulfur dioxide (SO_2), nitrogen oxides (NO_X) and volatile organic compounds with water and other compounds in the atmosphere.[81] Burning fossil fuels in factories, power plants, steel mills, smelters, diesel- and gasoline-powered motor vehicles (cars and trucks) and equipment generate a large part of the raw

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materials for fine particles. So does burning wood in residential fireplaces and wood stoves or burning agricultural fields or forests.

Focusing on Children's Health

Children face special risks from air pollution because their lungs are growing and because they are so active.

Just like the arms and legs, the largest portion of a child's lungs will grow long after he or she is born. Eighty percent of their tiny air sacs develop after birth. Those sacs, called the alveoli, are where the life-sustaining transfer of oxygen to the blood takes place. The lungs and their alveoli aren't fully grown until children become adults.[82] In addition, the body's defenses that help adults fight off infections are still developing in young bodies.[83] Children have more respiratory infections than adults, which also seems to increase their susceptibility to air pollution.[84]

Furthermore, children don't behave like adults, and their behavior also affects their vulnerability. They are outside for longer periods and are usually more active when outdoors. Consequently, they inhale more polluted outdoor air than adults typically do.[85]

In 2004, the American Academy of Pediatrics issued a special statement on the dangers of outdoor air pollution on children's health, pointing out the special differences for children.[86]

Air Pollution Increases Risk of Underdeveloped Lungs

Another finding from the Southern California Children's Health study looked at the long-term effects of particle pollution on teenagers. Tracking 1,759 children between ages 10 and 18, researchers found that those who grew up in more polluted areas face the increased risk of having underdeveloped lungs, which may never recover to their full capacity. The average drop in lung function was 20 percent below what was expected for the child's age, similar to the impact of growing up in a home with parents who smoked.[87]

Community health studies are pointing to less obvious, but serious effects from year-round exposure to ozone, especially for children. Scientists followed 500 Yale University students and determined that living just four years in a region with high levels of ozone and related co-pollutants was associated with diminished lung function and frequent reports of respiratory symptoms.[88] A much larger study of 3,300 school children in Southern California found reduced lung function in girls with asthma and boys who spent more time outdoors in areas with high levels of ozone.[89]

Cleaning Up Pollution Can Reduce Risk to Children

There is also real-world evidence that reducing air pollution can help protect children. Two studies published in 2005 added more weight to the argument.

Changes in air pollution from the reunification of Germany proved a real-life laboratory. Both East and West Germany had different levels and sources of particles. Outdoor particle levels were much higher in East Germany, where they came from factories and homes. West Germany had higher concentrations of traffic-generated particles. After reunification, emissions from the factories and homes dropped, but traffic increased. A German study explored the impact on the lungs of six-year olds from both East and West Germany. Total lung capacity improved with the lower particle levels. However, for those children living near busy roads, the increased pollution from the increased traffic kept them from benefiting from the overall cleaner air.[90]

In Switzerland, particle pollution dropped during a period in the 1990s. Researchers there tracked 9,000 children over a nine-year period, following their respiratory symptoms. After taking other factors such as family characteristics and indoor air pollution into account, the researchers noted that during

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the years with less pollution, the children had fewer episodes of chronic cough, bronchitis, common cold, and conjunctivitis symptoms.[91]

Disparities in the Impact of Air Pollution

The burden of air pollution is not evenly shared. Poorer people and some racial and ethnic groups are among those who often face higher exposure to pollutants and who may experience greater responses to such pollution. Many studies have explored the differences in harm from air pollution to racial or ethnic groups and people who are in a low socioeconomic position, have less education, or live nearer to major sources,[92] including a workshop the American Lung Association held in 2001 that focused on urban air pollution and health inequities.[93]

Many studies have looked at differences in the impact on premature death. Results have varied widely, particularly for effects between racial groups. Some studies have found no differences among races,[94] while others found greater responsiveness for Whites and Hispanics, but not African-Americans,[95] or for African-Americans but not other races or ethnic groups.[96] Other researchers have found greater risk for African-Americans from air toxics, including those pollutants that also come from traffic sources.[97]

Socioeconomic position has been more consistently associated with greater harm from air pollution. Recent studies show evidence of that link. Low socioeconomic status consistently increased the risk of premature death from fine particle pollution among 13.2 million Medicare recipients studied in the largest examination of particle pollution mortality nationwide.[98] In the 2008 study that found greater risk for premature death for African-Americans, researchers also found greater risk for people living in areas with higher unemployment or higher use of public transportation.[99] A 2008 study of Washington, DC found that while poor air quality and worsened asthma went hand-in-hand in areas where Medicaid enrollment was high, the areas with the highest Medicaid enrollment did not always have the strongest association of high air pollution and asthma attacks.[100] However, two other recent studies in France have found no association with lower income and asthma attacks.[101]

Scientists have speculated that there are three broad reasons why disparities may exist. First, groups may face greater exposure to pollution because of factors ranging from racism to class bias to housing market dynamics and land costs. For example, pollution sources may be located near disadvantaged communities, increasing exposure to harmful pollutants. Second, low social position may make some groups more susceptible to health threats because of factors related to their disadvantage. Lack of access to health care, grocery stores and good jobs, poorer job opportunities, dirtier workplaces or higher traffic exposure are among the factors that could handicap groups and increase the risk of harm. Finally, existing health conditions, behaviors, or traits may predispose some groups to greater risk. For example, diabetics are among the groups most at risk from air pollutants, and the elderly, African-Americans, Mexican-Americans and people living near a central city have higher incidence of diabetes.[102]

Highways May Be Especially Dangerous for Breathing

Being in heavy traffic, or living near a road, may be even more dangerous than being in other places in a community. Growing evidence shows that the vehicle emissions coming directly from those highways may be higher than in the community as a whole, increasing the risk of harm to people who live or work near busy roads.

The number of people living "next to a busy road" may include 30 to 45 percent of the population in North America, according to the most recent review of the evidence. In January 2010, the Health Effects Institute published a major review of the evidence by a panel of expert scientists. The panel looked at over 700 studies from around the world, examining the health

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effects. They concluded that traffic pollution causes asthma attacks in children, and may cause a wide range of other effects including: the onset of childhood asthma, impaired lung function, premature death and death from cardiovascular diseases, and cardiovascular morbidity. The area most affected, they concluded, was roughly 0.2 mile to 0.3 mile (300 to 500 meters) from the highway.[103]

Children and teenagers are among the most vulnerable—though not the only ones at risk. A Danish study found that long-term exposure to traffic air pollution may increase the risk of developing chronic obstructive pulmonary disease (COPD). They found that those most at risk were people who already had asthma or diabetes.[104] Studies have found increased risk of premature death from living near a major highway or an urban road.[105] Another study found an increase in risk of heart attacks from being in traffic, whether driving or taking public transportation.[106] Urban women in a Boston study experienced decreased lung function associated with traffic-related pollution.[107]

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How to Protect Yourself from Ozone, Particle Pollution

To minimize your exposure to ozone and particle pollution:

- Pay attention to forecasts for high air pollution days to know when to take precautions;
- Avoid exercising near high-traffic areas;
- Avoid exercising outdoors when pollution levels are high, or substitute an activity that requires less exertion;
- Do not let anyone smoke indoors and support measures to make all places smokefree; and
- Reduce the use of fireplaces and wood-burning stoves.

Bottom line: Help yourself and everyone else breathe easier. Support national, state and local efforts to clean up sources of pollution. Your life and the life of someone you love may depend on it.

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Methodology

Statistical Methodology: The Air Quality Data

Data Sources

The data on air quality throughout the United States were obtained from the U.S. Environmental Protection Agency's Air Quality System (AQS), formerly called Aerometric Information Retrieval System (AIRS) database. The American Lung Association contracted with Dr. Allen S. Lefohn, A.S.L. & Associates, Helena, Montana, to characterize the hourly averaged ozone concentration information and the 24-hour averaged $PM_{2.5}$ concentration information for the 3-year period for 2008–2010 for each monitoring site.

Design values for the annual $PM_{2.5}$ concentrations by county for the period 2008–2010 were downloaded on September 24, 2011 from EPA's website at http://www.epa.gov/air/airtrends/values.html.

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Ozone Data Analysis

The 2008, 2009, and 2010 AQS hourly ozone data were used to calculate the daily 8-hour maximum concentration for each ozone-monitoring site. The hourly averaged ozone data were downloaded on June 28, 2011. The data were considered for a 3-year period for the same reason that EPA uses three years of data to determine compliance with the ozone standard: to prevent a situation in any single year, where anomalies of weather or other factors create air pollution levels, which inaccurately reflect the normal conditions. The highest 8-hour daily maximum concentration in each county for 2008, 2009, and 2010, based on the EPA-defined ozone season, was identified.

The current national ambient air quality standard for ozone is 0.075 ppm measured over eight hours. EPA's Air Quality Index reflects the 0.075 ppm standard. A.S.L. & Associates prepared a table by county that summarized, for each of the three years, the number of days the ozone level was within the ranges identified by EPA based on the EPA Air Quality Index:

8-hour Ozone Concentration	Air Quality Index Levels
0.000 – 0.059 ppm	Good (Green)
0.060 – 0.075 ppm	Moderate (Yellow)
0.076 – 0.095 ppm	Unhealthy for Sensitive Groups (Orange)
0.096 – 0.115 ppm	Unhealthy (Red)
0.116 – 0.374 ppm	Very Unhealthy (Purple)
>0.374 ppm	Hazardous (Maroon)

The goal of this report was to identify the number of days that 8-hour daily maximum concentrations occurred within the defined ranges, not just those days that would fall under the requirements for attaining the national ambient air quality standards. Therefore, no data capture criteria were applied to eliminate monitoring sites or to require a number of valid days for the ozone season. All valid days of data within the ozone season were used in the analysis. However, for computing an 8-hour average, at least 75 percent of the hourly concentrations (i.e., 6-8 hours) had to be available for the 8-hour period. In addition, an 8-hour daily maximum average was identified if valid 8-hour averages were available for at least 75 percent of possible hours in the day (i.e., at least 18 of the possible 24 8-hour averages). Because the EPA includes days with inadequate data if the standard value is exceeded, our data capture methodology may result at times in underestimations of the number of 8-hour averages within the higher concentration ranges. However, our experience is that underestimates are infrequent.

Following receipt of the above information, the American Lung Association identified the number of days each county, with at least one ozone monitor, experienced air quality designated as orange (Unhealthy for Sensitive Groups), red (Unhealthy), or purple (Very Unhealthy).

Short-term Particle Pollution Data Analysis

A.S.L. & Associates identified the maximum daily 24-hour AQS $PM_{2.5}$ concentration for each county in 2008, 2009, and 2010 with monitoring information. The 24-hour $PM_{2.5}$ data were downloaded on August 1, 2011. In addition, hourly averaged $PM_{2.5}$ concentration data were characterized into 24-hour average $PM_{2.5}$ values by the EPA and provided to A.S.L. & Associates. Using these results, A.S.L. & Associates prepared a table by county that summarized, for each of the 3 years, the number of days the maximum of the *daily* $PM_{2.5}$ concentration was within the ranges identified by EPA based on the EPA Air Quality Index, adjusted by the American Lung Association as discussed below:

24-hour $PM_{2.5}$ Concentration	**Air Quality Index Levels**
0.0 μg/m³ to 15.4 μg/m³	Good (Green)
15.5 μg/m³ to 35.0 μg/m³	Moderate (Yellow)
35.1 μg/m³ to 65.4 μg/m³	Unhealthy for Sensitive Groups (Orange)
65.5 μg/m³ to 150.4 μg/m³	Unhealthy (Red)
150.5 μg/m³ to 250.4 μg/m³	Very Unhealthy (Purple)
greater than or equal to 250.5 μg/m³	Hazardous (Maroon)

In 2006, the EPA revised the 24-hour National Ambient Air Quality standard for PM2.5, changing the standard to 35 μg/m³ from 65 μg/m³. As of December 2011, the EPA had not announced changes to the Air Quality Index based on that standard. The Lung Association adjusted the level of the category "Unhealthy for Sensitive Groups" to reflect the 2006 standard, making that category range from 35.1 μg/m³ to 65.4 μg/m³.

The goal of this report was to identify the number of days that the maximum in each county of the daily $PM_{2.5}$ concentration occurred within the defined ranges, not just those days that would fall under the requirements for attaining the national ambient air quality standards. Therefore, no data capture criteria were used to eliminate monitoring sites. Both 24-hour averaged PM data, as well as hourly averaged PM data averaged over 24 hours were used. Included in the analysis are data collected using only FRM and FEM methods, which reported hourly and 24-hour averaged data. As instructed by the Lung Association, A.S.L. & Associates included the exceptional and natural events that were identified in the database and identified for the Lung Association the dates and monitoring sites that experienced such events. Some data have been flagged by the state or local air pollution control agency to indicate that they had raised issues with EPA about those data.

Following receipt of the above information, the American Lung Association identified the number of days each county, with at least one $PM_{2.5}$ monitor, experienced air quality designated as orange (Unhealthy for Sensitive Groups), red (Unhealthy), purple (Very Unhealthy) or maroon (Hazardous).

Description of County Grading System

Ozone and short-term particle pollution (24-hour $PM_{2.5}$)

The grades for ozone and short-term particle pollution (24-hour $PM_{2.5}$) were based on a weighted average for each county. To determine the weighted average, the Lung Association followed these steps:

1. First, assigned weighting factors to each category of the Air Quality Index. The number of orange days experienced by each county received a factor of 1; red days, a factor of 1.5; purple days, a factor of 2; and maroon days, a factor of 2.5. This allowed days where the air pollution levels were higher to receive greater weight.

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2. Next, multiplied the total number of days within each category by their assigned factor, then summed all the categories to calculate a total.
3. Finally, divided the total by three to determine the weighted average, since the monitoring data were collected over a three-year period.

The weighted average determined each county's grades for ozone and 24-hour $PM_{2.5}$.

- All counties with a weighted average of zero (corresponding to no exceedances of the standard over the three-year period) were given a grade of "A."
- For ozone, an "F" grade was set to generally correlate with the number of unhealthy air days that would place a county in nonattainment for the ozone standard.
- For short-term particle pollution, fewer unhealthy air days are required for an F than for nonattainment under the $PM_{2.5}$ standard. The national air quality standard is set to allow 2 percent of the days during the three years to exceed 35 $\mu g/m^3$ (called a "98th percentile" form) before violating the standard. That would be roughly 21 unhealthy days in three years. The grading used in this report would allow only about 1 percent of the days to be over 35 $\mu g/m^3$ (called a "99th percentile" form) of the $PM_{2.5}$. The American Lung Association supports using the tighter limits in a 99th percentile form as a more appropriate standard that is intended to protect the public from short-term spikes in pollution.

Grading System		
Grade	Weighted Average	Approximate Number of Allowable Orange/Red/Purple/Maroon days
A	0.0	None
B	0.3 to 0.9	1 to 2 orange days with no red
C	1.0 to 2.0	3 to 6 days over the standard: 3 to 5 orange with no more than 1 red OR 6 orange with no red
D	2.1 to 3.2	7 to 9 days over the standard: 7 total (including up to 2 red) to 9 orange with no red
F	3.3 or higher	9 days or more over the standard: 10 orange days or 9 total including at least 1 or more red, purple or maroon

Weighted averages allow comparisons to be drawn based on severity of air pollution. For example, if one county had nine orange days and 0 red days, it would earn a weighted average of 3.0 and a D grade. However, another county which had only 8 orange days but also two red days, which signify days with more serious air pollution, would receive an F. That second county would have a weighted average of 3.7.

Note that this system differs significantly from the methodology EPA uses to determine violations of both the ozone and the 24-hour $PM_{2.5}$ standards. EPA determines whether a county violates the standard based on the 4th maximum daily 8-hour ozone reading each year averaged over three years. Multiple days of unhealthy air beyond the highest four in each year are not considered. By contrast, the system used in this report recognizes when a community's air quality repeatedly results in unhealthy air throughout the three years. Consequently, some counties will receive grades of "F" in this report, showing repeated instances of unhealthy air, while still meeting EPA's 2008 ozone standard. The American Lung Association's position is that the evidence shows that the 2008 ozone standard fails to protect public health.

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Counties were ranked by weighted average. Metropolitan areas were ranked by the highest weighted average among the counties within a given Metropolitan Statistical Area as of 2009 as defined by the White House Office of Management and Budget (OMB).

Year-round particle pollution (Annual $PM_{2.5}$)

Since no comparable Air Quality Index exists for year-round particle pollution (annual $PM_{2.5}$), the grading was based on EPA's determination of the national ambient air quality standard for annual $PM_{2.5}$ of 15 $\mu g/m^3$. Counties that EPA listed as being at or below 15.0 $\mu g/m^3$ were given grades of "Pass." Counties EPA listed as being at or above 15.1 $\mu g/m^3$ were given grades of "Fail." Where insufficient data existed for EPA to determine a design value, those counties received a grade of "Incomplete."

Design value is the calculated concentration of a pollutant based on the form of the national ambient air quality standard and is used by EPA to determine whether or not the air quality in a county meets the standard. Counties were ranked by design value. Metropolitan areas were ranked by the highest design value among the counties within a given Metropolitan Statistical Area as of 2009 as defined by the OMB.

The Lung Association received critical assistance from members of the National Association of Clean Air Administrators, formerly known as the State and Territorial Air Pollution Control Administrators and the Association of Local Air Pollution Control Administrators. With their assistance, all state and local agencies were provided the opportunity to review and comment on the data in draft tabular form. The Lung Association reviewed all discrepancies with the agencies and, if needed, with Dr. Lefohn at A.S.L. and Associates. Questions about the annual PM design values were referred to Mr. Schmidt of EPA, who reviewed and had final decision on those determinations. The American Lung Association wishes to express its continued appreciation to the state and local air directors for their willingness to assist in ensuring that the characterized data used in this report are correct.

Calculations of Populations-at-Risk

Presently county-specific measurements of the number of persons with chronic conditions are not generally available. In order to assess the magnitude of chronic conditions at the state and county levels, we have employed a synthetic estimation technique originally developed by the U.S. Census Bureau. This method uses age-specific national and state estimates of self-reported conditions to project disease prevalence to the county level. The primary exception to this is poverty, for which estimates are available at the county level.

Population Estimates

Total population for each county was obtained from U.S. Census Bureau summary files of the 2010 decennial census data, which included age- and gender-specific breakdowns.

Poverty estimates came from the Census Bureau's Small Area Income and Poverty Estimates (SAIPE) program. The program does not use direct counts or estimates from sample surveys, as these methods would not provide sufficient data for all counties. Instead, a model based on estimates of income or poverty from the Annual Social and Economic Supplement (ASEC) to the Current Population Survey (CPS) is used to develop estimates for all states and counties.

Prevalence Estimates

Chronic Bronchitis, Emphysema and Cardiovascular Disease Estimates. In 2010, the National Health Interview Survey (NHIS) estimated the nationwide annual prevalence of diagnosed chronic bronchitis at 9.9 million, the nationwide lifetime prevalence of diagnosed emphysema at 4.3 million, and the nationwide lifetime prevalence of diagnosed cardiovascular

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disease at 74.7 million. Estimates for chronic bronchitis and emphysema should not be combined as they represent different types of prevalence estimates. Cardiovascular disease includes coronary heart disease, hypertension, stroke and heart failure.

Local area prevalence of chronic bronchitis, emphysema, and cardiovascular disease are estimated by applying age-specific national prevalence rates from the 2010 NHIS to age-specific county-level resident populations obtained from the U.S. Census Bureau web site. Prevalence estimates for chronic bronchitis, emphysema, and cardiovascular disease are calculated for those aged 18-44 years, 45-64 years and 65 years and older.

Asthma and Diabetes. In 2010, the Behavioral Risk Factor Surveillance System (BRFSS) survey indicated that approximately 8.6 percent of adults residing in the United States and 9.1 percent of children from twenty-nine states and Washington, D.C. reported currently having asthma. The BRFSS indicated that 9.2 percent of adults in the United States had ever been diagnosed with diabetes in 2010.

The prevalence estimate for pediatric asthma is calculated for those younger than 18 years; adult asthma and diabetes is calculated for those aged 18-44 years, 45-64 years and 65 years and older. Local area prevalence of pediatric asthma is estimated by applying the most recent state prevalence rates, or if none are available, the national rate from the BRFSS to pediatric county-level resident populations obtained from the U.S. Census Bureau web site. Pediatric asthma data from the 2010 BRFSS were available for thirty-two states and Washington D.C., five states[1] from 2009, three states[2] from 2008, and one state each[3] for 2007 and 2006. National data was used for the eight states[4] that had no data available since 2006.

1 California, Delaware, Idaho, New York and Virginia.
2 Maine, New Hampshire, and Ohio.
3 Alaska for 2007 and Minnesota for 2006.
4 Arkansas, Colorado, Florida, Massachusetts, North Carolina, South Carolina, South Dakota, and Tennessee.

Local area prevalence of adult asthma and diabetes is estimated by applying age-specific state prevalence rates from the 2010 BRFSS to age-specific county-level resident populations obtained from the U.S. Census Bureau web site.

Limitations of Estimates. Since the statistics presented by the NHIS, BRFSS and SAIPE are based on a sample, they will differ (due to random sampling variability) from figures that would be derived from a complete census or case registry of people in the U.S. with these diseases. The results are also subject to reporting, non-response and processing errors. These types of errors are kept to a minimum by methods built into the survey.

Additionally, a major limitation of both surveys is that the information collected represents self-reports of medically diagnosed conditions, which may underestimate disease prevalence since not all individuals with these conditions have been properly diagnosed. However, the NHIS is the best available source that depicts the magnitude of chronic disease on the national level and the BRFSS is the best available source for state-specific asthma and diabetes information. The conditions covered in the survey may vary considerably in the accuracy and completeness with which they are reported.

Local estimates of chronic diseases are scaled in direct proportion to the base population of the county and its age distribution. No adjustments are made for other factors that may affect local prevalence (e.g. local prevalence of cigarette smokers or occupational exposures) since the health surveys that obtain such data are rarely conducted on the county level. Because the estimates do not account for geographic differences in the prevalence of chronic and acute diseases, the sum of the estimates for each of the counties in the United States may not exactly reflect the national estimate derived by the NHIS or state estimates derived by the BRFSS.

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State Table Notes

A full explanation of the sources of data and methodology is in the Methodology.

Notes for all state data tables

1. **Total Population** is based on 2010 U.S. Census and represents the at-risk populations in counties with ozone or $PM_{2.5}$ pollution monitors; it does not represent the entire state's sensitive populations.
2. Those **18 & under** and **65 & over** are vulnerable to ozone and $PM_{2.5}$. Do not use them as population denominators for disease estimates—that will lead to incorrect estimates.
3. **Pediatric asthma** estimates are for those under 18 years of age and represent the estimated number of people who had asthma in 2010 based on the state rates (Behavioral Risk Factor Surveillance System, or BRFSS), applied to county population estimates (U.S. Census).
4. **Adult asthma** estimates are for those 18 years and older and represent the estimated number of people who had asthma during 2010 based on state rates (BRFSS) applied to county population estimates (U.S. Census).
5. **Chronic bronchitis** estimates are for adults 18 and over who had been diagnosed within 2010 based on national rates (from the National Health Interview Survey, or NHIS) applied to county population estimates (U.S. Census).
6. **Emphysema** estimates are for adults 18 and over who have been diagnosed within their lifetime based on national rates in 2010 (NHIS) applied to county population estimates (U.S. Census).
7. **Cardiovascular disease** estimates are for adults 18 and over who have been diagnosed within their lifetime, based on national rates in 2010 (NHIS) applied to county population estimates (U.S. Census). CV disease includes coronary heart disease, hypertension, stroke, and heart failure.
8. **Diabetes** estimates are for adults 18 and over who have been diagnosed within their lifetime based on state rates (BRFSS) applied to county population estimates (U.S. Census).
9. **Poverty** estimates include all ages and come from the U.S. Census Bureau's Small Area Income and Poverty Estimates program. The estimates are derived from a model using estimates of income or poverty from the Annual Social and Economic Supplement and the Current Population Survey, 2010.
10. Adding across rows does not produce valid estimates. Adding emphysema and chronic bronchitis will double-count people with both diseases.

Notes for all state grades tables.

1. Not all counties have monitors for either ozone or particle pollution. If a county does not have a monitor, that county's name is not on the list in these tables. The decision about monitors in the county is made by the state and the U.S. Environmental Protection Agency, not by the American Lung Association.
2. **INC** indicates that monitoring is underway for that pollutant in that county, but that the data are incomplete for all three years. Those counties are not graded or received an Incomplete.
3. **DNC** (Data Not Collected) indicates that data on that particular pollutant is not collected in that county.
4. The **Weighted Average (Wgt. Avg)** was derived by adding the three years of individual level data (2008-2010), multiplying the sums of each level by the assigned standard weights (i.e. 1=orange, 1.5=red, 2.0=purple and 2.5=maroon) and calculating the average. Grades are assigned based on the weighted averages as follows: A=0.0, B=0.3-0.9, C=1.0-2.0, D=2.1-3.2, F=3.3+.
5. The **Design Value** is the calculated concentration of a pollutant based on the form of the National Ambient Air Quality Standard, and is used by EPA to determine whether the air quality in a county meets the standard. Design values for the annual $PM_{2.5}$ concentrations by county were collected from data previously summarized by the EPA and were downloaded on September 24, 2011 from EPA's website at http://www.epa.gov/air/airtrends/values.html. The numbers refer to micrograms per cubic meter, or $\mu g/m^3$.
6. The annual average National Ambient Air Quality Standard for $PM_{2.5}$ is 15 $\mu g/m^3$. Counties with design values of 15 or lower received a grade of "Pass." Counties with design values of 15.1 or higher received a grade of "Fail."

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ALABAMA

American Lung Association in Alabama

2200 Riverchase Center #604
Birmingham, AL 35244
(205) 987-7432
www.lung.org/alabama

AT-RISK GROUPS

Lung Diseases

County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	Chronic Bronchitis	Emphysema	Cardio-vascular Disease	Diabetes	Poverty
Baldwin	182,265	41,898	30,568	4,813	11,138	6,323	3,063	50,364	18,487	24,056
Clay	13,932	3,144	2,449	361	857	489	241	3,921	1,437	2,802
Colbert	54,428	12,034	9,463	1,382	3,365	1,916	937	15,322	5,619	10,329
DeKalb	71,109	18,366	9,875	2,110	4,163	2,302	1,045	17,766	6,566	14,586
Elmore	79,303	18,707	9,436	2,149	4,776	2,599	1,107	19,556	7,269	9,276
Etowah	104,430	23,986	16,508	2,755	6,371	3,581	1,692	28,187	10,373	19,457
Houston	101,547	24,926	14,675	2,863	6,058	3,371	1,549	26,201	9,669	18,014
Jefferson	658,466	154,528	86,443	17,750	39,726	21,754	9,558	165,636	61,402	119,809
Madison	334,811	79,490	40,873	9,131	20,131	10,986	4,726	83,022	30,830	41,676
Mobile	412,992	103,581	53,321	11,898	24,412	13,406	5,914	102,336	37,916	83,457
Montgomery	229,363	56,167	27,421	6,452	13,604	7,331	3,104	54,801	20,397	46,972
Morgan	119,490	28,624	16,871	3,288	7,184	3,990	1,815	30,889	11,409	16,562
Russell	52,947	13,499	6,720	1,551	3,108	1,699	744	12,911	4,788	12,654
Shelby	195,085	49,962	20,627	5,739	11,428	6,172	2,551	45,900	17,107	18,948
Sumter	13,763	3,068	2,063	352	845	469	215	3,636	1,342	4,080
Talladega	82,291	19,285	11,591	2,215	4,984	2,771	1,258	21,449	7,923	17,912
Tuscaloosa	194,656	41,786	21,050	4,800	11,921	6,229	2,458	44,933	16,858	33,258
Walker	67,023	15,107	10,894	1,735	4,119	2,331	1,115	18,470	6,788	15,288
Totals	**2,967,901**	**708,158**	**390,848**	**81,345**	**178,192**	**97,719**	**43,092**	**745,301**	**276,181**	**509,136**

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HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Baldwin	5	0	0	1.7	C
Clay	DNC	DNC	DNC	DNC	DNC
Colbert	0	0	0	0.0	A
DeKalb	DNC	DNC	DNC	DNC	DNC
Elmore	0	0	0	0.0	A
Etowah	0	0	0	0.0	A
Houston	0	0	0	0.0	A
Jefferson	31	0	0	10.3	F
Madison	4	0	0	1.3	C
Mobile	10	0	0	3.3	F
Montgomery	3	0	0	1.0	C
Morgan	0	0	0	0.0	A
Russell	0	0	0	0.0	A
Shelby	10	0	0	3.3	F
Sumter	1	0	0	0.3	B
Talladega	DNC	DNC	DNC	DNC	DNC
Tuscaloosa	0	0	0	0.0	A
Walker	DNC	DNC	DNC	DNC	DNC

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Baldwin	0	0	0	0.0	A	INC	INC
Clay	0	0	0	0.0	A	10.1	PASS
Colbert	0	0	0	0.0	A	10.3	PASS
DeKalb	0	0	0	0.0	A	10.9	PASS
Elmore	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Etowah	2	0	0	0.7	B	11.4	PASS
Houston	2	0	0	0.7	B	10.1	PASS
Jefferson	7	0	0	2.3	D	13.7	PASS
Madison	2	0	0	0.7	B	11.2	PASS
Mobile	0	0	0	0.0	A	9.8	PASS
Montgomery	2	0	0	0.7	B	INC	INC
Morgan	0	0	0	0.0	A	10.8	PASS
Russell	2	0	0	0.7	B	12.4	PASS
Shelby	0	0	0	0.0	A	INC	INC
Sumter	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Talladega	0	0	0	0.0	A	INC	INC
Tuscaloosa	1	0	0	0.3	B	10.7	PASS
Walker	0	0	0	0.0	A	11.0	PASS

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ALASKA

American Lung Association in Alaska

500 West International Airport Road, #A
Anchorage, AK 99518-1105
(907) 276-5864
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AT-RISK GROUPS

				Lung Diseases						
County	**Total Population**	**Under 18**	**65 & Over**	**Pediatric Asthma**	**Adult Asthma**	**Chronic Bronchitis**	**Emphysema**	**Cardio-vascular Disease**	**Diabetes**	**Poverty**
Anchorage Municipality	291,826	75,786	21,139	5,246	21,468	8,872	3,262	62,988	11,061	27,351
Fairbanks North Star Borough	97,581	25,001	6,375	1,731	7,184	2,919	1,026	20,296	3,491	8,804
Juneau City and Borough	31,275	7,336	2,635	508	2,390	1,022	401	7,503	1,355	2,524
Matanuska-Susitna Borough	88,995	25,719	7,069	1,780	6,322	2,680	1,045	19,572	3,528	9,618
Yukon-Koyukuk Census Area	5,588	1,552	569	107	408	177	75	1,338	250	1,512
Totals	**515,265**	**135,394**	**37,787**	**9,372**	**37,772**	**15,670**	**5,809**	**111,697**	**19,686**	**49,809**

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	HIGH OZONE DAYS 2008–2010					HIGH PARTICLE POLLUTION DAYS 2008–2010						
						24 Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg	Grade	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Anchorage Municipality	INC	INC	INC	INC	INC	0	0	0	0.0	A	6.3	PASS
Fairbanks North Star Borough	DNC	DNC	DNC	DNC	DNC	26	5	1	11.8	F	13.6	PASS
Juneau City and Borough	DNC	DNC	DNC	DNC	DNC	6	0	0	2.0	C	7.6	PASS
Matanuska-Susitna Borough	DNC	DNC	DNC	DNC	DNC	5	0	0	1.7	C	INC	INC
Yukon-Koyukuk Census Area	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC

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ARIZONA

American Lung Association in Arizona

102 West McDowell Road
Phoenix, AZ 85003-1213
(602) 258-7505
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AT-RISK GROUPS

Lung Diseases

County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	Chronic Bronchitis	Emphysema	Cardio-vascular Disease	Diabetes	Poverty
Cochise	131,346	30,250	22,688	2,836	9,860	4,530	2,208	36,087	9,331	22,199
Coconino	134,421	31,788	11,924	2,981	9,859	4,191	1,589	29,932	7,615	30,121
Gila	53,597	11,471	12,450	1,076	4,178	2,021	1,114	17,125	4,491	10,403
La Paz	20,489	3,678	6,683	345	1,657	843	525	7,543	1,961	4,769
Maricopa	3,817,117	1,007,861	462,641	94,502	270,565	118,825	50,819	890,564	227,264	625,090
Mohave	200,186	41,265	46,658	3,869	15,728	7,588	4,166	64,129	16,785	36,831
Navajo	107,449	31,973	14,241	2,998	7,373	3,322	1,520	25,783	6,685	29,291
Pima	980,263	225,316	151,293	21,127	73,245	33,057	15,344	257,231	66,176	170,806
Pinal	375,770	99,700	52,071	9,348	26,593	11,852	5,331	90,685	23,143	51,500
Santa Cruz	47,420	14,560	6,224	1,365	3,215	1,451	666	11,289	2,932	13,247
Yavapai	211,033	40,269	50,767	3,776	16,944	8,205	4,535	69,629	18,265	37,975
Yuma	195,751	55,185	30,646	5,174	13,488	6,101	2,891	47,628	12,099	40,210
Totals	**6,274,842**	**1,593,316**	**868,286**	**149,397**	**452,704**	**201,986**	**90,708**	**1,547,625**	**396,748**	**1,072,442**

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HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Cochise	1	0	0	0.3	B
Coconino	4	0	0	1.3	C
Gila	13	0	0	4.3	F
La Paz	4	0	0	1.3	C
Maricopa	34	0	0	11.3	F
Mohave	DNC	DNC	DNC	DNC	DNC
Navajo	0	0	0	0.0	A
Pima	3	0	0	1.0	C
Pinal	17	0	0	5.7	F
Santa Cruz	DNC	DNC	DNC	DNC	DNC
Yavapai	1	0	0	0.3	B
Yuma	14	0	0	4.7	F

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Cochise	0	0	0	0.0	A	7.1	PASS
Coconino	0	0	0	0.0	A	6.1	PASS
Gila	DNC	DNC	DNC	DNC	DNC	DNC	DNC
La Paz	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Maricopa	2	2	0	1.7	C	10.2	PASS
Mohave	INC	INC	INC	INC	INC	INC	INC
Navajo	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Pima	0	0	0	0.0	A	5.4	PASS
Pinal	8	0	0	2.7	D	15.4	FAIL
Santa Cruz	3	1	0	1.5	C	12.2	PASS
Yavapai	0	0	0	0.0	A	5.0	PASS
Yuma	0	0	0	0.0	A	INC	INC

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ARKANSAS

American Lung Association in Arkansas

217 W 2nd Street, Suite 105
Little Rock, AR 72201
(501) 975-0758
www.lung.org/arkansas

AT-RISK GROUPS

Lung Diseases

County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	Chronic Bronchitis	Emphysema	Cardio-vascular Disease	Diabetes	Poverty
Arkansas	19,019	4,425	3,115	401	1,146	657	317	5,226	1,510	3,477
Ashley	21,853	5,330	3,544	483	1,297	742	357	5,896	1,702	4,200
Crittenden	50,902	14,809	5,477	1,342	2,826	1,544	652	11,576	3,315	15,217
Faulkner	113,237	27,742	11,318	2,514	6,644	3,490	1,366	25,139	7,093	16,185
Garland	96,024	20,093	20,098	1,821	5,958	3,519	1,841	28,995	8,391	20,502
Jackson	17,997	3,734	2,856	338	1,117	631	295	4,938	1,420	4,120
Newton	8,330	1,736	1,701	157	520	309	162	2,558	744	1,920
Phillips	21,757	6,113	3,254	554	1,228	701	334	5,543	1,600	7,697
Polk	20,662	4,921	4,025	446	1,237	730	378	5,991	1,736	4,670
Pope	61,754	14,241	8,113	1,291	3,705	2,022	877	15,252	4,346	10,357
Pulaski	382,748	92,185	45,908	8,354	22,722	12,408	5,288	93,246	26,664	64,502
Sebastian	125,744	31,882	16,518	2,889	7,344	4,065	1,803	31,077	8,907	25,412
Union	41,639	10,061	6,481	912	2,480	1,415	671	11,180	3,228	8,877
Van Buren	17,295	3,537	3,923	321	1,082	652	353	5,468	1,589	3,547
Washington	203,065	51,484	19,641	4,665	11,757	6,124	2,359	43,719	12,287	38,428
White	77,076	18,433	10,848	1,670	4,575	2,524	1,131	19,304	5,512	12,362
Totals	**1,279,102**	**310,726**	**166,820**	**28,158**	**75,636**	**41,533**	**18,184**	**315,108**	**90,044**	**241,473**

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HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Arkansas	DNC	DNC	DNC	DNC	DNC
Ashley	DNC	DNC	DNC	DNC	DNC
Crittenden	11	0	0	3.7	F
Faulkner	DNC	DNC	DNC	DNC	DNC
Garland	DNC	DNC	DNC	DNC	DNC
Jackson	DNC	DNC	DNC	DNC	DNC
Newton	0	0	0	0.0	A
Phillips	DNC	DNC	DNC	DNC	DNC
Polk	2	0	0	0.7	B
Pope	DNC	DNC	DNC	DNC	DNC
Pulaski	6	0	0	2.0	C
Sebastian	DNC	DNC	DNC	DNC	DNC
Union	DNC	DNC	DNC	DNC	DNC
Van Buren	INC	INC	INC	INC	INC
Washington	1	0	0	0.3	B
White	DNC	DNC	DNC	DNC	DNC

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Arkansas	0	0	0	0.0	A	10.9	PASS
Ashley	0	0	0	0.0	A	10.4	PASS
Crittenden	0	0	0	0.0	A	11.1	PASS
Faulkner	0	0	0	0.0	A	10.8	PASS
Garland	0	0	0	0.0	A	10.7	PASS
Jackson	1	0	0	0.3	B	10.4	PASS
Newton	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Phillips	0	0	0	0.0	A	10.7	PASS
Polk	0	0	0	0.0	A	10.4	PASS
Pope	0	0	0	0.0	A	11.1	PASS
Pulaski	0	0	0	0.0	A	12.0	PASS
Sebastian	0	0	0	0.0	A	11.1	PASS
Union	0	0	0	0.0	A	10.9	PASS
Van Buren	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Washington	0	0	0	0.0	A	10.7	PASS
White	0	0	0	0.0	A	10.7	PASS

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CALIFORNIA

American Lung Association in California

424 Pendleton Way
Oakland, CA 94621
(510)638-5864
www.lung.org/california

AT-RISK GROUPS

Lung Diseases

County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	Chronic Bronchitis	Emphysema	Cardio-vascular Disease	Diabetes	Poverty
Alameda	1,510,271	340,621	167,746	22,595	89,705	49,163	20,160	363,118	99,717	200,273
Amador	38,091	6,393	7,865	424	2,512	1,495	772	12,337	3,549	4,286
Butte	220,000	46,168	33,817	3,063	13,391	7,563	3,464	58,474	16,306	43,392
Calaveras	45,578	8,943	9,565	593	2,924	1,762	933	14,747	4,270	4,996
Colusa	21,419	6,410	2,495	425	1,155	643	279	4,862	1,347	3,161
Contra Costa	1,049,025	260,505	130,438	17,281	61,165	34,299	15,008	261,582	72,993	97,544
El Dorado	181,058	41,175	26,524	2,731	11,057	6,392	3,002	50,672	14,431	16,825
Fresno	930,450	277,507	93,421	18,409	49,721	27,034	10,932	197,670	53,861	245,330
Glenn	28,122	7,865	3,737	522	1,566	883	399	6,805	1,900	4,890
Humboldt	134,623	27,061	17,725	1,795	8,305	4,634	2,011	35,125	9,758	23,752
Imperial	174,528	51,098	18,152	3,390	9,415	5,139	2,104	37,792	10,327	36,666
Inyo	18,546	3,900	3,535	259	1,155	683	348	5,589	1,601	2,535
Kern	839,631	254,081	75,437	16,855	44,572	24,047	9,398	173,566	47,097	172,531
Kings	152,982	42,548	12,030	2,822	8,348	4,423	1,619	31,019	8,299	29,606
Lake	64,665	13,672	11,440	907	4,023	2,359	1,171	19,103	5,461	13,438
Los Angeles	9,818,605	2,402,208	1,065,699	159,352	566,147	308,756	125,611	2,266,565	619,371	1,699,264
Madera	150,865	42,849	17,262	2,842	8,270	4,562	1,933	34,079	9,378	30,912
Marin	252,409	52,214	42,192	3,464	15,773	9,179	4,449	73,566	20,965	22,456
Mariposa	18,251	3,242	3,821	215	1,196	717	376	5,974	1,727	2,665
Mendocino	87,841	19,461	13,493	1,291	5,355	3,079	1,448	24,297	6,876	16,976
Merced	255,793	80,698	23,960	5,353	13,302	7,191	2,853	52,121	14,142	58,212
Monterey	415,057	111,013	44,422	7,364	23,192	12,653	5,168	92,980	25,402	68,031
Napa	136,484	31,486	20,594	2,089	8,149	4,641	2,154	36,235	10,175	14,189
Nevada	98,764	19,106	19,174	1,267	6,321	3,754	1,922	30,888	8,887	11,456
Orange	3,010,232	736,659	349,677	48,867	174,505	96,221	40,413	717,529	197,679	363,924

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(continued)

AT-RISK GROUPS

Lung Diseases

County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	Chronic Bronchitis	Emphysema	Cardio-vascular Disease	Diabetes	Poverty
Placer	348,432	85,085	53,562	5,644	20,512	11,765	5,556	92,694	26,143	31,489
Plumas	20,007	3,601	4,154	239	1,308	784	410	6,527	1,886	3,012
Riverside	2,189,641	620,108	258,586	41,135	120,166	66,447	28,441	498,296	137,270	354,768
Sacramento	1,418,788	363,053	158,551	24,083	81,006	44,570	18,564	331,241	91,152	234,470
San Benito	55,269	16,066	5,360	1,066	3,023	1,661	678	12,288	3,388	7,010
San Bernardino	2,035,210	594,588	181,348	39,442	109,976	59,433	23,199	429,655	116,882	362,099
San Diego	3,095,313	724,168	351,425	48,038	181,080	99,026	40,726	730,127	199,827	445,556
San Francisco	805,235	107,524	109,842	7,133	53,026	28,983	12,061	213,956	58,385	100,910
San Joaquin	685,306	200,724	71,181	13,315	37,106	20,338	8,380	150,333	41,250	128,331
San Luis Obispo	269,637	50,841	41,022	3,373	16,916	9,556	4,342	73,811	20,622	36,179
San Mateo	718,451	159,772	96,262	10,599	43,215	24,245	10,708	185,247	51,627	49,908
Santa Barbara	423,895	98,047	54,398	6,504	24,848	13,697	5,851	102,372	28,101	72,112
Santa Clara	1,781,642	429,545	196,944	28,494	103,545	56,723	23,313	418,903	114,919	186,051
Santa Cruz	262,382	55,418	29,158	3,676	15,963	8,791	3,622	65,286	18,024	36,174
Shasta	177,223	39,652	29,967	2,630	10,758	6,236	3,033	49,839	14,136	31,766
Siskiyou	44,900	9,325	8,782	619	2,818	1,676	864	13,817	3,974	9,558
Solano	413,344	101,535	46,847	6,735	24,130	13,398	5,664	100,691	27,948	49,159
Sonoma	483,878	106,471	67,364	7,063	29,359	16,618	7,489	128,422	36,020	60,909
Stanislaus	514,453	147,158	54,831	9,762	28,134	15,444	6,401	114,432	31,427	100,554
Sutter	94,737	26,112	11,990	1,732	5,275	2,943	1,294	22,359	6,197	15,780
Tehama	63,463	16,160	10,071	1,072	3,689	2,128	1,023	16,896	4,778	12,810
Tulare	442,179	144,124	41,779	9,561	22,675	12,297	4,931	89,570	24,362	108,143
Tuolumne	55,365	9,682	11,294	642	3,601	2,132	1,095	17,498	5,015	7,720
Ventura	823,318	211,915	96,309	14,057	47,178	26,210	11,194	197,382	54,715	89,880
Yolo	200,849	45,631	19,771	3,027	11,726	6,267	2,402	44,672	12,008	31,942
Totals	**37,076,207**	**9,253,188**	**4,225,019**	**613,814**	**2,132,257**	**1,172,640**	**489,168**	**8,713,009**	**2,395,575**	**5,753,600**

EMBARGOED

CALIFORNIA

American Lung Association in California

424 Pendleton Way
Oakland, CA 94621
(510)638-5864
www.lung.org/california

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HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Alameda	14	2	0	5.7	F
Amador	29	6	0	12.7	F
Butte	31	3	0	11.8	F
Calaveras	29	3	0	11.2	F
Colusa	2	0	0	0.7	B
Contra Costa	16	0	0	5.3	F
El Dorado	63	11	1	27.2	F
Fresno	134	31	2	61.5	F
Glenn	0	0	0	0.0	A
Humboldt	0	0	0	0.0	A
Imperial	47	0	0	15.7	F
Inyo	8	0	0	2.7	D
Kern	209	48	2	95.0	F
Kings	104	14	1	42.3	F
Lake	0	0	0	0.0	A
Los Angeles	185	41	6	86.2	F
Madera	44	4	0	16.7	F
Marin	0	0	0	0.0	A
Mariposa	50	5	1	19.8	F
Mendocino	0	0	0	0.0	A
Merced	52	9	1	22.5	F
Monterey	1	0	0	0.3	B
Napa	5	0	0	1.7	C
Nevada	60	4	0	22.0	F
Orange	29	2	0	10.7	F
Placer	65	5	0	24.2	F

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Alameda	6	0	0	2.0	C	9.0	PASS
Amador	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Butte	4	3	0	2.8	D	11.5	PASS
Calaveras	2	0	0	0.7	B	7.1	PASS
Colusa	2	0	0	0.7	B	INC	INC
Contra Costa	7	0	0	2.3	D	8.3	PASS
El Dorado	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Fresno	116	5	0	41.2	F	16.4	FAIL
Glenn	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Humboldt	0	0	0	0.0	A	6.8	PASS
Imperial	7	0	0	2.3	D	7.5	PASS
Inyo	11	2	0	4.7	F	7.0	PASS
Kern	126	21	2	53.8	F	21.2	FAIL
Kings	85	3	0	29.8	F	17.1	FAIL
Lake	1	1	0	0.8	B	4.6	PASS
Los Angeles	55	4	0	20.3	F	14.4	PASS
Madera	INC	INC	INC	INC	INC	INC	INC
Marin	INC	INC	INC	INC	INC	INC	INC
Mariposa	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Mendocino	0	0	0	0.0	A	8.7	PASS
Merced	35	0	0	11.7	F	INC	INC
Monterey	0	0	0	0.0	A	6.4	PASS
Napa	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Nevada	5	2	0	2.7	D	7.0	PASS
Orange	17	1	0	6.2	F	11.9	PASS
Placer	1	0	0	0.3	B	8.4	PASS

(continued)

	HIGH OZONE DAYS 2008–2010					HIGH PARTICLE POLLUTION DAYS 2008–2010						
						24 Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg	Grade	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Plumas	DNC	DNC	DNC	DNC	DNC	12	5	0	6.5	F	10.3	PASS
Riverside	227	66	4	111.3	F	85	1	0	28.8	F	17.0	FAIL
Sacramento	83	25	2	41.5	F	12	1	0	4.5	F	10.9	PASS
San Benito	14	0	0	4.7	F	0	0	0	0.0	A	6.1	PASS
San Bernardino	211	103	9	127.8	F	19	0	0	6.3	F	14.5	PASS
San Diego	68	5	0	25.2	F	15	2	0	6.0	F	12.1	PASS
San Francisco	0	0	0	0.0	A	4	0	0	1.3	C	10.0	PASS
San Joaquin	25	3	0	9.8	F	19	1	0	6.8	F	12.1	PASS
San Luis Obispo	66	2	0	23.0	F	2	0	0	0.7	B	7.9	PASS
San Mateo	1	0	0	0.3	B	1	0	0	0.3	B	INC	INC
Santa Barbara	14	0	0	4.7	F	1	0	0	0.3	B	9.7	PASS
Santa Clara	19	1	0	6.8	F	10	0	0	3.3	F	10.2	PASS
Santa Cruz	0	0	0	0.0	A	0	0	0	0.0	A	6.3	PASS
Shasta	17	1	0	6.2	F	2	2	1	2.3	D	5.9	PASS
Siskiyou	0	0	0	0.0	A	0	0	0	0.0	A	INC	INC
Solano	12	0	0	4.0	F	12	0	0	4.0	F	9.1	PASS
Sonoma	0	0	0	0.0	A	0	0	0	0.0	A	8.0	PASS
Stanislaus	50	7	2	21.5	F	76	3	0	26.8	F	INC	INC
Sutter	14	2	0	5.7	F	6	7	0	5.5	F	8.2	PASS
Tehama	34	1	0	11.8	F	INC	INC	INC	INC	INC	INC	INC
Tulare	229	36	2	95.7	F	28	1	0	9.8	F	16.5	FAIL
Tuolumne	26	5	0	11.2	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Ventura	69	0	0	23.0	F	1	0	0	0.3	B	9.9	PASS
Yolo	9	1	0	3.5	F	1	0	0	0.3	B	INC	INC

EMBARGOED

COLORADO

American Lung Association in Colorado

5600 Greenwood Plaza Blvd., Suite 100
Greenwood Village, CO 80111-2316
(303) 388-4327
www.lung.org/colorado

AT-RISK GROUPS

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				Lung Diseases						
County	**Total Population**	**Under 18**	**65 & Over**	**Pediatric Asthma**	**Adult Asthma**	**Chronic Bronchitis**	**Emphysema**	**Cardio-vascular Disease**	**Diabetes**	**Poverty**
Adams	441,603	126,123	36,862	11,429	29,190	12,842	4,861	91,541	17,377	57,201
Arapahoe	572,003	147,324	57,580	13,350	39,005	17,941	7,288	132,429	25,457	65,173
Boulder	294,567	62,754	29,521	5,687	21,349	9,663	3,819	70,396	13,468	39,097
Denver	600,158	128,766	62,132	11,669	43,672	19,044	7,367	136,115	25,927	125,722
Douglas	285,465	87,012	20,343	7,885	18,253	8,335	3,168	60,265	11,458	9,985
Elbert	23,086	5,854	2,193	530	1,558	785	335	6,050	1,174	1,490
El Paso	622,263	162,676	62,051	14,741	42,259	19,306	7,795	141,939	27,254	81,507
Garfield	56,389	15,216	4,717	1,379	3,793	1,715	661	12,403	2,363	5,306
Jefferson	534,543	119,090	67,411	10,792	37,830	18,290	8,035	140,278	27,336	46,566
La Plata	51,334	10,512	5,979	953	3,735	1,758	740	13,206	2,554	5,705
Larimer	299,630	64,057	35,541	5,805	21,634	9,952	4,153	74,019	14,292	39,772
Mesa	146,723	34,517	21,872	3,128	10,212	4,945	2,286	38,521	7,571	20,998
Montezuma	25,535	5,999	4,269	544	1,762	897	440	7,221	1,434	4,402
Pitkin	17,148	2,999	1,964	272	1,292	616	258	4,640	897	1,199
Pueblo	159,063	38,915	24,346	3,526	10,919	5,331	2,504	41,831	8,244	30,418
Rio Blanco	6,666	1,621	827	147	460	221	97	1,691	329	550
Weld	252,825	70,401	24,235	6,380	16,808	7,585	3,021	55,320	10,596	35,454
Totals	**4,389,001**	**1,083,836**	**461,843**	**98,216**	**303,729**	**139,226**	**56,828**	**1,027,864**	**197,732**	**570,545**

HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Adams	6	0	0	2.0	C
Arapahoe	6	0	0	2.0	C
Boulder	7	0	0	2.3	D
Denver	1	0	0	0.3	B
Douglas	17	0	0	5.7	F
Elbert	DNC	DNC	DNC	DNC	DNC
El Paso	4	0	0	1.3	C
Garfield	2	0	0	0.7	B
Jefferson	23	0	0	7.7	F
La Plata	2	0	0	0.7	B
Larimer	14	0	0	4.7	F
Mesa	1	0	0	0.3	B
Montezuma	1	0	0	0.3	B
Pitkin	INC	INC	INC	INC	INC
Pueblo	DNC	DNC	DNC	DNC	DNC
Rio Blanco	INC	INC	INC	INC	INC
Weld	4	0	0	1.3	C

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Adams	0	0	0	0.0	A	8.7	PASS
Arapahoe	0	0	0	0.0	A	6.7	PASS
Boulder	2	0	0	0.7	B	7.4	PASS
Denver	0	0	0	0.0	A	7.9	PASS
Douglas	0	0	0	0.0	A	5.8	PASS
Elbert	0	0	0	0.0	A	4.2	PASS
El Paso	0	0	0	0.0	A	6.0	PASS
Garfield	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Jefferson	DNC	DNC	DNC	DNC	DNC	DNC	DNC
La Plata	INC	INC	INC	INC	INC	INC	INC
Larimer	0	0	0	0.0	A	6.6	PASS
Mesa	9	0	0	3.0	D	9.3	PASS
Montezuma	0	0	0	0.0	A	INC	INC
Pitkin	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Pueblo	0	0	0	0.0	A	INC	INC
Rio Blanco	INC	INC	INC	INC	INC	INC	INC
Weld	1	0	0	0.3	B	7.8	PASS

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CONNECTICUT

American Lung Association in Connecticut

45 Ash Street
East Hartford, CT 06108-3272
(860) 838-4376
www.lung.org/connecticut

AT-RISK GROUPS

Lung Diseases

County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	Chronic Bronchitis	Emphysema	Cardio-vascular Disease	Diabetes	Poverty
Fairfield	916,829	227,019	124,075	25,492	63,223	30,325	13,680	234,290	50,913	84,125
Hartford	894,014	204,043	130,119	22,912	63,116	30,424	13,937	236,403	51,470	98,243
Litchfield	189,927	40,952	30,342	4,598	13,454	6,838	3,284	54,666	11,939	12,650
Middlesex	165,676	35,098	25,621	3,941	11,860	5,891	2,770	46,516	10,144	11,030
New Haven	862,477	192,974	123,972	21,669	61,397	29,291	13,277	226,227	49,216	97,210
New London	274,055	59,599	38,995	6,692	19,642	9,443	4,277	73,088	15,890	23,382
Tolland	152,691	30,884	18,220	3,468	11,290	5,203	2,186	38,945	8,402	8,794
Totals	**3,455,669**	**790,569**	**491,344**	**88,772**	**243,984**	**117,415**	**53,411**	**910,135**	**197,974**	**335,434**

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HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Fairfield	35	4	0	13.7	F
Hartford	8	0	0	2.7	D
Litchfield	6	0	0	2.0	C
Middlesex	15	0	0	5.0	F
New Haven	16	1	0	5.8	F
New London	10	0	0	3.3	F
Tolland	14	1	0	5.2	F

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Fairfield	5	0	0	1.7	C	10.0	PASS
Hartford	1	0	0	0.3	B	9.4	PASS
Litchfield	0	0	0	0.0	A	6.0	PASS
Middlesex	DNC	DNC	DNC	DNC	DNC	DNC	DNC
New Haven	8	0	0	2.7	D	10.3	PASS
New London	4	0	0	1.3	C	8.8	PASS
Tolland	DNC	DNC	DNC	DNC	DNC	DNC	DNC

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DELAWARE

American Lung Association in Delaware

630 Churchmans Road, Suite 202
Newark, DE 19702
(302) 737-6414
www.lung.org/delaware

AT-RISK GROUPS

Lung Diseases

County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	Chronic Bronchitis	Emphysema	Cardio-vascular Disease	Diabetes	Poverty
Kent	162,310	40,379	21,982	5,454	12,225	5,274	2,354	40,376	10,407	19,145
New Castle	538,479	125,079	66,222	16,896	41,751	17,699	7,585	133,355	34,110	58,386
Sussex	197,145	40,307	41,073	5,445	15,036	7,309	3,821	60,325	16,086	26,924
Totals	**897,934**	**205,765**	**129,277**	**27,795**	**69,012**	**30,282**	**13,760**	**234,056**	**60,603**	**104,455**

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HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Kent	13	0	0	4.3	F
New Castle	26	1	0	9.2	F
Sussex	17	2	0	6.7	F

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Kent	0	0	0	0.0	A	10.1	PASS
New Castle	12	0	0	4.0	F	11.7	PASS
Sussex	0	0	0	0.0	A	10.6	PASS

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DELAWARE

DISTRICT OF COLUMBIA

American Lung Association in the District of Columbia

1301 Pennsylvania Ave. NW #800
Washington, DC, DC 20004
1-800-LUNG USA
www.lung.org/districtofcolumbia

AT-RISK GROUPS

				Lung Diseases						
County	**Total Population**	**Under 18**	**65 & Over**	**Pediatric Asthma**	**Adult Asthma**	**Chronic Bronchitis**	**Emphysema**	**Cardio-vascular Disease**	**Diabetes**	**Poverty**
District of Columbia	601,723	100,815	68,809	18,103	51,962	20,256	7,928	145,311	38,688	107,279
Totals	**601,723**	**100,815**	**68,809**	**18,103**	**51,962**	**20,256**	**7,928**	**145,311**	**38,688**	**107,279**

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HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
District of Columbia	25	3	0	9.8	F

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
District of Columbia	7	0	0	2.3	D	11.2	PASS

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DISTRICT OF COLUMBIA

FLORIDA

American Lung Association in Florida

6852 Belfort Oaks Place
Jacksonville, FL 32216
(904) 743-2933
www.lung.org/florida

AT-RISK GROUPS

				Lung Diseases						
County	**Total Population**	**Under 18**	**65 & Over**	**Pediatric Asthma**	**Adult Asthma**	**Chronic Bronchitis**	**Emphysema**	**Cardio-vascular Disease**	**Diabetes**	**Poverty**
Alachua	247,336	44,285	26,627	4,013	17,265	8,171	3,145	58,222	16,143	59,315
Baker	27,115	7,047	2,956	639	1,688	855	357	6,379	1,768	4,318
Bay	168,852	37,076	24,559	3,360	11,057	5,784	2,632	44,778	12,429	24,862
Brevard	543,376	107,686	110,712	9,758	36,345	20,260	10,478	166,505	46,309	72,157
Broward	1,748,066	391,349	249,424	35,464	113,898	59,348	26,843	458,045	127,137	256,295
Citrus	141,236	22,394	45,041	2,029	9,878	5,945	3,633	52,839	14,746	23,869
Collier	321,520	62,647	84,951	5,677	21,676	12,308	7,019	105,227	29,347	50,218
Columbia	67,531	15,193	10,390	1,377	4,387	2,322	1,084	18,188	5,051	12,253
Duval	864,263	203,514	96,169	18,442	55,658	27,920	11,544	207,138	57,416	140,254
Escambia	297,619	64,154	42,929	5,814	19,638	10,132	4,557	77,835	21,608	53,655
Highlands	98,786	17,972	31,822	1,629	6,758	3,984	2,463	35,410	9,892	20,137
Hillsborough	1,229,226	294,208	145,237	26,661	78,836	39,562	16,657	295,203	81,872	202,827
Holmes	19,927	4,282	3,425	388	1,312	700	339	5,564	1,546	4,072
Lake	297,052	61,741	71,825	5,595	19,690	11,092	6,142	93,639	26,095	39,711
Lee	618,754	120,869	145,106	10,953	41,677	23,276	12,637	194,691	54,236	104,752
Leon	275,487	53,973	25,980	4,891	18,830	8,853	3,290	62,287	17,257	68,765
Manatee	322,833	66,283	75,109	6,006	21,451	12,053	6,568	101,096	28,160	46,119
Marion	331,298	64,181	85,318	5,816	22,332	12,719	7,186	108,437	30,230	63,368
Martin	146,318	25,746	39,972	2,333	10,046	5,848	3,371	50,484	14,074	16,130
Miami-Dade	2,496,435	545,728	352,013	49,453	164,428	83,768	37,194	638,516	177,279	500,537
Okaloosa	180,822	40,388	25,218	3,660	11,792	6,125	2,746	47,095	13,070	21,792
Orange	1,145,956	270,147	110,919	24,480	74,128	35,871	13,924	258,138	71,522	183,812
Osceola	268,685	70,416	29,656	6,381	16,707	8,383	3,493	62,349	17,286	43,365
Palm Beach	1,320,134	268,884	285,155	24,366	88,176	48,276	25,367	397,179	110,594	186,355
Pasco	464,697	98,573	96,245	8,933	30,656	16,857	8,774	138,377	38,513	69,670

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(continued)

AT-RISK GROUPS

Lung Diseases

County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	Chronic Bronchitis	Emphysema	Cardio-vascular Disease	Diabetes	Poverty
Pinellas	916,542	162,888	194,099	14,761	62,901	35,037	18,197	288,322	80,203	127,567
Polk	602,095	141,736	108,296	12,844	38,662	20,655	10,229	165,425	46,010	103,277
St. Lucie	277,789	62,008	55,378	5,619	18,082	9,872	5,082	80,581	22,424	48,578
Santa Rosa	151,372	36,209	19,460	3,281	9,649	5,038	2,226	38,611	10,708	18,609
Sarasota	379,448	59,735	118,227	5,413	26,645	15,776	9,518	139,045	38,805	48,896
Seminole	422,718	97,181	50,677	8,806	27,341	14,004	5,979	105,592	29,274	46,071
Volusia	494,593	93,273	104,289	8,452	33,549	18,563	9,646	152,530	42,440	79,513
Wakulla	30,776	6,925	3,339	628	2,001	1,022	424	7,628	2,113	3,856
Totals	**16,918,657**	**3,618,691**	**2,870,523**	**327,921**	**1,117,138**	**590,379**	**282,744**	**4,661,355**	**1,295,558**	**2,744,975**

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FLORIDA

American Lung Association in Florida

6852 Belfort Oaks Place
Jacksonville, FL 32216
(904) 743-2933
www.lung.org/florida

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HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Alachua	1	0	0	0.3	B
Baker	0	0	0	0.0	A
Bay	6	0	0	2.0	C
Brevard	1	0	0	0.3	B
Broward	1	0	0	0.3	B
Citrus	DNC	DNC	DNC	DNC	DNC
Collier	0	0	0	0.0	A
Columbia	0	0	0	0.0	A
Duval	2	0	0	0.7	B
Escambia	9	0	0	3.0	D
Highlands	2	0	0	0.7	B
Hillsborough	11	1	0	4.2	F
Holmes	0	0	0	0.0	A
Lake	2	0	0	0.7	B
Lee	1	0	0	0.3	B
Leon	3	0	0	1.0	C
Manatee	5	0	0	1.7	C
Marion	0	0	0	0.0	A
Martin	INC	INC	INC	INC	INC
Miami-Dade	6	0	0	2.0	C
Okaloosa	INC	INC	INC	INC	INC
Orange	2	0	0	0.7	B
Osceola	2	0	0	0.7	B
Palm Beach	2	0	0	0.7	B
Pasco	4	0	0	1.3	C
Pinellas	2	0	0	0.7	B

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Alachua	0	0	0	0.0	A	7.4	PASS
Baker	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Bay	INC	INC	INC	INC	INC	INC	INC
Brevard	0	0	0	0.0	A	6.9	PASS
Broward	0	0	0	0.0	A	7.0	PASS
Citrus	0	0	0	0.0	A	7.4	PASS
Collier	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Columbia	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Duval	1	0	0	0.3	B	8.6	PASS
Escambia	0	0	0	0.0	A	9.0	PASS
Highlands	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Hillsborough	0	0	0	0.0	A	8.0	PASS
Holmes	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Lake	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Lee	0	0	0	0.0	A	6.8	PASS
Leon	2	0	0	0.7	B	10.0	PASS
Manatee	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Marion	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Martin	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Miami-Dade	2	0	0	0.7	B	7.8	PASS
Okaloosa	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Orange	0	0	0	0.0	A	7.3	PASS
Osceola	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Palm Beach	0	0	0	0.0	A	6.3	PASS
Pasco	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Pinellas	0	0	0	0.0	A	7.9	PASS

(continued)

HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Polk	4	0	0	1.3	C
St. Lucie	0	0	0	0.0	A
Santa Rosa	10	0	0	3.3	F
Sarasota	7	0	0	2.3	D
Seminole	1	0	0	0.3	B
Volusia	0	0	0	0.0	A
Wakulla	5	0	0	1.7	C

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Polk	0	0	0	0.0	A	7.7	PASS
St. Lucie	1	0	0	0.3	B	7.5	PASS
Santa Rosa	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Sarasota	0	0	0	0.0	A	6.8	PASS
Seminole	0	0	0	0.0	A	7.6	PASS
Volusia	0	0	0	0.0	A	INC	INC
Wakulla	DNC	DNC	DNC	DNC	DNC	DNC	DNC

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GEORGIA

American Lung Association in Georgia

2452 Spring Road
Smyrna, GA 30080-3862
(770) 434-5864
www.lung.org/georgia

AT-RISK GROUPS

				Lung Diseases						
County	**Total Population**	**Under 18**	**65 & Over**	**Pediatric Asthma**	**Adult Asthma**	**Chronic Bronchitis**	**Emphysema**	**Cardio-vascular Disease**	**Diabetes**	**Poverty**
Bibb	155,547	40,119	19,689	3,606	8,972	4,974	2,180	37,819	11,906	38,737
Chatham	265,128	60,007	32,864	5,393	15,943	8,621	3,640	64,207	20,163	49,899
Chattooga	26,015	5,858	3,801	526	1,570	883	403	6,841	2,155	4,922
Clarke	116,714	20,423	9,952	1,835	7,466	3,619	1,213	24,081	7,469	35,801
Clayton	259,424	74,979	17,236	6,739	14,227	7,394	2,622	51,448	16,133	57,649
Cobb	688,078	176,487	59,972	15,861	39,529	21,216	8,187	153,226	48,187	95,398
Columbia	124,053	33,810	12,700	3,039	6,984	3,872	1,608	28,937	9,124	10,959
Coweta	127,317	34,832	13,240	3,130	7,164	3,935	1,630	29,294	9,226	14,026
Dawson	22,330	5,083	3,132	457	1,340	765	348	5,947	1,877	3,044
DeKalb	691,893	165,136	62,228	14,841	40,746	21,498	8,179	153,628	48,204	131,946
Dougherty	94,565	24,334	11,457	2,187	5,458	2,980	1,274	22,360	7,029	31,930
Douglas	132,403	37,533	11,244	3,373	7,332	3,933	1,521	28,414	8,934	16,581
Fayette	106,567	28,099	13,545	2,525	6,080	3,572	1,633	28,057	8,889	7,145
Floyd	96,317	23,445	13,702	2,107	5,676	3,173	1,440	24,472	7,705	17,634
Fulton	920,581	219,686	83,424	19,744	54,225	28,589	10,889	204,309	64,097	159,048
Glynn	79,626	19,231	11,976	1,728	4,706	2,684	1,254	21,041	6,636	14,756
Gwinnett	805,321	234,707	55,105	21,094	43,993	23,256	8,459	164,093	51,565	108,754
Hall	179,684	50,166	20,010	4,509	10,055	5,469	2,295	40,738	12,806	31,495
Henry	203,922	59,657	17,048	5,362	11,146	6,005	2,330	43,505	13,687	20,839
Houston	139,900	37,491	14,571	3,369	7,935	4,322	1,775	31,990	10,065	19,562
Lowndes	109,233	26,970	10,693	2,424	6,379	3,325	1,282	23,751	7,435	24,077
Murray	39,628	10,648	4,286	957	2,247	1,232	514	9,192	2,894	7,491
Muscogee	189,885	48,598	22,082	4,368	10,973	5,950	2,500	44,288	13,916	36,998
Paulding	142,324	43,094	10,220	3,873	7,660	4,027	1,477	28,428	8,923	12,468
Richmond	200,549	49,305	22,712	4,431	11,737	6,358	2,639	47,129	14,811	49,468

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(continued)

AT-RISK GROUPS

Lung Diseases

County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	Chronic Bronchitis	Emphysema	Cardio-vascular Disease	Diabetes	Poverty
Rockdale	85,215	22,914	9,066	2,059	4,825	2,677	1,123	20,071	6,328	12,527
Sumter	32,819	8,301	4,143	746	1,907	1,043	451	7,860	2,471	9,441
Walker	68,756	16,256	10,302	1,461	4,090	2,326	1,081	18,189	5,736	11,970
Washington	21,187	5,046	2,881	453	1,255	709	319	5,474	1,726	5,878
Wilkinson	9,563	2,324	1,504	209	564	328	157	2,607	824	1,982
Totals	**6,134,544**	**1,584,539**	**584,785**	**142,407**	**352,183**	**188,735**	**74,423**	**1,371,397**	**430,923**	**1,042,425**

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GEORGIA

American Lung Association in Georgia

2452 Spring Road
Smyrna, GA 30080-3862
(770) 434-5864
www.lung.org/georgia

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HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Bibb	10	0	0	3.3	F
Chatham	0	0	0	0.0	A
Chattooga	0	0	0	0.0	A
Clarke	7	0	0	2.3	D
Clayton	DNC	DNC	DNC	DNC	DNC
Cobb	18	0	0	6.0	F
Columbia	3	0	0	1.0	C
Coweta	3	0	0	1.0	C
Dawson	5	0	0	1.7	C
DeKalb	17	2	0	6.7	F
Dougherty	DNC	DNC	DNC	DNC	DNC
Douglas	12	0	0	4.0	F
Fayette	INC	INC	INC	INC	INC
Floyd	DNC	DNC	DNC	DNC	DNC
Fulton	25	1	0	8.8	F
Glynn	0	0	0	0.0	A
Gwinnett	9	0	0	3.0	D
Hall	DNC	DNC	DNC	DNC	DNC
Henry	16	1	0	5.8	F
Houston	DNC	DNC	DNC	DNC	DNC
Lowndes	DNC	DNC	DNC	DNC	DNC
Murray	9	0	0	3.0	D
Muscogee	2	0	0	0.7	B
Paulding	4	0	0	1.3	C
Richmond	6	0	0	2.0	C
Rockdale	20	1	0	7.2	F

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Bibb	3	1	0	1.5	C	12.8	PASS
Chatham	2	0	0	0.7	B	10.7	PASS
Chattooga	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Clarke	0	0	0	0.0	A	INC	INC
Clayton	1	0	0	0.3	B	12.9	PASS
Cobb	3	0	0	1.0	C	12.3	PASS
Columbia	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Coweta	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Dawson	DNC	DNC	DNC	DNC	DNC	DNC	DNC
DeKalb	4	1	0	1.8	C	12.3	PASS
Dougherty	6	0	0	2.0	C	12.3	PASS
Douglas	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Fayette	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Floyd	4	0	0	1.3	C	12.5	PASS
Fulton	4	1	0	1.8	C	INC	INC
Glynn	2	0	0	0.7	B	10.1	PASS
Gwinnett	0	0	0	0.0	A	12.1	PASS
Hall	1	0	0	0.3	B	11.2	PASS
Henry	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Houston	1	0	0	0.3	B	11.4	PASS
Lowndes	1	1	0	0.8	B	10.1	PASS
Murray	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Muscogee	3	0	1	1.7	C	13.2	PASS
Paulding	1	0	0	0.3	B	11.0	PASS
Richmond	2	0	0	0.7	B	12.7	PASS
Rockdale	DNC	DNC	DNC	DNC	DNC	DNC	DNC

(continued)

HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Sumter	0	0	0	0.0	A
Walker	DNC	DNC	DNC	DNC	DNC
Washington	DNC	DNC	DNC	DNC	DNC
Wilkinson	DNC	DNC	DNC	DNC	DNC

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Sumter	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Walker	1	0	0	0.3	B	10.7	PASS
Washington	1	0	0	0.3	B	11.5	PASS
Wilkinson	0	1	0	0.5	B	13.0	PASS

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HAWAII

American Lung Association in Hawaii

650 Iwilei Rd., Suite 208
Honolulu, HI 96817
(808) 537 5966
www.lung.org/hawaii

AT-RISK GROUPS

				Lung Diseases						
County	**Total Population**	**Under 18**	**65 & Over**	**Pediatric Asthma**	**Adult Asthma**	**Chronic Bronchitis**	**Emphysema**	**Cardio-vascular Disease**	**Diabetes**	**Poverty**
Hawaii	185,079	42,280	26,834	4,662	13,426	6,404	2,964	50,212	12,390	33,285
Honolulu	953,207	210,500	138,490	23,211	69,772	32,108	14,462	246,419	60,633	87,411
Maui	154,834	35,815	19,803	3,949	11,252	5,217	2,300	39,989	9,822	18,214
Totals	**1,293,120**	**288,595**	**185,127**	**31,823**	**94,449**	**43,729**	**19,726**	**336,620**	**82,846**	**138,910**

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HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Hawaii	DNC	DNC	DNC	DNC	DNC
Honolulu	0	0	0	0.0	A
Maui	DNC	DNC	DNC	DNC	DNC

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Hawaii	66	3	0	23.5	F	18.4	FAIL
Honolulu	1	0	0	0.3	B	7.5	PASS
Maui	0	0	0	0.0	A	4.6	PASS

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IDAHO

American Lung Association in Idaho

1412 W. Idaho St. Suite 100
Boise, ID 83702
(208) 345-5864
www.lung.org/idaho

AT-RISK GROUPS

Lung Diseases

County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	Chronic Bronchitis	Emphysema	Cardio-vascular Disease	Diabetes	Poverty
Ada	392,365	103,706	41,048	4,772	25,307	12,137	4,968	89,606	22,024	53,188
Bannock	82,839	22,714	9,243	1,045	5,242	2,515	1,046	18,609	4,575	13,233
Benewah	9,285	2,201	1,699	101	642	331	169	2,717	684	1,543
Butte	2,891	815	506	38	188	97	50	799	201	445
Canyon	188,923	59,492	20,396	2,738	11,287	5,426	2,276	40,298	9,914	36,620
Cassia	22,952	7,587	2,954	349	1,353	668	304	5,152	1,279	3,578
Franklin	12,786	4,498	1,643	207	729	360	166	2,787	692	1,330
Kootenai	138,494	34,244	20,078	1,576	9,269	4,612	2,130	35,967	8,952	20,065
Lemhi	7,936	1,576	1,758	73	582	308	167	2,602	659	1,660
Power	7,817	2,414	947	111	478	235	105	1,803	447	1,283
Shoshone	12,765	2,660	2,537	122	915	474	245	3,910	985	2,606
Totals	**879,053**	**241,907**	**102,809**	**11,131**	**55,991**	**27,163**	**11,626**	**204,250**	**50,411**	**135,551**

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HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Ada	3	0	0	1.0	C
Bannock	DNC	DNC	DNC	DNC	DNC
Benewah	DNC	DNC	DNC	DNC	DNC
Butte	0	0	0	0.0	A
Canyon	DNC	DNC	DNC	DNC	DNC
Cassia	INC	INC	INC	INC	INC
Franklin	DNC	DNC	DNC	DNC	DNC
Kootenai	0	0	0	0.0	A
Lemhi	DNC	DNC	DNC	DNC	DNC
Power	DNC	DNC	DNC	DNC	DNC
Shoshone	DNC	DNC	DNC	DNC	DNC

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Ada	4	0	0	1.3	C	6.3	PASS
Bannock	0	0	0	0.0	A	INC	INC
Benewah	10	0	0	3.3	F	9.4	PASS
Butte	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Canyon	1	0	0	0.3	B	INC	INC
Cassia	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Franklin	8	1	0	3.2	D	INC	INC
Kootenai	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Lemhi	20	0	0	6.7	F	9.9	PASS
Power	INC	INC	INC	INC	INC	INC	INC
Shoshone	38	0	0	12.7	F	12.0	PASS

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ILLINOIS

American Lung Association in Illinois

55 W. Wacker Drive, Suite 800
Chicago, IL 60601
(312) 781-1100
www.lung.org/illinois

AT-RISK GROUPS

				Lung Diseases						
County	**Total Population**	**Under 18**	**65 & Over**	**Pediatric Asthma**	**Adult Asthma**	**Chronic Bronchitis**	**Emphysema**	**Cardio-vascular Disease**	**Diabetes**	**Poverty**
Adams	67,103	15,461	11,747	1,521	4,609	2,326	1,142	18,604	5,117	8,547
Champaign	201,081	39,079	20,066	3,845	15,383	6,422	2,398	45,085	12,049	36,343
Clark	16,335	3,718	2,946	366	1,119	574	286	4,631	1,276	1,934
Cook	5,194,675	1,232,280	620,329	121,236	365,672	166,900	70,157	1,242,549	336,453	858,392
DuPage	916,924	227,430	106,398	22,375	62,670	29,894	12,814	226,341	61,475	62,484
Effingham	34,242	8,442	5,196	831	2,313	1,150	541	9,045	2,478	3,353
Hamilton	8,457	1,931	1,671	190	575	301	156	2,471	683	1,215
Jersey	22,985	5,239	3,605	515	1,590	792	374	6,238	1,710	2,204
Kane	515,269	149,190	49,690	14,678	33,785	15,396	6,231	113,320	30,589	56,233
Lake	703,462	192,672	73,093	18,956	46,627	21,951	9,168	164,408	44,542	61,515
LaSalle	113,924	26,218	18,678	2,579	7,831	3,943	1,895	31,307	8,595	14,566
McHenry	308,760	84,175	31,320	8,281	20,461	9,685	4,032	72,566	19,658	22,381
McLean	169,572	38,412	17,340	3,779	12,275	5,363	2,101	38,666	10,394	18,665
Macon	110,768	25,284	18,142	2,488	7,644	3,833	1,837	30,377	8,337	18,973
Macoupin	47,765	10,775	8,171	1,060	3,291	1,674	817	13,386	3,680	6,075
Madison	269,282	61,246	38,428	6,026	18,844	9,096	4,119	70,216	19,162	38,068
Peoria	186,494	44,893	25,963	4,417	12,875	6,148	2,764	47,228	12,877	25,892
Randolph	33,476	6,631	5,340	652	2,418	1,187	553	9,282	2,540	3,941
Rock Island	147,546	33,187	23,881	3,265	10,259	5,097	2,422	40,206	11,024	17,881
St. Clair	270,056	68,588	33,810	6,748	18,335	8,723	3,818	66,412	18,066	42,224
Sangamon	197,465	46,816	27,362	4,606	13,580	6,644	3,012	51,466	14,052	25,678
Will	677,560	196,954	62,814	19,377	44,332	20,226	8,116	148,557	40,076	57,207
Winnebago	295,266	73,580	40,715	7,239	20,041	9,727	4,408	75,197	20,526	50,817
Totals	**10,508,467**	**2,592,201**	**1,246,705**	**255,029**	**726,530**	**337,052**	**143,161**	**2,527,560**	**685,360**	**1,434,588**

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HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Adams	1	0	0	0.3	B
Champaign	0	0	0	0.0	A
Clark	0	0	0	0.0	A
Cook	14	1	0	5.2	F
DuPage	0	0	0	0.0	A
Effingham	0	0	0	0.0	A
Hamilton	2	0	0	0.7	B
Jersey	1	0	0	0.3	B
Kane	1	0	0	0.3	B
Lake	6	0	0	2.0	C
LaSalle	DNC	DNC	DNC	DNC	DNC
McHenry	0	0	0	0.0	A
McLean	0	0	0	0.0	A
Macon	0	0	0	0.0	A
Macoupin	1	0	0	0.3	B
Madison	20	0	0	6.7	F
Peoria	0	0	0	0.0	A
Randolph	0	0	0	0.0	A
Rock Island	0	0	0	0.0	A
St. Clair	2	1	0	1.2	C
Sangamon	0	0	0	0.0	A
Will	0	0	0	0.0	A
Winnebago	0	0	0	0.0	A

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Adams	0	0	0	0.0	A	9.3	PASS
Champaign	0	0	0	0.0	A	10.6	PASS
Clark	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Cook	18	0	0	6.0	F	12.7	PASS
DuPage	1	0	0	0.3	B	10.9	PASS
Effingham	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Hamilton	1	0	0	0.3	B	11.3	PASS
Jersey	0	0	0	0.0	A	10.4	PASS
Kane	1	0	0	0.3	B	10.6	PASS
Lake	0	0	0	0.0	A	9.3	PASS
LaSalle	0	0	0	0.0	A	INC	INC
McHenry	0	0	0	0.0	A	10.0	PASS
McLean	1	0	0	0.3	B	10.5	PASS
Macon	0	0	0	0.0	A	11.7	PASS
Macoupin	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Madison	5	0	0	1.7	C	13.8	PASS
Peoria	0	0	0	0.0	A	11.1	PASS
Randolph	0	0	0	0.0	A	10.1	PASS
Rock Island	0	0	0	0.0	A	9.7	PASS
St. Clair	1	0	0	0.3	B	12.4	PASS
Sangamon	0	0	0	0.0	A	11.0	PASS
Will	1	0	0	0.3	B	11.3	PASS
Winnebago	4	0	0	1.3	C	10.1	PASS

EMBARGOED

INDIANA

American Lung Association in Indiana

115 W. Washington Street, Suite 1180 South
Indianapolis, IN 46204
(317) 819-1181
www.lung.org/indiana

AT-RISK GROUPS

Lung Diseases

County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	Chronic Bronchitis	Emphysema	Cardio-vascular Disease	Diabetes	Poverty
Allen	355,329	95,958	42,137	8,437	24,761	11,136	4,801	84,144	25,168	48,764
Boone	56,640	15,917	6,644	1,399	3,884	1,792	788	13,752	4,137	4,516
Carroll	20,155	4,957	3,182	436	1,433	688	330	5,468	1,652	2,021
Clark	110,232	26,109	14,055	2,295	8,021	3,640	1,591	27,699	8,299	13,632
Delaware	117,671	23,573	17,277	2,073	8,946	3,993	1,767	30,269	9,019	26,339
Dubois	41,889	10,669	6,079	938	2,955	1,394	650	10,941	3,298	3,459
Elkhart	197,559	56,175	23,962	4,939	13,476	6,076	2,652	46,090	13,785	33,270
Floyd	74,578	17,931	9,660	1,576	5,394	2,486	1,104	19,102	5,741	9,092
Gibson	33,503	8,145	5,122	716	2,397	1,133	534	8,922	2,689	3,950
Greene	33,165	7,883	5,317	693	2,384	1,138	545	9,029	2,724	4,579
Hamilton	274,569	82,938	23,689	7,292	18,461	8,058	3,189	58,937	17,567	13,564
Hancock	70,002	18,338	8,937	1,612	4,916	2,276	1,017	17,551	5,279	5,882
Hendricks	145,448	39,908	15,569	3,509	10,109	4,513	1,892	33,773	10,098	9,031
Henry	49,462	11,044	8,001	971	3,626	1,723	821	13,631	4,110	7,493
Howard	82,752	19,585	13,441	1,722	5,954	2,844	1,368	22,594	6,817	12,994
Huntington	37,124	8,795	5,466	773	2,684	1,253	579	9,768	2,938	4,023
Jackson	42,376	10,416	6,068	916	3,030	1,405	643	10,904	3,276	5,325
Johnson	139,654	36,900	17,174	3,244	9,798	4,434	1,933	33,676	10,083	14,367
Knox	38,440	8,192	6,062	720	2,862	1,329	618	10,363	3,112	6,258
Lake	496,005	127,273	65,870	11,190	35,054	16,130	7,237	124,189	37,285	86,577
LaPorte	111,467	25,382	15,867	2,232	8,172	3,793	1,725	29,400	8,839	16,988
Madison	131,636	30,389	20,234	2,672	9,578	4,463	2,079	34,851	10,472	22,567
Marion	903,393	226,505	96,102	19,914	64,968	28,268	11,496	207,757	61,762	184,537
Monroe	137,974	22,471	14,047	1,976	11,160	4,509	1,648	31,249	9,118	30,049
Morgan	68,894	17,328	8,919	1,523	4,906	2,283	1,024	17,648	5,314	8,092

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(continued)

AT-RISK GROUPS

Lung Diseases

County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	Chronic Bronchitis	Emphysema	Cardio-vascular Disease	Diabetes	Poverty
Perry	19,338	4,143	2,935	364	1,439	674	312	5,262	1,584	2,307
Porter	164,343	39,921	20,363	3,510	11,869	5,419	2,367	41,328	12,403	17,464
Posey	25,910	6,138	3,731	540	1,873	892	415	7,022	2,122	2,520
St. Joseph	266,931	65,851	35,565	5,790	19,132	8,689	3,853	66,362	19,867	40,709
Shelby	44,436	10,845	6,188	953	3,188	1,492	683	11,624	3,501	5,572
Spencer	20,952	5,063	3,145	445	1,502	720	341	5,708	1,726	2,335
Tippecanoe	172,780	35,717	16,379	3,140	13,246	5,384	1,972	37,442	10,948	33,184
Vanderburgh	179,703	39,896	25,896	3,508	13,275	6,083	2,747	46,828	14,037	29,198
Vigo	107,848	23,049	14,511	2,026	8,083	3,610	1,569	27,252	8,131	18,782
Warrick	59,689	15,431	7,958	1,357	4,204	1,971	897	15,345	4,626	4,335
Whitley	33,292	8,183	4,649	719	2,382	1,121	515	8,758	2,641	3,050
Totals	**4,865,139**	**1,207,018**	**600,201**	**106,120**	**349,122**	**156,812**	**67,702**	**1,184,639**	**354,168**	**736,825**

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INDIANA

American Lung Association in Indiana

115 W. Washington Street, Suite 1180 South
Indianapolis, IN 46204
(317) 819-1181
www.lung.org/indiana

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HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Allen	1	0	0	0.3	B
Boone	1	0	0	0.3	B
Carroll	1	0	0	0.3	B
Clark	6	0	0	2.0	C
Delaware	0	0	0	0.0	A
Dubois	DNC	DNC	DNC	DNC	DNC
Elkhart	0	0	0	0.0	A
Floyd	5	0	0	1.7	C
Gibson	DNC	DNC	DNC	DNC	DNC
Greene	1	0	0	0.3	B
Hamilton	4	0	0	1.3	C
Hancock	3	0	0	1.0	C
Hendricks	1	0	0	0.3	B
Henry	DNC	DNC	DNC	DNC	DNC
Howard	DNC	DNC	DNC	DNC	DNC
Huntington	0	0	0	0.0	A
Jackson	2	0	0	0.7	B
Johnson	2	0	0	0.7	B
Knox	DNC	DNC	DNC	DNC	DNC
Lake	3	0	0	1.0	C
LaPorte	4	0	0	1.3	C
Madison	0	0	0	0.0	A
Marion	6	0	0	2.0	C
Monroe	DNC	DNC	DNC	DNC	DNC
Morgan	2	0	0	0.7	B

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Allen	10	0	0	3.3	F	11.5	PASS
Boone	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Carroll	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Clark	8	0	0	2.7	D	14.1	PASS
Delaware	1	0	0	0.3	B	11.9	PASS
Dubois	0	0	0	0.0	A	INC	INC
Elkhart	5	0	0	1.7	C	12.0	PASS
Floyd	4	1	0	1.8	C	12.8	PASS
Gibson	0	0	0	0.0	A	11.5	PASS
Greene	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Hamilton	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Hancock	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Hendricks	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Henry	1	0	0	0.3	B	11.4	PASS
Howard	2	0	0	0.7	B	11.7	PASS
Huntington	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Jackson	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Johnson	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Knox	0	0	0	0.0	A	11.8	PASS
Lake	16	0	0	5.3	F	12.4	PASS
LaPorte	0	0	0	0.0	A	10.7	PASS
Madison	0	0	0	0.0	A	INC	INC
Marion	12	0	0	4.0	F	13.6	PASS
Monroe	INC	INC	INC	INC	INC	INC	INC
Morgan	DNC	DNC	DNC	DNC	DNC	DNC	DNC

(continued)

	HIGH OZONE DAYS 2008–2010					HIGH PARTICLE POLLUTION DAYS 2008–2010						
						24 Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg	Grade	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Perry	5	0	0	1.7	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Porter	4	0	0	1.3	C	5	0	0	1.7	C	11.2	PASS
Posey	2	0	0	0.7	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC
St. Joseph	0	0	0	0.0	A	13	0	0	4.3	F	11.3	PASS
Shelby	3	0	0	1.0	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Spencer	DNC	DNC	DNC	DNC	DNC	0	0	0	0.0	A	12.3	PASS
Tippecanoe	DNC	DNC	DNC	DNC	DNC	2	0	0	0.7	B	11.4	PASS
Vanderburgh	5	0	0	1.7	C	1	0	0	0.3	B	12.8	PASS
Vigo	0	0	0	0.0	A	3	0	0	1.0	C	12.4	PASS
Warrick	3	0	0	1.0	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Whitley	DNC	DNC	DNC	DNC	DNC	INC	INC	INC	INC	INC	INC	INC

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IOWA

American Lung Association in Iowa

2530 73rd Street
Des Moines, IA 50322
(515) 309-9507
www.lung.org/iowa

AT-RISK GROUPS

Lung Diseases

County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	Chronic Bronchitis	Emphysema	Cardio-vascular Disease	Diabetes	Poverty
Black Hawk	131,090	28,496	18,131	1,774	8,057	4,370	1,917	33,085	7,235	22,542
Bremer	24,276	5,513	4,192	343	1,466	835	405	6,624	1,475	1,722
Clinton	49,116	11,590	8,267	722	2,931	1,701	830	13,610	3,055	6,505
Delaware	17,764	4,483	2,944	279	1,037	609	300	4,909	1,108	1,764
Harrison	14,928	3,595	2,659	224	884	523	263	4,246	959	1,468
Johnson	130,882	25,918	11,211	1,614	8,312	4,117	1,465	28,394	5,944	21,016
Lee	35,862	7,961	6,078	496	2,179	1,269	618	10,161	2,285	5,390
Linn	211,226	51,847	27,488	3,228	12,519	6,861	3,013	52,173	11,473	20,392
Montgomery	10,740	2,511	2,141	156	640	386	202	3,188	724	1,512
Muscatine	42,745	11,164	5,843	695	2,476	1,393	635	10,809	2,403	5,782
Palo Alto	9,421	2,068	2,009	129	571	342	181	2,834	641	1,023
Polk	430,640	109,925	46,545	6,844	25,271	13,466	5,534	99,481	21,636	46,493
Pottawattamie	93,158	22,479	13,333	1,400	5,540	3,116	1,427	24,206	5,378	13,219
Scott	165,224	40,566	21,605	2,526	9,789	5,429	2,408	41,586	9,196	24,309
Story	89,542	15,953	8,945	993	5,820	2,870	1,048	19,875	4,141	15,053
Tama	17,767	4,540	3,274	283	1,030	608	310	4,960	1,118	2,113
Van Buren	7,570	1,822	1,498	113	447	267	139	2,202	498	1,225
Warren	46,225	12,018	6,159	748	2,684	1,501	676	11,583	2,569	3,271
Woodbury	102,172	27,214	13,125	1,694	5,886	3,233	1,428	24,643	5,423	15,049
Wright	13,229	3,086	2,769	192	788	476	253	3,954	897	1,464
Totals	**1,643,577**	**392,749**	**208,216**	**24,452**	**98,328**	**53,372**	**23,052**	**402,525**	**88,158**	**211,312**

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HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Black Hawk	DNC	DNC	DNC	DNC	DNC
Bremer	0	0	0	0.0	A
Clinton	0	0	0	0.0	A
Delaware	DNC	DNC	DNC	DNC	DNC
Harrison	1	0	0	0.3	B
Johnson	DNC	DNC	DNC	DNC	DNC
Lee	DNC	DNC	DNC	DNC	DNC
Linn	0	0	0	0.0	A
Montgomery	0	0	0	0.0	A
Muscatine	DNC	DNC	DNC	DNC	DNC
Palo Alto	0	0	0	0.0	A
Polk	0	0	0	0.0	A
Pottawattamie	DNC	DNC	DNC	DNC	DNC
Scott	0	0	0	0.0	A
Story	0	0	0	0.0	A
Tama	DNC	DNC	DNC	DNC	DNC
Van Buren	0	0	0	0.0	A
Warren	0	0	0	0.0	A
Woodbury	DNC	DNC	DNC	DNC	DNC
Wright	DNC	DNC	DNC	DNC	DNC

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Black Hawk	8	0	0	2.7	D	10.6	PASS
Bremer	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Clinton	15	0	0	5.0	F	12.1	PASS
Delaware	INC	INC	INC	INC	INC	INC	INC
Harrison	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Johnson	7	0	0	2.3	D	10.9	PASS
Lee	2	0	0	0.7	B	11.1	PASS
Linn	11	0	0	3.7	F	10.8	PASS
Montgomery	1	0	0	0.3	B	9.3	PASS
Muscatine	26	1	0	9.2	F	13.0	PASS
Palo Alto	1	0	0	0.3	B	8.8	PASS
Polk	7	0	0	2.3	D	9.8	PASS
Pottawattamie	2	0	0	0.7	B	10.9	PASS
Scott	14	0	0	4.7	F	12.9	PASS
Story	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Tama	INC	INC	INC	INC	INC	INC	INC
Van Buren	1	0	0	0.3	B	9.3	PASS
Warren	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Woodbury	3	0	0	1.0	C	INC	INC
Wright	INC	INC	INC	INC	INC	INC	INC

EMBARGOED

KANSAS

American Lung Association in Kansas

2400 Troost Avenue, #4300
Kansas City, MO 64108
(816) 842-5242
www.lung.org/kansas

AT-RISK GROUPS

				Lung Diseases						
County	**Total Population**	**Under 18**	**65 & Over**	**Pediatric Asthma**	**Adult Asthma**	**Chronic Bronchitis**	**Emphysema**	**Cardio-vascular Disease**	**Diabetes**	**Poverty**
Johnson	544,179	143,356	59,322	10,792	34,508	17,131	7,182	128,170	32,631	35,356
Leavenworth	76,227	19,147	8,426	1,441	4,910	2,448	1,029	18,354	4,678	6,576
Linn	9,656	2,240	1,867	169	629	347	180	2,861	746	1,366
Sedgwick	498,365	135,376	56,969	10,191	31,292	15,482	6,579	116,190	29,565	75,266
Shawnee	177,934	44,171	25,612	3,325	11,466	5,905	2,719	45,980	11,816	30,363
Sumner	24,132	6,314	3,786	475	1,518	811	392	6,479	1,678	2,861
Trego	3,001	599	703	45	202	117	65	996	262	339
Wyandotte	157,505	44,435	16,805	3,345	9,775	4,754	1,968	35,208	8,919	37,365
Totals	**1,490,999**	**395,638**	**173,490**	**29,785**	**94,300**	**46,995**	**20,114**	**354,236**	**90,295**	**189,492**

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HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Johnson	1	0	0	0.3	B
Leavenworth	1	0	0	0.3	B
Linn	0	0	0	0.0	A
Sedgwick	4	0	0	1.3	C
Shawnee	2	0	0	0.7	B
Sumner	5	0	0	1.7	C
Trego	0	0	0	0.0	A
Wyandotte	0	0	0	0.0	A

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Johnson	0	0	0	0.0	A	8.1	PASS
Leavenworth	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Linn	0	0	0	0.0	A	9.3	PASS
Sedgwick	0	0	0	0.0	A	9.1	PASS
Shawnee	1	0	0	0.3	B	9.2	PASS
Sumner	0	0	0	0.0	A	8.6	PASS
Trego	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Wyandotte	0	0	0	0.0	A	10.3	PASS

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KENTUCKY

American Lung Association in Kentucky

4100 Churchman Avenue
Louisville, KY 40215
(502) 363-2652
www.lung.org/kentucky

AT-RISK GROUPS

				Lung Diseases						
County	**Total Population**	**Under 18**	**65 & Over**	**Pediatric Asthma**	**Adult Asthma**	**Chronic Bronchitis**	**Emphysema**	**Cardio-vascular Disease**	**Diabetes**	**Poverty**
Bell	28,691	6,229	4,508	661	2,333	1,000	470	7,859	2,399	8,373
Boone	118,811	33,579	11,313	3,565	8,861	3,602	1,456	26,550	8,056	10,895
Boyd	49,542	10,593	8,242	1,125	4,045	1,748	838	13,859	4,233	9,019
Bullitt	74,319	18,783	8,287	1,994	5,771	2,399	1,016	18,073	5,514	7,771
Campbell	90,336	20,600	11,557	2,187	7,248	2,997	1,300	22,700	6,883	11,424
Carter	27,720	6,504	4,119	690	2,204	937	433	7,300	2,224	6,240
Christian	73,955	21,075	7,593	2,237	5,503	2,145	852	15,472	4,592	13,565
Daviess	96,656	23,605	14,118	2,506	7,589	3,229	1,492	25,178	7,676	15,215
Edmonson	12,161	2,657	2,023	282	987	427	205	3,390	1,036	2,264
Fayette	295,803	62,633	31,138	6,649	24,259	9,559	3,763	69,091	20,669	56,821
Franklin	49,285	10,665	6,882	1,132	4,012	1,694	761	13,064	3,984	7,592
Greenup	36,910	8,325	6,288	884	2,968	1,295	632	10,359	3,171	6,296
Hancock	8,565	2,225	1,196	236	658	282	130	2,206	675	1,209
Hardin	105,543	27,416	11,608	2,911	8,123	3,310	1,379	24,633	7,453	15,202
Henderson	46,250	10,870	6,551	1,154	3,675	1,567	717	12,193	3,728	7,480
Jefferson	741,096	171,807	99,095	18,239	59,161	24,702	10,939	188,884	57,395	125,861
Jessamine	48,586	12,549	5,494	1,332	3,746	1,536	648	11,502	3,487	7,549
Kenton	159,720	39,946	17,853	4,241	12,451	5,105	2,139	38,146	11,572	20,906
Livingston	9,519	1,953	1,725	207	785	349	174	2,827	870	1,380
McCracken	65,565	14,706	11,001	1,561	5,281	2,300	1,114	18,343	5,614	10,350
Madison	82,916	17,850	9,312	1,895	6,769	2,687	1,084	19,609	5,872	16,558
Ohio	23,842	5,934	3,682	630	1,860	797	377	6,276	1,914	4,771
Oldham	60,316	16,796	5,573	1,783	4,522	1,887	774	14,114	4,336	4,294
Perry	28,712	6,244	3,845	663	2,334	985	437	7,564	2,310	8,052
Pike	65,024	14,262	8,922	1,514	5,273	2,236	1,003	17,257	5,274	17,404

EMBARGOED

(continued)

AT-RISK GROUPS

Lung Diseases

County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	Chronic Bronchitis	Emphysema	Cardio-vascular Disease	Diabetes	Poverty
Pulaski	63,063	14,358	10,241	1,524	5,058	2,184	1,044	17,293	5,282	13,331
Simpson	17,327	4,268	2,471	453	1,357	577	265	4,494	1,371	2,758
Trigg	14,339	3,228	2,727	343	1,153	515	263	4,211	1,293	2,143
Warren	113,792	25,912	12,440	2,751	9,142	3,626	1,458	26,430	7,914	22,168
Totals	**2,608,364**	**615,572**	**329,804**	**65,350**	**207,130**	**85,677**	**37,163**	**648,876**	**196,797**	**436,891**

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KENTUCKY

American Lung Association in Kentucky

4100 Churchman Avenue
Louisville, KY 40215
(502) 363-2652
www.lung.org/kentucky

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HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Bell	2	0	0	0.7	B
Boone	1	0	0	0.3	B
Boyd	4	0	0	1.3	C
Bullitt	4	0	0	1.3	C
Campbell	3	0	0	1.0	C
Carter	2	0	0	0.7	B
Christian	3	0	0	1.0	C
Daviess	2	0	0	0.7	B
Edmonson	2	0	0	0.7	B
Fayette	1	0	0	0.3	B
Franklin	DNC	DNC	DNC	DNC	DNC
Greenup	3	0	0	1.0	C
Hancock	2	0	0	0.7	B
Hardin	2	0	0	0.7	B
Henderson	4	0	0	1.3	C
Jefferson	24	1	0	8.5	F
Jessamine	0	0	0	0.0	A
Kenton	3	0	0	1.0	C
Livingston	1	0	0	0.3	B
McCracken	1	0	0	0.3	B
Madison	DNC	DNC	DNC	DNC	DNC
Ohio	DNC	DNC	DNC	DNC	DNC
Oldham	11	0	0	3.7	F
Perry	0	0	0	0.0	A
Pike	0	0	0	0.0	A
Pulaski	0	0	0	0.0	A

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Bell	1	0	0	0.3	B	11.9	PASS
Boone	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Boyd	0	0	0	0.0	A	11.4	PASS
Bullitt	1	0	0	0.3	B	12.7	PASS
Campbell	0	0	0	0.0	A	11.7	PASS
Carter	0	0	0	0.0	A	9.6	PASS
Christian	0	0	0	0.0	A	INC	INC
Daviess	0	0	0	0.0	A	12.2	PASS
Edmonson	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Fayette	1	0	0	0.3	B	11.8	PASS
Franklin	0	0	0	0.0	A	11.1	PASS
Greenup	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Hancock	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Hardin	0	0	0	0.0	A	11.6	PASS
Henderson	0	0	0	0.0	A	12.0	PASS
Jefferson	5	1	0	2.2	D	13.2	PASS
Jessamine	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Kenton	0	0	0	0.0	A	INC	INC
Livingston	DNC	DNC	DNC	DNC	DNC	DNC	DNC
McCracken	0	0	0	0.0	A	11.6	PASS
Madison	0	0	0	0.0	A	10.3	PASS
Ohio	0	0	0	0.0	A	INC	INC
Oldham	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Perry	INC	INC	INC	INC	INC	INC	INC
Pike	1	0	0	0.3	B	10.1	PASS
Pulaski	INC	INC	INC	INC	INC	INC	INC

(continued)

HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Simpson	1	0	0	0.3	B
Trigg	1	0	0	0.3	B
Warren	0	0	0	0.0	A

HIGH PARTICLE POLLUTION DAYS 2008–2010

24 Hour					Annual	
Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
DNC	DNC	DNC	DNC	DNC	DNC	DNC
DNC	DNC	DNC	DNC	DNC	DNC	DNC
0	0	0	0.0	A	11.5	PASS

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LOUISIANA

American Lung Association in Louisiana

2325 Severn Avenue, Suite 8
Metairie, LA 70001-6918
(504) 828-5864
www.lung.org/louisiana

AT-RISK GROUPS

Lung Diseases

Parish	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	Chronic Bronchitis	Emphysema	Cardio-vascular Disease	Diabetes	Poverty
Ascension Parish	107,215	30,755	9,494	2,555	5,109	3,186	1,251	23,162	7,252	13,622
Bossier Parish	116,979	30,034	14,026	2,495	5,801	3,690	1,573	27,669	8,766	16,090
Caddo Parish	254,969	62,654	34,643	5,205	12,833	8,348	3,734	64,035	20,525	48,606
Calcasieu Parish	192,768	49,012	24,326	4,072	9,597	6,209	2,719	47,234	15,096	33,282
East Baton Rouge Parish	440,171	103,665	48,030	8,612	22,455	13,998	5,681	102,658	32,156	74,416
Iberville Parish	33,387	7,502	4,004	623	1,729	1,114	475	8,392	2,675	6,709
Jefferson Parish	432,552	97,397	58,988	8,091	22,376	14,601	6,504	112,005	35,952	69,426
Lafayette Parish	221,578	54,263	22,787	4,508	11,169	6,958	2,789	50,842	15,915	38,685
Lafourche Parish	96,318	23,666	12,031	1,966	4,850	3,119	1,352	23,605	7,522	12,585
Livingston Parish	128,026	35,330	12,671	2,935	6,191	3,888	1,572	28,580	8,988	15,903
Orleans Parish	343,829	73,215	37,639	6,083	18,067	11,303	4,574	82,960	26,035	90,948
Ouachita Parish	153,720	40,373	18,920	3,354	7,562	4,828	2,084	36,377	11,548	30,505
Pointe Coupee Parish	22,802	5,475	3,534	455	1,157	785	375	6,238	2,039	3,978
Rapides Parish	131,613	34,014	18,012	2,826	6,514	4,268	1,932	32,949	10,599	25,048
St. Bernard Parish	35,897	9,177	3,288	762	1,785	1,109	433	8,039	2,512	6,491
St. Charles Parish	52,780	14,208	5,235	1,180	2,580	1,654	680	12,321	3,917	6,604
St. James Parish	22,102	5,701	2,841	474	1,096	719	321	5,535	1,782	3,542
St. John the Baptist Parish	45,924	12,356	4,736	1,027	2,244	1,435	595	10,706	3,401	8,397
St. Tammany Parish	233,740	60,136	29,628	4,996	11,605	7,672	3,425	59,206	19,123	21,440
Tangipahoa Parish	121,097	30,420	13,803	2,527	6,053	3,833	1,604	28,543	9,020	25,599
Terrebonne Parish	111,860	29,123	12,566	2,419	5,525	3,523	1,482	26,343	8,354	20,192
West Baton Rouge Parish	23,788	5,927	2,617	492	1,193	762	319	5,696	1,808	3,506
Totals	**3,323,115**	**814,403**	**393,819**	**67,658**	**167,489**	**107,002**	**45,474**	**803,095**	**254,984**	**575,574**

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HIGH OZONE DAYS 2008–2010

HIGH PARTICLE POLLUTION DAYS 2008–2010

						24 Hour					Annual	
Parish	Orange	Red	Purple	Wgt. Avg	Grade	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Ascension Parish	10	0	0	3.3	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Bossier Parish	11	1	0	4.2	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Caddo Parish	8	0	0	2.7	D	0	0	0	0.0	A	10.9	PASS
Calcasieu Parish	14	1	0	5.2	F	0	0	0	0.0	A	9.2	PASS
East Baton Rouge Parish	27	0	0	9.0	F	0	0	0	0.0	A	10.6	PASS
Iberville Parish	18	0	0	6.0	F	0	0	0	0.0	A	10.5	PASS
Jefferson Parish	11	0	0	3.7	F	1	0	0	0.3	B	9.2	PASS
Lafayette Parish	7	0	0	2.3	D	0	0	0	0.0	A	9.2	PASS
Lafourche Parish	2	0	0	0.7	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Livingston Parish	10	0	0	3.3	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Orleans Parish	3	0	0	1.0	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Ouachita Parish	0	0	0	0.0	A	0	0	0	0.0	A	9.2	PASS
Pointe Coupee Parish	10	0	0	3.3	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Rapides Parish	DNC	DNC	DNC	DNC	DNC	0	0	0	0.0	A	8.9	PASS
St. Bernard Parish	4	0	0	1.3	C	1	0	0	0.3	B	10.6	PASS
St. Charles Parish	4	0	0	1.3	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC
St. James Parish	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC
St. John the Baptist Parish	4	0	0	1.3	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC
St. Tammany Parish	10	0	0	3.3	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Tangipahoa Parish	DNC	DNC	DNC	DNC	DNC	0	0	0	0.0	A	9.1	PASS
Terrebonne Parish	DNC	DNC	DNC	DNC	DNC	0	0	0	0.0	A	8.6	PASS
West Baton Rouge Parish	2	0	0	0.7	B	0	0	0	0.0	A	10.9	PASS

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MAINE

American Lung Association in Maine

122 State Street
Augusta, ME 04330
(207) 624-0308
www.lung.org/maine

AT-RISK GROUPS

Lung Diseases

County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	Chronic Bronchitis	Emphysema	Cardio-vascular Disease	Diabetes	Poverty
Androscoggin	107,702	24,308	15,184	2,274	8,336	3,667	1,660	28,366	6,947	15,240
Aroostook	71,870	14,384	13,651	1,346	5,716	2,661	1,344	21,673	5,367	9,828
Cumberland	281,674	58,894	40,157	5,510	22,276	9,827	4,446	76,089	18,645	28,176
Hancock	54,418	9,977	9,937	933	4,426	2,058	1,021	16,674	4,129	7,461
Kennebec	122,151	25,308	18,960	2,368	9,670	4,359	2,046	34,375	8,461	13,896
Knox	39,736	7,710	7,594	721	3,185	1,491	755	12,174	3,018	5,251
Oxford	57,833	12,317	9,843	1,152	4,536	2,096	1,026	16,873	4,173	8,511
Penobscot	153,923	30,355	22,253	2,840	12,354	5,399	2,426	41,567	10,165	23,508
Piscataquis	17,535	3,365	3,564	315	1,407	672	350	5,570	1,386	2,869
Sagadahoc	35,293	7,422	5,788	694	2,780	1,275	615	10,199	2,519	3,662
Washington	32,856	6,564	6,426	614	2,613	1,226	628	10,056	2,494	6,182
York	197,131	42,091	30,353	3,938	15,482	7,007	3,297	55,376	13,641	20,065
Totals	**1,172,122**	**242,695**	**183,710**	**22,706**	**92,781**	**41,738**	**19,614**	**328,992**	**80,944**	**144,649**

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HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Androscoggin	1	0	0	0.3	B
Aroostook	0	0	0	0.0	A
Cumberland	4	1	0	1.8	C
Hancock	8	0	0	2.7	D
Kennebec	1	0	0	0.3	B
Knox	4	0	0	1.3	C
Oxford	0	0	0	0.0	A
Penobscot	1	0	0	0.3	B
Piscataquis	DNC	DNC	DNC	DNC	DNC
Sagadahoc	0	0	0	0.0	A
Washington	2	0	0	0.7	B
York	8	0	0	2.7	D

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Androscoggin	2	0	0	0.7	B	7.8	PASS
Aroostook	1	0	0	0.3	B	7.1	PASS
Cumberland	1	0	0	0.3	B	8.4	PASS
Hancock	0	0	0	0.0	A	4.4	PASS
Kennebec	0	0	0	0.0	A	7.5	PASS
Knox	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Oxford	2	0	0	0.7	B	8.2	PASS
Penobscot	0	0	0	0.0	A	7.4	PASS
Piscataquis	1	0	0	0.3	B	5.3	PASS
Sagadahoc	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Washington	DNC	DNC	DNC	DNC	DNC	DNC	DNC
York	DNC	DNC	DNC	DNC	DNC	DNC	DNC

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MARYLAND

American Lung Association in Maryland

211 E. Lombard St., #260
Baltimore, MD 21202
(443) 451-4950
www.lung.org/maryland

AT-RISK GROUPS

Lung Diseases

County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	Chronic Bronchitis	Emphysema	Cardio-vascular Disease	Diabetes	Poverty
Anne Arundel	537,656	125,061	63,664	14,812	34,592	17,788	7,591	134,216	38,353	34,484
Baltimore	805,029	176,750	117,476	20,933	52,259	27,501	12,505	212,641	61,205	64,494
Calvert	88,737	23,231	9,683	2,751	5,507	2,884	1,238	21,968	6,288	5,432
Carroll	167,134	41,237	21,809	4,884	10,520	5,609	2,528	43,538	12,532	8,873
Cecil	101,108	25,355	11,875	3,003	6,350	3,301	1,427	25,105	7,187	10,493
Charles	146,551	38,884	13,852	4,605	9,082	4,574	1,845	33,772	9,588	9,077
Frederick	233,385	59,044	25,914	6,993	14,641	7,538	3,194	56,829	16,230	12,884
Garrett	30,097	6,660	5,231	789	1,935	1,068	524	8,573	2,492	4,455
Harford	244,826	60,410	30,564	7,155	15,428	8,092	3,566	62,047	17,805	16,715
Kent	20,197	3,548	4,397	420	1,360	769	401	6,325	1,851	2,677
Montgomery	971,777	233,530	119,769	27,658	61,782	31,998	13,891	243,139	69,620	72,259
Prince George's	863,420	205,999	81,513	24,398	55,460	27,287	10,675	197,884	55,927	79,203
Washington	147,430	33,779	21,104	4,001	9,457	4,984	2,265	38,560	11,099	15,846
Worcester	51,454	9,423	11,961	1,116	3,420	2,001	1,086	16,831	4,950	5,362
Baltimore city	620,961	133,560	72,812	15,818	40,856	20,375	8,404	150,407	42,755	147,556
Totals	**5,029,762**	**1,176,471**	**611,624**	**139,336**	**322,651**	**165,769**	**71,140**	**1,251,837**	**357,882**	**489,810**

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HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Anne Arundel	21	3	0	8.5	F
Baltimore	28	4	0	11.3	F
Calvert	13	2	0	5.3	F
Carroll	11	1	0	4.2	F
Cecil	22	1	0	7.8	F
Charles	16	0	0	5.3	F
Frederick	10	0	0	3.3	F
Garrett	5	0	0	1.7	C
Harford	47	7	0	19.2	F
Kent	16	1	0	5.8	F
Montgomery	10	0	0	3.3	F
Prince George's	33	1	0	11.5	F
Washington	8	0	0	2.7	D
Worcester	5	1	0	2.2	D
Baltimore city	2	1	0	1.2	C

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Anne Arundel	3	0	0	1.0	C	11.6	PASS
Baltimore	9	0	0	3.0	D	11.7	PASS
Calvert	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Carroll	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Cecil	5	0	0	1.7	C	10.6	PASS
Charles	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Frederick	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Garrett	INC	INC	INC	INC	INC	INC	INC
Harford	0	0	0	0.0	A	10.1	PASS
Kent	INC	INC	INC	INC	INC	INC	INC
Montgomery	2	0	0	0.7	B	10.3	PASS
Prince George's	6	0	0	2.0	C	11.5	PASS
Washington	3	0	0	1.0	C	11.0	PASS
Worcester	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Baltimore city	14	0	0	4.7	F	11.6	PASS

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MASSACHUSETTS

American Lung Association in Massachusetts

460 Totten Pond Road, Suite 400
Waltham, MA 02451-1991
(781) 314-9006
www.lung.org/massachusetts

AT-RISK GROUPS

Lung Diseases

County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	Chronic Bronchitis	Emphysema	Cardio-vascular Disease	Diabetes	Poverty
Barnstable	215,888	37,249	53,879	3,375	18,032	8,629	4,803	73,519	17,188	23,102
Berkshire	131,219	25,624	24,386	2,322	10,793	4,847	2,416	39,197	8,995	15,542
Bristol	548,285	122,409	77,879	11,093	43,997	18,655	8,433	144,029	32,546	68,247
Dukes	16,535	3,173	2,699	288	1,366	613	293	4,893	1,112	1,360
Essex	743,159	172,089	105,083	15,594	58,859	25,285	11,535	196,523	44,423	76,128
Hampden	463,490	109,885	65,745	9,958	36,527	15,496	7,040	119,834	27,108	76,780
Hampshire	158,080	26,766	20,022	2,426	13,676	5,542	2,317	41,228	9,208	17,125
Middlesex	1,503,085	320,439	197,015	29,038	122,691	50,825	22,078	385,027	86,482	118,584
Norfolk	670,850	152,132	97,304	13,786	53,462	22,968	10,535	178,803	40,469	41,207
Plymouth	494,919	119,475	68,846	10,827	38,632	16,750	7,673	130,703	29,538	40,062
Suffolk	722,023	126,275	75,726	11,443	62,861	23,558	8,833	165,378	36,477	153,514
Worcester	798,552	187,231	102,035	16,967	63,245	26,616	11,682	203,243	45,660	84,142
Totals	**6,466,085**	**1,402,747**	**890,619**	**127,115**	**524,143**	**219,784**	**97,638**	**1,682,376**	**379,206**	**715,793**

EMBARGOED

HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Barnstable	8	1	0	3.2	D
Berkshire	4	1	0	1.8	C
Bristol	10	0	0	3.3	F
Dukes	8	3	0	4.2	F
Essex	10	0	0	3.3	F
Hampden	12	0	0	4.0	F
Hampshire	16	0	0	5.3	F
Middlesex	6	0	0	2.0	C
Norfolk	9	0	0	3.0	D
Plymouth	DNC	DNC	DNC	DNC	DNC
Suffolk	5	0	0	1.7	C
Worcester	14	1	0	5.2	F

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Barnstable	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Berkshire	2	0	0	0.7	B	9.2	PASS
Bristol	0	0	0	0.0	A	8.3	PASS
Dukes	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Essex	0	0	0	0.0	A	8.5	PASS
Hampden	2	0	0	0.7	B	9.8	PASS
Hampshire	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Middlesex	0	0	0	0.0	A	8.2	PASS
Norfolk	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Plymouth	0	0	0	0.0	A	8.6	PASS
Suffolk	1	0	0	0.3	B	10.5	PASS
Worcester	0	0	0	0.0	A	9.4	PASS

EMBARGOED

MASSACHUSETTS

MICHIGAN

American Lung Association in Michigan

25900 Greenfield Road, Suite 601
Oak Park, MI 48237
(248) 784-2000
www.lung.org/michigan

AT-RISK GROUPS

Lung Diseases

County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	Chronic Bronchitis	Emphysema	Cardio-vascular Disease	Diabetes	Poverty
Allegan	111,408	29,224	14,438	3,235	8,512	3,643	1,642	28,223	8,632	16,283
Bay	107,771	23,952	17,507	2,651	8,641	3,777	1,807	29,967	9,179	16,923
Benzie	17,525	3,678	3,617	407	1,405	652	342	5,409	1,661	2,171
Berrien	156,813	36,672	25,549	4,060	12,389	5,412	2,603	43,009	13,174	26,847
Cass	52,293	12,258	8,355	1,357	4,107	1,825	879	14,567	4,464	8,059
Chippewa	38,520	7,751	5,627	858	3,213	1,338	602	10,288	3,144	6,580
Clinton	75,382	18,612	9,705	2,060	5,912	2,482	1,100	19,032	5,817	7,881
Emmet	32,694	7,389	5,437	818	2,593	1,158	564	9,283	2,846	3,885
Genesee	425,790	106,579	58,189	11,798	33,186	14,035	6,356	108,565	33,197	87,931
Huron	33,118	6,842	7,198	757	2,662	1,244	665	10,392	3,193	5,154
Ingham	280,895	58,599	29,413	6,487	23,709	9,078	3,552	65,393	19,892	53,029
Kalamazoo	250,331	56,926	30,780	6,302	20,418	8,151	3,443	60,784	18,536	48,391
Kent	602,622	158,134	67,104	17,505	46,799	18,838	7,883	140,411	42,825	96,935
Leelanau	21,708	4,240	5,082	469	1,747	853	471	7,267	2,236	2,002
Lenawee	99,892	23,128	14,580	2,560	7,958	3,403	1,568	26,541	8,120	13,445
Macomb	840,978	193,655	120,180	21,438	67,286	28,490	12,976	220,836	67,535	105,439
Manistee	24,733	4,716	5,108	522	2,032	941	490	7,774	2,387	3,967
Mason	28,705	6,240	5,509	691	2,288	1,047	536	8,585	2,635	4,461
Missaukee	14,849	3,596	2,581	398	1,151	518	258	4,199	1,288	2,336
Monroe	152,021	36,677	20,392	4,060	11,940	5,121	2,315	39,731	12,154	18,260
Muskegon	172,188	42,787	23,352	4,736	13,457	5,684	2,565	43,903	13,424	34,760
Oakland	1,202,362	282,105	159,124	31,229	95,489	40,595	18,160	313,243	95,782	122,932
Ottawa	263,801	68,737	31,023	7,609	20,517	8,299	3,532	62,258	18,996	29,170
St. Clair	163,040	38,613	23,671	4,274	12,841	5,577	2,589	43,760	13,395	24,699
Schoolcraft	8,485	1,687	1,802	187	686	324	172	2,708	832	1,322

EMBARGOED

(continued)

AT-RISK GROUPS

Lung Diseases

County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	Chronic Bronchitis	Emphysema	Cardio-vascular Disease	Diabetes	Poverty
Washtenaw	344,791	71,953	34,951	7,965	29,040	11,196	4,366	80,736	24,564	42,565
Wayne	1,820,584	461,795	230,703	51,120	141,972	58,895	25,883	449,132	137,203	429,408
Totals	**7,343,299**	**1,766,545**	**960,977**	**195,556**	**581,948**	**242,576**	**107,319**	**1,855,995**	**567,109**	**1,214,835**

EMBARGOED

MICHIGAN

American Lung Association in Michigan

25900 Greenfield Road, Suite 601
Oak Park, MI 48237
(248) 784-2000
www.lung.org/michigan

EMBARGOED

	HIGH OZONE DAYS 2008–2010					HIGH PARTICLE POLLUTION DAYS 2008–2010						
						24 Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg	Grade	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Allegan	7	1	0	2.8	D	1	0	0	0.3	B	8.9	PASS
Bay	DNC	DNC	DNC	DNC	DNC	1	0	0	0.3	B	8.4	PASS
Benzie	2	0	0	0.7	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Berrien	4	0	0	1.3	C	0	0	0	0.0	A	9.2	PASS
Cass	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Chippewa	INC	INC	INC	INC	INC	12	0	0	4.0	F	INC	INC
Clinton	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Emmet	DNC	DNC	DNC	DNC	DNC	INC	INC	INC	INC	INC	INC	INC
Genesee	2	0	0	0.7	B	0	0	0	0.0	A	9.1	PASS
Huron	3	0	0	1.0	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Ingham	0	0	0	0.0	A	0	0	0	0.0	A	9.3	PASS
Kalamazoo	5	0	0	1.7	C	1	0	0	0.3	B	10.1	PASS
Kent	3	0	0	1.0	C	1	0	0	0.3	B	10.2	PASS
Leelanau	INC	INC	INC	INC	INC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Lenawee	3	0	0	1.0	C	0	0	0	0.0	A	INC	INC
Macomb	11	0	0	3.7	F	0	0	0	0.0	A	9.7	PASS
Manistee	4	0	0	1.3	C	0	0	0	0.0	A	6.8	PASS
Mason	4	0	0	1.3	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Missaukee	2	0	0	0.7	B	0	0	0	0.0	A	6.1	PASS
Monroe	DNC	DNC	DNC	DNC	DNC	2	0	0	0.7	B	10.3	PASS
Muskegon	7	1	0	2.8	D	1	0	0	0.3	B	8.9	PASS
Oakland	5	0	0	1.7	C	1	0	0	0.3	B	10.0	PASS
Ottawa	4	0	0	1.3	C	1	0	0	0.3	B	9.7	PASS
St. Clair	6	0	0	2.0	C	2	0	0	0.7	B	9.9	PASS
Schoolcraft	4	0	0	1.3	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC

(continued)

HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Washtenaw	0	0	0	0.0	A
Wayne	12	0	0	4.0	F

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Washtenaw	0	0	0	0.0	A	10.0	PASS
Wayne	7	0	0	2.3	D	12.3	PASS

EMBARGOED

MINNESOTA

American Lung Association in Minnesota

490 Concordia Avenue
St. Paul, MN 55103-2441
(651) 227-8014
www.lung.org/minnesota

AT-RISK GROUPS

Lung Diseases

County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	Chronic Bronchitis	Emphysema	Cardio-vascular Disease	Diabetes	Poverty
Anoka	330,844	86,031	32,232	5,998	18,678	10,458	4,261	77,599	15,396	24,288
Becker	32,504	7,999	5,637	558	1,817	1,128	562	9,130	1,927	4,673
Carlton	35,386	8,364	5,317	583	2,026	1,207	564	9,479	1,965	3,634
Cass	28,567	6,203	6,029	432	1,637	1,062	565	8,868	1,907	4,655
Crow Wing	62,500	14,372	11,564	1,002	3,570	2,205	1,111	17,881	3,798	7,624
Dakota	398,552	105,060	39,816	7,325	22,377	12,555	5,157	93,417	18,591	27,650
Goodhue	46,183	10,950	7,594	763	2,624	1,602	778	12,814	2,684	3,763
Hennepin	1,152,425	261,345	130,814	18,221	68,121	37,623	15,580	279,163	56,062	155,936
Lake	10,866	2,067	2,428	144	643	419	225	3,518	759	1,191
Lyon	25,857	6,265	3,519	437	1,488	839	371	6,386	1,313	2,836
Mille Lacs	26,097	6,615	4,206	461	1,458	872	420	6,917	1,451	3,338
Olmsted	144,248	36,440	18,133	2,541	8,178	4,655	2,035	35,393	7,213	12,151
Ramsey	508,640	118,493	61,181	8,261	29,788	16,503	6,964	123,206	24,930	84,698
St. Louis	200,226	39,559	31,816	2,758	12,064	7,136	3,332	55,918	11,606	33,324
Scott	129,928	39,228	10,016	2,735	6,990	3,753	1,426	26,968	5,261	6,518
Stearns	150,642	34,900	18,228	2,433	8,853	4,862	2,042	36,148	7,321	17,404
Washington	238,136	63,598	24,984	4,434	13,247	7,576	3,191	57,096	11,422	13,697
Wright	124,700	37,361	11,934	2,605	6,689	3,673	1,489	27,048	5,390	7,210
Totals	**3,646,301**	**884,850**	**425,448**	**61,691**	**210,249**	**118,128**	**50,073**	**886,950**	**178,994**	**414,590**

EMBARGOED

HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Anoka	0	0	0	0.0	A
Becker	0	0	0	0.0	A
Carlton	0	0	0	0.0	A
Cass	DNC	DNC	DNC	DNC	DNC
Crow Wing	1	0	0	0.3	B
Dakota	DNC	DNC	DNC	DNC	DNC
Goodhue	0	0	0	0.0	A
Hennepin	DNC	DNC	DNC	DNC	DNC
Lake	0	0	0	0.0	A
Lyon	0	0	0	0.0	A
Mille Lacs	0	0	0	0.0	A
Olmsted	0	0	0	0.0	A
Ramsey	DNC	DNC	DNC	DNC	DNC
St. Louis	0	0	0	0.0	A
Scott	0	0	0	0.0	A
Stearns	0	0	0	0.0	A
Washington	0	0	0	0.0	A
Wright	0	0	0	0.0	A

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Anoka	INC	INC	INC	INC	INC	INC	INC
Becker	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Carlton	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Cass	INC	INC	INC	INC	INC	INC	INC
Crow Wing	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Dakota	6	0	0	2.0	C	9.6	PASS
Goodhue	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Hennepin	6	0	0	2.0	C	9.7	PASS
Lake	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Lyon	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Mille Lacs	INC	INC	INC	INC	INC	INC	INC
Olmsted	5	0	0	1.7	C	9.7	PASS
Ramsey	10	0	0	3.3	F	10.6	PASS
St. Louis	1	0	0	0.3	B	7.1	PASS
Scott	4	0	0	1.3	C	9.3	PASS
Stearns	4	0	0	1.3	C	8.6	PASS
Washington	INC	INC	INC	INC	INC	INC	INC
Wright	DNC	DNC	DNC	DNC	DNC	DNC	DNC

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MISSISSIPPI

American Lung Association in Mississippi

P.O. Box 2178
Ridgeland, MS 39158
(601) 206-5810
www.lung.org/mississippi

AT-RISK GROUPS

Lung Diseases

County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	Chronic Bronchitis	Emphysema	Cardio-vascular Disease	Diabetes	Poverty
Adams	32,297	7,195	5,116	619	1,859	1,127	534	8,908	3,403	9,213
Bolivar	34,145	8,643	4,113	744	1,848	1,088	466	8,189	3,110	11,025
DeSoto	161,252	45,625	16,341	3,928	8,335	4,855	1,981	35,792	13,594	16,739
Forrest	74,934	17,703	8,664	1,524	4,067	2,355	962	17,226	6,464	20,780
Grenada	21,906	5,391	3,277	464	1,215	732	342	5,736	2,185	4,649
Hancock	43,929	10,498	6,685	904	2,479	1,502	708	11,850	4,533	8,235
Harrison	187,105	45,853	21,952	3,948	10,234	6,012	2,544	45,032	17,115	35,796
Hinds	245,285	65,043	26,551	5,600	12,996	7,587	3,137	56,204	21,325	54,448
Jackson	139,668	35,600	17,341	3,065	7,604	4,510	1,972	34,340	13,096	22,988
Jones	67,761	17,348	9,748	1,494	3,682	2,204	1,012	17,086	6,482	15,535
Lauderdale	80,261	20,080	11,318	1,729	4,388	2,620	1,189	20,205	7,665	18,629
Lee	82,910	22,106	10,749	1,903	4,429	2,631	1,168	20,116	7,642	16,732
Lowndes	59,779	15,055	7,704	1,296	3,255	1,930	849	14,698	5,586	15,085
Webster	10,253	2,579	1,614	222	567	344	164	2,722	1,037	2,386
Totals	**1,241,485**	**318,719**	**151,173**	**27,440**	**66,960**	**39,497**	**17,028**	**298,105**	**113,236**	**252,240**

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HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Adams	1	0	0	0.3	B
Bolivar	2	0	0	0.7	B
DeSoto	8	0	0	2.7	D
Forrest	DNC	DNC	DNC	DNC	DNC
Grenada	DNC	DNC	DNC	DNC	DNC
Hancock	INC	INC	INC	INC	INC
Harrison	11	0	0	3.7	F
Hinds	1	0	0	0.3	B
Jackson	8	0	0	2.7	D
Jones	DNC	DNC	DNC	DNC	DNC
Lauderdale	0	0	0	0.0	A
Lee	0	0	0	0.0	A
Lowndes	DNC	DNC	DNC	DNC	DNC
Webster	INC	INC	INC	INC	INC

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Adams	0	0	0	0.0	A	10.2	PASS
Bolivar	0	0	0	0.0	A	10.7	PASS
DeSoto	0	0	0	0.0	A	10.5	PASS
Forrest	0	0	0	0.0	A	12.0	PASS
Grenada	0	0	0	0.0	A	9.8	PASS
Hancock	INC	INC	INC	INC	INC	INC	INC
Harrison	0	0	0	0.0	A	9.5	PASS
Hinds	0	0	0	0.0	A	11.4	PASS
Jackson	0	0	0	0.0	A	9.6	PASS
Jones	0	0	0	0.0	A	12.2	PASS
Lauderdale	0	0	0	0.0	A	11.4	PASS
Lee	0	0	0	0.0	A	11.3	PASS
Lowndes	INC	INC	INC	INC	INC	INC	INC
Webster	DNC	DNC	DNC	DNC	DNC	DNC	DNC

EMBARGOED

MISSOURI

American Lung Association in Missouri

1118 Hampton Avenue
St. Louis, MO 63139-3196
(314) 645-5505
www.lung.org/missouri

AT-RISK GROUPS

Lung Diseases

County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	Chronic Bronchitis	Emphysema	Cardio-vascular Disease	Diabetes	Poverty
Andrew	17,291	4,164	2,681	454	1,173	591	281	4,675	1,328	1,727
Boone	162,642	34,251	15,072	3,737	11,148	5,114	1,894	35,891	9,976	29,023
Buchanan	89,201	20,963	12,501	2,287	6,022	2,958	1,328	22,702	6,401	13,449
Callaway	44,332	10,003	5,460	1,091	3,054	1,479	636	11,181	3,162	5,580
Cass	99,478	26,385	13,490	2,879	6,499	3,212	1,459	24,867	7,039	8,314
Cedar	13,982	3,308	3,126	361	942	505	276	4,245	1,203	2,766
Clay	221,939	57,267	24,964	6,248	14,609	7,016	2,952	52,480	14,813	20,932
Clinton	20,743	5,094	3,260	556	1,397	706	338	5,602	1,590	2,236
Greene	275,174	58,373	38,593	6,369	18,992	9,242	4,065	70,049	19,667	50,385
Jackson	674,158	165,635	83,990	18,071	45,007	21,823	9,448	165,068	46,567	111,816
Jasper	117,404	30,279	15,714	3,304	7,660	3,744	1,663	28,549	8,032	20,224
Jefferson	218,733	54,988	24,394	5,999	14,670	7,079	3,001	53,372	15,141	26,180
Lincoln	52,566	14,726	5,715	1,607	3,375	1,626	689	12,229	3,462	5,834
Monroe	8,840	2,061	1,648	225	606	315	160	2,571	731	1,326
Perry	18,971	4,762	2,960	520	1,260	634	301	5,001	1,415	2,528
St. Charles	360,485	92,860	40,378	10,131	23,855	11,488	4,857	86,309	24,422	21,735
Ste. Genevieve	18,145	4,221	2,911	461	1,251	635	306	5,071	1,444	2,003
St. Louis	998,954	234,174	149,493	25,549	68,116	34,000	15,822	266,239	75,457	102,972
Taney	51,675	11,427	9,150	1,247	3,549	1,806	884	14,411	4,071	10,028
St. Louis city	319,294	67,539	35,175	7,369	22,087	10,416	4,183	75,988	21,298	85,618
Totals	**3,784,007**	**902,480**	**490,675**	**98,463**	**255,273**	**124,389**	**54,543**	**946,501**	**267,219**	**524,676**

EMBARGOED

HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Andrew	INC	INC	INC	INC	INC
Boone	INC	INC	INC	INC	INC
Buchanan	DNC	DNC	DNC	DNC	DNC
Callaway	INC	INC	INC	INC	INC
Cass	2	0	0	0.7	B
Cedar	2	0	0	0.7	B
Clay	9	0	0	3.0	D
Clinton	9	0	0	3.0	D
Greene	1	0	0	0.3	B
Jackson	DNC	DNC	DNC	DNC	DNC
Jasper	INC	INC	INC	INC	INC
Jefferson	10	0	0	3.3	F
Lincoln	6	0	0	2.0	C
Monroe	0	0	0	0.0	A
Perry	7	0	0	2.3	D
St. Charles	18	0	0	6.0	F
Ste. Genevieve	4	0	0	1.3	C
St. Louis	7	0	0	2.3	D
Taney	INC	INC	INC	INC	INC
St. Louis city	6	0	0	2.0	C

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Andrew	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Boone	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Buchanan	1	0	0	0.3	B	11.4	PASS
Callaway	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Cass	1	0	0	0.3	B	9.9	PASS
Cedar	0	0	0	0.0	A	INC	INC
Clay	1	0	0	0.3	B	9.6	PASS
Clinton	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Greene	1	0	0	0.3	B	10.0	PASS
Jackson	3	0	0	1.0	C	11.1	PASS
Jasper	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Jefferson	2	0	0	0.7	B	INC	INC
Lincoln	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Monroe	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Perry	DNC	DNC	DNC	DNC	DNC	DNC	DNC
St. Charles	INC	INC	INC	INC	INC	INC	INC
Ste. Genevieve	INC	INC	INC	INC	INC	INC	INC
St. Louis	1	0	0	0.3	B	INC	INC
Taney	DNC	DNC	DNC	DNC	DNC	DNC	DNC
St. Louis city	4	1	0	1.8	C	13.1	PASS

EMBARGOED

MONTANA

American Lung Association in Montana

825 Helena Avenue
Helena, MT 59601-3459
(406) 442-6556
www.lung.org/montana

AT-RISK GROUPS

Lung Diseases

County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	Chronic Bronchitis	Emphysema	Cardio-vascular Disease	Diabetes	Poverty
Cascade	81,327	18,630	12,690	1,283	5,730	2,778	1,303	21,776	4,447	10,657
Flathead	90,928	21,254	13,103	1,464	6,333	3,133	1,453	24,607	5,029	13,317
Gallatin	89,513	18,733	8,470	1,290	6,481	2,870	1,088	20,432	4,021	11,085
Glacier	13,399	4,236	1,414	292	835	395	168	2,976	599	3,782
Lewis and Clark	63,395	14,376	8,757	990	4,455	2,189	996	17,049	3,474	7,041
Lincoln	19,687	3,896	4,040	268	1,434	757	398	6,317	1,318	3,621
Missoula	109,299	21,828	12,457	1,504	8,000	3,650	1,484	26,816	5,344	15,883
Powder River	1,743	363	396	25	125	67	37	574	120	245
Ravalli	40,212	8,824	7,728	608	2,856	1,476	760	12,156	2,526	6,992
Richland	9,746	2,283	1,448	157	678	337	158	2,660	545	1,107
Rosebud	9,233	2,732	1,058	188	590	289	128	2,230	453	1,716
Sanders	11,413	2,354	2,456	162	823	439	236	3,703	775	2,168
Silver Bow	34,200	7,184	5,614	495	2,466	1,211	576	9,573	1,961	5,864
Yellowstone	147,972	35,040	20,868	2,414	10,306	4,959	2,252	38,371	7,800	18,671
Totals	**722,067**	**161,733**	**100,499**	**11,140**	**51,112**	**24,550**	**11,037**	**189,240**	**38,412**	**102,149**

EMBARGOED

HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Cascade	DNC	DNC	DNC	DNC	DNC
Flathead	0	0	0	0.0	A
Gallatin	DNC	DNC	DNC	DNC	DNC
Glacier	INC	INC	INC	INC	INC
Lewis and Clark	DNC	DNC	DNC	DNC	DNC
Lincoln	DNC	DNC	DNC	DNC	DNC
Missoula	INC	INC	INC	INC	INC
Powder River	INC	INC	INC	INC	INC
Ravalli	DNC	DNC	DNC	DNC	DNC
Richland	INC	INC	INC	INC	INC
Rosebud	INC	INC	INC	INC	INC
Sanders	DNC	DNC	DNC	DNC	DNC
Silver Bow	DNC	DNC	DNC	DNC	DNC
Yellowstone	DNC	DNC	DNC	DNC	DNC

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Cascade	INC	INC	INC	INC	INC	INC	INC
Flathead	0	0	0	0.0	A	8.5	PASS
Gallatin	4	0	0	1.3	C	8.1	PASS
Glacier	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Lewis and Clark	18	1	0	6.5	F	INC	INC
Lincoln	4	0	0	1.3	C	11.7	PASS
Missoula	6	0	0	2.0	C	7.9	PASS
Powder River	INC	INC	INC	INC	INC	INC	INC
Ravalli	10	0	0	3.3	F	7.9	PASS
Richland	0	0	0	0.0	A	INC	INC
Rosebud	INC	INC	INC	INC	INC	INC	INC
Sanders	1	0	0	0.3	B	6.3	PASS
Silver Bow	16	0	0	5.3	F	9.9	PASS
Yellowstone	INC	INC	INC	INC	INC	INC	INC

EMBARGOED

NEBRASKA

American Lung Association in Nebraska

8990 W. Dodge Road, Suite 226
Omaha, NE 68114
(402) 502-4250
www.lung.org/nebraska

AT-RISK GROUPS

				Lung Diseases						
County	**Total Population**	**Under 18**	**65 & Over**	**Pediatric Asthma**	**Adult Asthma**	**Chronic Bronchitis**	**Emphysema**	**Cardio-vascular Disease**	**Diabetes**	**Poverty**
Douglas	517,110	134,719	54,875	8,197	30,353	15,995	6,532	117,768	26,642	74,253
Hall	58,607	15,977	7,850	972	3,336	1,854	835	14,259	3,293	7,562
Lancaster	285,407	65,901	31,101	4,010	17,506	9,071	3,653	66,196	14,923	40,409
Sarpy	158,840	45,722	13,544	2,782	9,018	4,668	1,801	33,641	7,525	9,188
Scotts Bluff	36,970	9,152	6,215	557	2,150	1,251	610	9,977	2,341	5,712
Sioux	1,311	293	280	18	77	49	26	410	98	219
Washington	20,234	5,092	2,841	310	1,167	682	316	5,359	1,246	1,300
Totals	**1,078,479**	**276,856**	**116,706**	**16,846**	**63,606**	**33,570**	**13,773**	**247,609**	**56,069**	**138,643**

EMBARGOED

HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Douglas	0	0	0	0.0	A
Hall	DNC	DNC	DNC	DNC	DNC
Lancaster	0	0	0	0.0	A
Sarpy	DNC	DNC	DNC	DNC	DNC
Scotts Bluff	INC	INC	INC	INC	INC
Sioux	INC	INC	INC	INC	INC
Washington	DNC	DNC	DNC	DNC	DNC

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Douglas	5	0	0	1.7	C	9.2	PASS
Hall	0	0	0	0.0	A	7.4	PASS
Lancaster	1	0	0	0.3	B	8.4	PASS
Sarpy	3	0	0	1.0	C	10.2	PASS
Scotts Bluff	0	0	0	0.0	A	INC	INC
Sioux	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Washington	2	0	0	0.7	B	8.8	PASS

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NEVADA

American Lung Association in Nevada

3552 W. Cheyenne Avenue, Suite 130
North Las Vegas NV 89032
(702) 431-6333
www.lung.org/nevada

AT-RISK GROUPS

Lung Diseases

County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	Chronic Bronchitis	Emphysema	Cardio-vascular Disease	Diabetes	Poverty
Churchill	24,877	6,274	3,781	537	1,684	829	391	6,521	1,716	2,831
Clark	1,951,269	488,618	220,445	41,857	135,300	61,460	25,522	455,520	122,525	290,481
Lyon	51,980	12,928	8,215	1,107	3,504	1,768	850	14,079	3,681	5,873
Washoe	421,407	99,332	50,879	8,509	29,459	13,817	5,909	104,123	27,749	63,846
White Pine	10,030	2,173	1,494	186	710	349	161	2,725	717	1,105
Carson City	55,274	11,815	9,133	1,012	3,925	1,950	932	15,442	4,053	7,805
Totals	**2,514,837**	**621,140**	**293,947**	**53,210**	**174,581**	**80,173**	**33,765**	**598,410**	**160,442**	**371,941**

EMBARGOED

HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Churchill	1	0	0	0.3	B
Clark	24	0	0	8.0	F
Lyon	0	0	0	0.0	A
Washoe	6	1	0	2.5	D
White Pine	2	0	0	0.7	B
Carson City	4	0	0	1.3	C

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Churchill	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Clark	2	0	0	0.7	B	8.5	PASS
Lyon	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Washoe	7	1	0	2.8	D	8.1	PASS
White Pine	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Carson City	DNC	DNC	DNC	DNC	DNC	DNC	DNC

EMBARGOED

NEW HAMPSHIRE

American Lung Association in New Hampshire

1800 Elm Street
Manchester, NH 03104
(603) 410-5108
www.lung.org/newhampshire

AT-RISK GROUPS

				Lung Diseases						
County	**Total Population**	**Under 18**	**65 & Over**	**Pediatric Asthma**	**Adult Asthma**	**Chronic Bronchitis**	**Emphysema**	**Cardio-vascular Disease**	**Diabetes**	**Poverty**
Belknap	60,088	12,481	10,057	1,073	4,810	2,187	1,062	17,552	4,139	5,626
Cheshire	77,117	15,112	11,342	1,299	6,411	2,729	1,238	21,123	4,959	8,196
Coos	33,055	6,252	6,399	538	2,684	1,250	635	10,221	2,435	4,497
Grafton	89,118	16,384	13,811	1,409	7,507	3,211	1,475	24,980	5,883	9,532
Hillsborough	400,721	94,082	47,527	8,089	31,919	13,333	5,735	101,161	23,439	29,996
Merrimack	146,445	31,946	20,008	2,747	11,789	5,083	2,290	39,394	9,187	13,282
Rockingham	295,223	67,438	37,424	5,798	23,381	10,179	4,535	78,819	18,243	16,560
Sullivan	43,742	9,202	7,217	791	3,501	1,578	761	12,610	2,975	4,841
Totals	**1,145,509**	**252,897**	**153,785**	**21,744**	**92,002**	**39,550**	**17,731**	**305,861**	**71,260**	**92,530**

EMBARGOED

HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Belknap	1	0	0	0.3	B
Cheshire	1	0	0	0.3	B
Coos	5	0	0	1.7	C
Grafton	1	0	0	0.3	B
Hillsborough	9	0	0	3.0	D
Merrimack	1	0	0	0.3	B
Rockingham	7	0	0	2.3	D
Sullivan	INC	INC	INC	INC	INC

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Belknap	0	0	0	0.0	A	5.8	PASS
Cheshire	3	0	0	1.0	C	9.8	PASS
Coos	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Grafton	0	0	0	0.0	A	6.8	PASS
Hillsborough	0	0	0	0.0	A	8.4	PASS
Merrimack	2	0	0	0.7	B	8.5	PASS
Rockingham	1	0	0	0.3	B	7.4	PASS
Sullivan	INC	INC	INC	INC	INC	INC	INC

EMBARGOED

NEW JERSEY

American Lung Association in New Jersey

1031 Route 22 West Suite 203
Bridgewater, NJ 08807-2919
(908) 685-8040
www.lung.org/newjersey

AT-RISK GROUPS

Lung Diseases

County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	Chronic Bronchitis	Emphysema	Cardio-vascular Disease	Diabetes	Poverty
Atlantic	274,549	63,888	38,902	5,719	18,349	9,303	4,241	72,225	20,133	36,693
Bergen	905,116	204,405	137,103	18,299	60,927	31,198	14,536	244,516	68,482	61,715
Camden	513,657	125,117	65,725	11,201	33,965	16,842	7,395	128,411	35,441	62,052
Cumberland	156,898	37,705	19,795	3,375	10,450	5,081	2,192	38,296	10,489	24,653
Essex	783,969	194,918	90,287	17,450	51,708	24,973	10,495	186,388	50,812	125,503
Gloucester	288,288	70,261	35,699	6,290	19,050	9,485	4,139	72,281	19,963	19,449
Hudson	634,266	131,162	66,066	11,742	44,523	20,362	7,883	145,685	38,653	103,576
Hunterdon	128,349	30,217	16,344	2,705	8,508	4,457	2,016	34,871	9,802	5,016
Mercer	366,513	82,982	46,347	7,429	24,836	12,156	5,243	91,811	25,197	40,635
Middlesex	809,858	185,457	99,462	16,603	54,760	26,595	11,334	199,657	54,599	60,788
Monmouth	630,380	150,299	86,691	13,455	41,733	21,451	9,796	167,315	46,826	42,394
Morris	492,276	117,695	68,155	10,536	32,577	16,690	7,623	130,053	36,365	27,564
Ocean	576,567	134,919	121,104	12,078	38,070	20,397	10,785	168,467	48,266	62,634
Passaic	501,226	124,613	60,324	11,156	33,023	16,057	6,859	120,675	33,020	76,910
Union	536,499	131,258	67,761	11,751	35,451	17,496	7,634	132,946	36,619	58,007
Warren	108,692	25,608	15,292	2,292	7,221	3,713	1,705	29,016	8,125	7,873
Totals	**7,707,103**	**1,810,504**	**1,035,057**	**162,081**	**515,151**	**256,256**	**113,876**	**1,962,612**	**542,792**	**815,462**

EMBARGOED

HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Atlantic	8	0	0	2.7	D
Bergen	13	0	0	4.3	F
Camden	32	0	0	10.7	F
Cumberland	15	0	0	5.0	F
Essex	INC	INC	INC	INC	INC
Gloucester	28	3	0	10.8	F
Hudson	12	1	0	4.5	F
Hunterdon	23	0	0	7.7	F
Mercer	25	0	0	8.3	F
Middlesex	28	0	0	9.3	F
Monmouth	18	0	0	6.0	F
Morris	14	0	0	4.7	F
Ocean	31	1	0	10.8	F
Passaic	8	0	0	2.7	D
Union	DNC	DNC	DNC	DNC	DNC
Warren	DNC	DNC	DNC	DNC	DNC

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Atlantic	0	0	0	0.0	A	9.6	PASS
Bergen	3	0	0	1.0	C	9.8	PASS
Camden	5	0	0	1.7	C	10.3	PASS
Cumberland	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Essex	0	0	0	0.0	A	INC	INC
Gloucester	0	0	0	0.0	A	10.0	PASS
Hudson	6	0	0	2.0	C	11.6	PASS
Hunterdon	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Mercer	6	0	0	2.0	C	10.0	PASS
Middlesex	0	0	0	0.0	A	8.8	PASS
Monmouth	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Morris	1	0	0	0.3	B	8.7	PASS
Ocean	3	0	0	1.0	C	9.0	PASS
Passaic	2	0	0	0.7	B	9.8	PASS
Union	6	0	0	2.0	C	11.6	PASS
Warren	2	0	0	0.7	B	9.7	PASS

EMBARGOED

NEW MEXICO

American Lung Association in New Mexico

5911 Jefferson Street, NE
Albuquerque, NM 87109
(505) 265-0732
www.lung.org/newmexico

AT-RISK GROUPS

				Lung Diseases						
County	**Total Population**	**Under 18**	**65 & Over**	**Pediatric Asthma**	**Adult Asthma**	**Chronic Bronchitis**	**Emphysema**	**Cardio-vascular Disease**	**Diabetes**	**Poverty**
Bernalillo	662,564	159,130	81,014	12,696	49,104	21,506	9,212	161,881	41,559	107,186
Chaves	65,645	18,383	9,293	1,467	4,560	2,067	954	16,051	4,167	14,625
Doña Ana	209,233	55,858	25,881	4,456	14,971	6,503	2,806	48,910	12,556	52,262
Eddy	53,829	14,035	7,541	1,120	3,836	1,754	805	13,634	3,540	8,820
Grant	29,514	6,473	6,299	516	2,156	1,086	579	9,053	2,406	5,428
Lea	64,727	19,028	6,991	1,518	4,480	1,921	801	14,258	3,642	11,263
Luna	25,095	6,645	4,907	530	1,742	844	440	6,918	1,829	7,544
Sandoval	131,561	35,159	15,880	2,805	9,338	4,225	1,857	32,361	8,357	18,106
San Juan	130,044	37,651	14,083	3,004	9,027	3,939	1,660	29,485	7,554	30,727
Santa Fe	144,170	30,236	21,804	2,412	10,909	5,150	2,408	40,627	10,599	23,421
Valencia	76,569	20,182	9,742	1,610	5,454	2,475	1,103	19,043	4,926	16,878
Totals	**1,592,951**	**402,780**	**203,435**	**32,135**	**115,578**	**51,470**	**22,625**	**392,221**	**101,135**	**296,260**

EMBARGOED

HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Bernalillo	1	0	0	0.3	B
Chaves	DNC	DNC	DNC	DNC	DNC
Doña Ana	7	0	0	2.3	D
Eddy	0	0	0	0.0	A
Grant	1	0	0	0.3	B
Lea	0	0	0	0.0	A
Luna	0	0	0	0.0	A
Sandoval	0	0	0	0.0	A
San Juan	1	0	0	0.3	B
Santa Fe	0	0	0	0.0	A
Valencia	INC	INC	INC	INC	INC

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Bernalillo	0	0	0	0.0	A	5.6	PASS
Chaves	0	0	0	0.0	A	INC	INC
Doña Ana	20	0	0	6.7	F	11.2	PASS
Eddy	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Grant	0	0	0	0.0	A	4.8	PASS
Lea	0	0	0	0.0	A	INC	INC
Luna	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Sandoval	INC	INC	INC	INC	INC	INC	INC
San Juan	0	0	0	0.0	A	INC	INC
Santa Fe	0	0	0	0.0	A	4.1	PASS
Valencia	DNC	DNC	DNC	DNC	DNC	DNC	DNC

EMBARGOED

NEW MEXICO

NEW YORK

American Lung Association in New York

155 Washington Ave., Suite 210
Albany, NY 12210
(518) 465-2013
www.lung.org/newyork

AT-RISK GROUPS

Lung Diseases

County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	Chronic Bronchitis	Emphysema	Cardio-vascular Disease	Diabetes	Poverty
Albany	304,204	60,631	42,314	6,090	23,990	10,515	4,637	80,150	21,750	38,140
Bronx	1,385,108	368,196	145,882	36,982	100,558	42,151	17,074	308,497	82,329	404,576
Chautauqua	134,905	29,446	22,381	2,958	10,338	4,724	2,263	37,427	10,285	22,365
Chemung	88,830	19,880	13,943	1,997	6,766	3,081	1,452	24,262	6,665	13,039
Dutchess	297,488	65,969	40,304	6,626	22,792	10,165	4,540	78,261	21,395	23,022
Erie	919,040	198,944	144,364	19,982	70,692	31,913	14,931	250,019	68,465	127,489
Essex	39,370	7,586	7,143	762	3,110	1,453	716	11,693	3,235	4,814
Franklin	51,599	10,720	6,880	1,077	4,028	1,770	776	13,486	3,667	7,313
Hamilton	4,836	795	1,130	80	393	197	107	1,672	472	512
Herkimer	64,519	14,298	10,856	1,436	4,920	2,274	1,102	18,143	5,005	9,853
Jefferson	116,229	29,633	12,981	2,976	8,557	3,601	1,480	26,501	7,080	15,809
Kings	2,504,700	594,378	287,633	59,700	188,760	79,398	32,655	584,277	156,043	568,239
Madison	73,442	16,005	10,239	1,608	5,652	2,518	1,130	19,402	5,298	7,854
Monroe	744,344	168,699	103,594	16,944	56,649	25,087	11,249	192,853	52,525	109,083
Nassau	1,339,532	311,580	204,681	31,296	100,900	46,015	21,623	362,264	99,625	81,301
New York	1,585,873	234,435	214,153	23,547	133,465	55,657	23,034	408,767	108,589	254,740
Niagara	216,469	46,490	34,388	4,670	16,678	7,629	3,607	60,231	16,577	29,906
Oneida	234,878	51,377	38,168	5,160	17,998	8,180	3,884	64,510	17,697	33,571
Onondaga	467,026	107,255	65,578	10,773	35,394	15,725	7,091	121,222	33,052	63,406
Orange	372,813	101,529	40,985	10,198	26,781	11,663	4,939	87,713	23,805	41,146
Oswego	122,109	28,223	15,400	2,835	9,254	4,076	1,777	31,032	8,450	19,818
Putnam	99,710	23,650	12,417	2,375	7,492	3,396	1,510	26,273	7,241	6,054
Queens	2,230,722	461,901	286,146	46,394	174,510	74,852	31,867	560,350	150,822	333,299
Rensselaer	159,429	33,969	21,607	3,412	12,356	5,461	2,417	41,798	11,386	20,744
Richmond	468,730	109,201	59,344	10,968	35,439	15,561	6,779	118,300	32,164	56,136

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(continued)

AT-RISK GROUPS

Lung Diseases

County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	Chronic Bronchitis	Emphysema	Cardio-vascular Disease	Diabetes	Poverty
Rockland	311,687	87,580	41,841	8,797	22,035	9,855	4,493	76,387	20,874	35,573
St. Lawrence	111,944	23,805	15,553	2,391	8,679	3,801	1,682	28,992	7,862	17,625
Saratoga	219,607	49,856	29,994	5,008	16,704	7,509	3,385	58,130	15,938	15,043
Schenectady	154,727	35,509	23,083	3,567	11,712	5,273	2,439	41,134	11,261	18,084
Steuben	98,990	23,198	15,718	2,330	7,432	3,420	1,634	27,136	7,481	14,012
Suffolk	1,493,350	357,670	201,793	35,925	111,763	49,895	22,421	384,949	105,233	96,067
Ulster	182,493	36,816	27,044	3,698	14,320	6,482	2,974	50,556	13,885	21,820
Wayne	93,772	22,299	13,363	2,240	7,023	3,209	1,484	25,172	6,939	9,783
Westchester	949,113	228,000	139,122	22,901	70,847	31,908	14,747	248,909	68,160	83,041
Totals	**17,641,588**	**3,959,523**	**2,350,022**	**397,702**	**1,347,988**	**588,414**	**257,899**	**4,470,469**	**1,211,254**	**2,603,277**

EMBARGOED

NEW YORK

American Lung Association in New York

155 Washington Ave., Suite 210
Albany, NY 12210
(518) 465-2013
www.lung.org/newyork

EMBARGOED

HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Albany	8	0	0	2.7	D
Bronx	9	0	0	3.0	D
Chautauqua	11	0	0	3.7	F
Chemung	3	0	0	1.0	C
Dutchess	9	0	0	3.0	D
Erie	6	0	0	2.0	C
Essex	9	0	0	3.0	D
Franklin	2	0	0	0.7	B
Hamilton	1	0	0	0.3	B
Herkimer	2	0	0	0.7	B
Jefferson	10	0	0	3.3	F
Kings	DNC	DNC	DNC	DNC	DNC
Madison	4	0	0	1.3	C
Monroe	4	0	0	1.3	C
Nassau	DNC	DNC	DNC	DNC	DNC
New York	8	0	0	2.7	D
Niagara	3	0	0	1.0	C
Oneida	2	0	0	0.7	B
Onondaga	6	0	0	2.0	C
Orange	6	1	0	2.5	D
Oswego	2	0	0	0.7	B
Putnam	11	0	0	3.7	F
Queens	9	0	0	3.0	D
Rensselaer	6	0	0	2.0	C
Richmond	16	1	0	5.8	F
Rockland	INC	INC	INC	INC	INC

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Albany	2	0	0	0.7	B	8.5	PASS
Bronx	7	0	0	2.3	D	12.5	PASS
Chautauqua	0	0	0	0.0	A	7.6	PASS
Chemung	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Dutchess	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Erie	3	0	0	1.0	C	10.1	PASS
Essex	0	0	0	0.0	A	4.4	PASS
Franklin	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Hamilton	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Herkimer	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Jefferson	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Kings	3	0	0	1.0	C	10.8	PASS
Madison	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Monroe	1	0	0	0.3	B	8.3	PASS
Nassau	1	0	0	0.3	B	9.5	PASS
New York	4	0	0	1.3	C	12.1	PASS
Niagara	0	0	0	0.0	A	8.9	PASS
Oneida	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Onondaga	0	0	0	0.0	A	7.8	PASS
Orange	2	0	0	0.7	B	8.5	PASS
Oswego	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Putnam	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Queens	3	0	0	1.0	C	10.0	PASS
Rensselaer	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Richmond	2	0	0	0.7	B	10.5	PASS
Rockland	DNC	DNC	DNC	DNC	DNC	DNC	DNC

(continued)

HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
St. Lawrence	DNC	DNC	DNC	DNC	DNC
Saratoga	7	0	0	2.3	D
Schenectady	3	0	0	1.0	C
Steuben	1	0	0	0.3	B
Suffolk	33	1	0	11.5	F
Ulster	1	0	0	0.3	B
Wayne	2	0	0	0.7	B
Westchester	14	1	0	5.2	F

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
St. Lawrence	INC	INC	INC	INC	INC	INC	INC
Saratoga	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Schenectady	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Steuben	1	0	0	0.3	B	7.4	PASS
Suffolk	1	0	0	0.3	B	8.9	PASS
Ulster	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Wayne	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Westchester	2	0	0	0.7	B	9.6	PASS

EMBARGOED

NORTH CAROLINA

American Lung Association in North Carolina

514 Daniels Street, #109
Raleigh, NC 27605
(919) 719-9960
www.lung.org/northcarolina

AT-RISK GROUPS

Lung Diseases

County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	Chronic Bronchitis	Emphysema	Cardio-vascular Disease	Diabetes	Poverty
Alamance	151,131	35,443	22,081	3,212	8,684	5,052	2,307	39,076	11,893	27,217
Alexander	37,198	8,453	5,627	766	2,163	1,279	596	10,023	3,074	6,076
Avery	17,797	3,059	3,097	277	1,109	655	311	5,156	1,578	3,621
Buncombe	238,318	48,840	38,096	4,426	14,248	8,384	3,922	65,640	20,075	39,630
Caldwell	83,029	18,786	12,816	1,702	4,836	2,870	1,348	22,573	6,933	15,040
Caswell	23,719	4,889	3,755	443	1,420	855	405	6,779	2,096	4,654
Catawba	154,358	36,795	21,773	3,334	8,832	5,176	2,357	40,123	12,262	21,950
Chatham	63,505	13,841	11,631	1,254	3,753	2,280	1,142	18,470	5,718	8,918
Cumberland	319,431	85,541	30,200	7,752	17,406	9,565	3,725	68,853	20,409	56,499
Davidson	162,878	38,872	23,388	3,523	9,323	5,493	2,524	42,794	13,108	27,845
Davie	41,240	9,751	6,829	884	2,377	1,435	699	11,497	3,555	5,722
Duplin	58,505	14,870	8,295	1,348	3,277	1,915	876	14,850	4,530	13,751
Durham	267,587	60,321	26,117	5,466	15,411	8,411	3,231	60,118	17,751	47,599
Edgecombe	56,552	13,879	8,104	1,258	3,210	1,902	879	14,872	4,566	13,508
Forsyth	350,670	85,401	45,511	7,739	19,877	11,448	5,029	87,146	26,427	56,870
Franklin	60,619	14,862	7,678	1,347	3,433	2,000	882	15,317	4,674	9,477
Gaston	206,086	49,241	27,294	4,462	11,765	6,829	3,032	52,322	15,927	40,336
Graham	8,861	1,913	1,742	173	526	321	165	2,632	816	1,966
Granville	59,916	13,333	7,441	1,208	3,491	2,020	873	15,332	4,664	8,295
Guilford	488,406	114,483	60,123	10,374	27,964	15,892	6,778	119,233	35,935	85,271
Haywood	59,036	11,535	12,416	1,045	3,598	2,212	1,155	18,246	5,667	8,491
Jackson	40,271	7,123	6,084	645	2,481	1,413	627	10,733	3,232	7,101
Johnston	168,878	46,970	17,259	4,256	9,107	5,154	2,117	38,175	11,496	27,010
Lenoir	59,495	14,332	9,514	1,299	3,405	2,043	982	16,257	5,014	13,621
Lincoln	78,265	18,481	10,361	1,675	4,491	2,637	1,180	20,350	6,231	11,620

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(continued)

AT-RISK GROUPS

Lung Diseases

County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	Chronic Bronchitis	Emphysema	Cardio-vascular Disease	Diabetes	Poverty
McDowell	44,996	9,785	7,377	887	2,652	1,579	754	12,496	3,840	8,682
Martin	24,505	5,435	4,297	493	1,442	879	436	7,105	2,205	5,687
Mecklenburg	919,628	233,338	81,113	21,145	51,033	27,930	10,596	199,194	58,947	141,435
Mitchell	15,579	3,035	3,260	275	950	584	304	4,811	1,494	2,846
Montgomery	27,798	6,746	4,364	611	1,586	944	449	7,461	2,293	6,569
New Hanover	202,667	40,413	28,092	3,662	12,142	6,914	3,016	52,270	15,756	35,753
Orange	133,801	27,969	12,889	2,535	7,876	4,336	1,668	31,128	9,242	21,736
Person	39,464	9,114	5,993	826	2,286	1,365	642	10,765	3,316	6,390
Pitt	168,148	37,798	16,619	3,425	9,689	5,271	2,024	37,609	11,081	35,109
Robeson	134,168	35,927	15,078	3,256	7,345	4,170	1,755	31,148	9,388	41,020
Rockingham	93,643	20,789	15,171	1,884	5,492	3,289	1,574	26,113	8,048	17,127
Rowan	138,428	32,942	19,993	2,985	7,924	4,640	2,125	36,015	10,997	26,949
Swain	13,981	3,269	2,321	296	808	484	234	3,854	1,187	2,543
Union	201,292	60,880	19,466	5,517	10,492	5,954	2,440	44,123	13,310	18,432
Wake	900,993	234,613	76,549	21,260	49,575	27,262	10,330	194,796	57,826	106,662
Watauga	51,079	7,074	6,329	641	3,271	1,770	698	12,700	3,726	11,370
Wayne	122,623	30,484	16,078	2,762	6,907	3,986	1,763	30,435	9,238	23,609
Yancey	17,818	3,562	3,672	323	1,080	663	345	5,462	1,697	3,585
Totals	**6,506,362**	**1,574,187**	**765,893**	**142,651**	**368,736**	**209,261**	**88,295**	**1,564,054**	**471,222**	**1,077,592**

EMBARGOED

NORTH CAROLINA

American Lung Association in North Carolina

514 Daniels Street, #109
Raleigh, NC 27605
(919) 719-9960
www.lung.org/northcarolina

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HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Alamance	DNC	DNC	DNC	DNC	DNC
Alexander	7	0	0	2.3	D
Avery	1	0	0	0.3	B
Buncombe	2	0	0	0.7	B
Caldwell	2	0	0	0.7	B
Caswell	6	0	0	2.0	C
Catawba	DNC	DNC	DNC	DNC	DNC
Chatham	1	0	0	0.3	B
Cumberland	6	0	0	2.0	C
Davidson	DNC	DNC	DNC	DNC	DNC
Davie	7	0	0	2.3	D
Duplin	DNC	DNC	DNC	DNC	DNC
Durham	6	0	0	2.0	C
Edgecombe	4	0	0	1.3	C
Forsyth	20	0	0	6.7	F
Franklin	6	0	0	2.0	C
Gaston	DNC	DNC	DNC	DNC	DNC
Graham	7	0	0	2.3	D
Granville	9	0	0	3.0	D
Guilford	10	0	0	3.3	F
Haywood	11	0	0	3.7	F
Jackson	INC	INC	INC	INC	INC
Johnston	5	0	0	1.7	C
Lenoir	2	0	0	0.7	B
Lincoln	9	1	0	3.5	F

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Alamance	0	0	0	0.0	A	10.9	PASS
Alexander	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Avery	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Buncombe	0	0	0	0.0	A	9.2	PASS
Caldwell	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Caswell	0	0	0	0.0	A	9.9	PASS
Catawba	0	0	0	0.0	A	11.4	PASS
Chatham	0	1	0	0.5	B	9.3	PASS
Cumberland	0	0	0	0.0	A	11.1	PASS
Davidson	0	0	0	0.0	A	12.1	PASS
Davie	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Duplin	0	0	0	0.0	A	9.3	PASS
Durham	0	0	0	0.0	A	10.4	PASS
Edgecombe	0	0	0	0.0	A	9.8	PASS
Forsyth	1	0	0	0.3	B	10.9	PASS
Franklin	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Gaston	0	0	0	0.0	A	11.1	PASS
Graham	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Granville	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Guilford	0	1	0	0.5	B	10.8	PASS
Haywood	0	0	0	0.0	A	10.6	PASS
Jackson	0	0	0	0.0	A	9.6	PASS
Johnston	INC	INC	INC	INC	INC	INC	INC
Lenoir	1	0	0	0.3	B	9.4	PASS
Lincoln	DNC	DNC	DNC	DNC	DNC	DNC	DNC

(continued)

HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
McDowell	DNC	DNC	DNC	DNC	DNC
Martin	3	0	0	1.0	C
Mecklenburg	29	4	0	11.7	F
Mitchell	DNC	DNC	DNC	DNC	DNC
Montgomery	DNC	DNC	DNC	DNC	DNC
New Hanover	1	0	0	0.3	B
Orange	DNC	DNC	DNC	DNC	DNC
Person	8	0	0	2.7	D
Pitt	4	0	0	1.3	C
Robeson	DNC	DNC	DNC	DNC	DNC
Rockingham	13	0	0	4.3	F
Rowan	26	0	0	8.7	F
Swain	0	0	0	0.0	A
Union	11	0	0	3.7	F
Wake	10	0	0	3.3	F
Watauga	DNC	DNC	DNC	DNC	DNC
Wayne	DNC	DNC	DNC	DNC	DNC
Yancey	5	0	0	1.7	C

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
McDowell	0	0	0	0.0	A	10.3	PASS
Martin	0	1	0	0.5	B	9.2	PASS
Mecklenburg	0	0	0	0.0	A	11.9	PASS
Mitchell	0	0	0	0.0	A	9.6	PASS
Montgomery	0	0	0	0.0	A	9.9	PASS
New Hanover	INC	INC	INC	INC	INC	INC	INC
Orange	INC	INC	INC	INC	INC	INC	INC
Person	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Pitt	0	1	0	0.5	B	INC	INC
Robeson	0	0	0	0.0	A	10.4	PASS
Rockingham	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Rowan	0	0	0	0.0	A	11.4	PASS
Swain	0	0	0	0.0	A	9.9	PASS
Union	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Wake	0	1	0	0.5	B	10.2	PASS
Watauga	0	0	0	0.0	A	8.6	PASS
Wayne	1	0	0	0.3	B	10.8	PASS
Yancey	DNC	DNC	DNC	DNC	DNC	DNC	DNC

EMBARGOED

NORTH DAKOTA

American Lung Association in North Dakota

212 N. 2nd Street
Bismarck, ND 58501
(701) 223-5613
www.lung.org/northdakota

AT-RISK GROUPS

				Lung Diseases						
County	**Total Population**	**Under 18**	**65 & Over**	**Pediatric Asthma**	**Adult Asthma**	**Chronic Bronchitis**	**Emphysema**	**Cardio-vascular Disease**	**Diabetes**	**Poverty**
Billings	783	138	151	9	47	31	16	254	58	93
Burke	1,968	409	412	26	114	75	40	626	144	195
Burleigh	81,308	18,343	10,913	1,174	4,684	2,724	1,202	20,786	4,608	7,353
Cass	149,778	32,660	14,550	2,090	8,812	4,729	1,801	33,646	7,223	17,446
Dunn	3,536	777	616	50	203	128	63	1,031	234	428
McKenzie	6,360	1,691	902	108	345	209	97	1,636	367	836
Mercer	8,424	1,799	1,328	115	484	310	150	2,498	569	685
Oliver	1,846	410	308	26	105	69	34	561	129	215
Totals	**254,003**	**56,227**	**29,180**	**3,598**	**14,793**	**8,275**	**3,403**	**61,039**	**13,332**	**27,251**

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HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Billings	0	0	0	0.0	A
Burke	0	0	0	0.0	A
Burleigh	0	0	0	0.0	A
Cass	0	0	0	0.0	A
Dunn	0	0	0	0.0	A
McKenzie	0	0	0	0.0	A
Mercer	0	0	0	0.0	A
Oliver	0	0	0	0.0	A

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Billings	0	0	0	0.0	A	4.5	PASS
Burke	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Burleigh	1	0	0	0.3	B	7.1	PASS
Cass	2	0	0	0.7	B	8.5	PASS
Dunn	DNC	DNC	DNC	DNC	DNC	DNC	DNC
McKenzie	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Mercer	0	0	0	0.0	A	6.1	PASS
Oliver	DNC	DNC	DNC	DNC	DNC	DNC	DNC

EMBARGOED

NORTH DAKOTA

OHIO

American Lung Association in Ohio

1950 Arlingate Lane
Columbus, OH 43228-4102
(614) 279-1700
www.lung.org/ohio

AT-RISK GROUPS

				Lung Diseases						
County	**Total Population**	**Under 18**	**65 & Over**	**Pediatric Asthma**	**Adult Asthma**	**Chronic Bronchitis**	**Emphysema**	**Cardio-vascular Disease**	**Diabetes**	**Poverty**
Allen	106,331	25,445	15,697	2,386	7,769	3,565	1,647	27,769	8,386	18,766
Ashtabula	101,497	24,007	15,877	2,251	7,438	3,484	1,655	27,561	8,345	15,771
Athens	64,757	10,249	6,538	961	5,266	2,131	777	14,769	4,361	13,710
Butler	368,130	92,604	42,484	8,683	26,590	11,775	4,989	88,365	26,449	48,197
Clark	138,333	32,643	22,422	3,061	10,132	4,742	2,274	37,601	11,398	26,991
Clermont	197,363	50,590	23,244	4,743	14,170	6,404	2,777	48,762	14,623	18,790
Clinton	42,040	10,262	5,684	962	3,060	1,399	631	10,813	3,256	6,392
Cuyahoga	1,280,122	290,262	198,541	27,215	95,026	44,014	20,639	345,470	104,479	227,716
Delaware	174,214	50,504	16,517	4,735	11,977	5,287	2,161	39,270	11,706	10,037
Franklin	1,163,414	278,542	115,706	26,116	85,549	36,418	14,314	263,520	78,313	213,899
Geauga	93,389	24,237	14,474	2,272	6,644	3,199	1,556	25,743	7,807	7,207
Greene	161,573	35,133	21,998	3,294	12,171	5,463	2,411	41,664	12,525	20,032
Hamilton	802,374	189,640	106,863	17,781	58,986	26,553	11,754	202,912	61,013	144,741
Jefferson	69,709	14,054	12,756	1,318	5,327	2,544	1,262	20,517	6,240	12,532
Knox	60,921	14,701	8,987	1,378	4,439	2,036	940	15,851	4,787	9,490
Lake	230,041	51,026	36,965	4,784	17,183	8,084	3,860	64,158	19,433	21,826
Lawrence	62,450	14,649	9,717	1,373	4,587	2,127	1,002	16,724	5,060	13,149
Licking	166,492	41,125	22,087	3,856	12,075	5,513	2,474	42,534	12,802	20,190
Lorain	301,356	72,078	43,131	6,758	22,052	10,178	4,680	79,366	23,949	41,612
Lucas	441,815	106,137	57,809	9,951	32,325	14,537	6,409	110,930	33,340	85,269
Madison	43,435	9,807	5,389	920	3,244	1,451	626	10,986	3,294	5,726
Mahoning	238,823	51,338	42,702	4,813	17,945	8,544	4,224	68,754	20,904	39,360
Medina	172,332	43,741	22,601	4,101	12,393	5,717	2,583	44,367	13,359	12,951
Miami	102,506	24,768	15,731	2,322	7,464	3,488	1,649	27,537	8,333	12,047
Montgomery	535,153	123,279	81,041	11,559	39,549	18,186	8,441	141,939	42,886	93,697

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(continued)

AT-RISK GROUPS

Lung Diseases

County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	Chronic Bronchitis	Emphysema	Cardio-vascular Disease	Diabetes	Poverty
Portage	161,419	33,678	20,819	3,158	12,312	5,476	2,360	41,344	12,398	23,146
Preble	42,270	10,238	6,428	960	3,077	1,440	680	11,377	3,442	5,022
Scioto	79,499	18,090	12,317	1,696	5,892	2,701	1,258	21,078	6,372	16,781
Stark	375,586	85,986	60,978	8,062	27,775	13,027	6,242	103,352	31,322	53,502
Summit	541,781	123,575	78,968	11,586	40,213	18,517	8,509	144,235	43,524	82,194
Trumbull	210,312	46,632	36,617	4,372	15,677	7,461	3,669	59,951	18,216	37,359
Warren	212,693	58,475	22,936	5,483	14,902	6,647	2,810	50,010	14,960	12,316
Washington	61,778	12,941	10,794	1,213	4,679	2,220	1,086	17,795	5,404	9,399
Wood	125,488	27,275	15,389	2,557	9,470	4,160	1,757	31,079	9,302	15,265
Totals	**8,929,396**	**2,097,711**	**1,230,207**	**196,681**	**657,355**	**298,488**	**134,106**	**2,298,100**	**691,987**	**1,395,082**

EMBARGOED

OHIO

American Lung Association in Ohio

1950 Arlingate Lane
Columbus, OH 43228-4102
(614) 279-1700
www.lung.org/ohio

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	HIGH OZONE DAYS 2008–2010					HIGH PARTICLE POLLUTION DAYS 2008–2010						
						24 Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg	Grade	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Allen	2	0	0	0.7	B	INC	INC	INC	INC	INC	INC	INC
Ashtabula	16	0	0	5.3	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Athens	1	0	0	0.3	B	0	0	0	0.0	A	9.7	PASS
Butler	25	0	0	8.3	F	2	0	0	0.7	B	13.4	PASS
Clark	8	0	0	2.7	D	3	0	0	1.0	C	12.8	PASS
Clermont	3	0	0	1.0	C	0	0	0	0.0	A	11.6	PASS
Clinton	8	0	0	2.7	D	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Cuyahoga	15	0	0	5.0	F	7	0	0	2.3	D	13.6	PASS
Delaware	4	0	0	1.3	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Franklin	13	0	0	4.3	F	3	0	0	1.0	C	12.5	PASS
Geauga	12	0	0	4.0	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Greene	4	0	0	1.3	C	0	0	0	0.0	A	INC	INC
Hamilton	31	0	0	10.3	F	9	0	0	3.0	D	14.4	PASS
Jefferson	3	0	0	1.0	C	6	0	0	2.0	C	13.0	PASS
Knox	4	0	0	1.3	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Lake	22	0	0	7.3	F	1	0	0	0.3	B	INC	INC
Lawrence	9	0	0	3.0	D	0	0	0	0.0	A	12.2	PASS
Licking	5	0	0	1.7	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Lorain	3	0	0	1.0	C	2	0	0	0.7	B	10.6	PASS
Lucas	8	0	0	2.7	D	4	0	0	1.3	C	11.5	PASS
Madison	4	0	0	1.3	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Mahoning	3	0	0	1.0	C	5	0	0	1.7	C	12.4	PASS
Medina	5	0	0	1.7	C	0	0	0	0.0	A	11.1	PASS
Miami	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Montgomery	17	0	0	5.7	F	3	0	0	1.0	C	13.2	PASS
Portage	1	0	0	0.3	B	1	0	0	0.3	B	11.5	PASS

(continued)

HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Preble	2	0	0	0.7	B
Scioto	DNC	DNC	DNC	DNC	DNC
Stark	17	0	0	5.7	F
Summit	11	0	0	3.7	F
Trumbull	10	0	0	3.3	F
Warren	19	0	0	6.3	F
Washington	8	0	0	2.7	D
Wood	1	0	0	0.3	B

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Preble	1	0	0	0.3	B	11.7	PASS
Scioto	0	0	0	0.0	A	11.6	PASS
Stark	9	0	0	3.0	D	INC	INC
Summit	12	0	0	4.0	F	13.3	PASS
Trumbull	INC	INC	INC	INC	INC	INC	INC
Warren	1	0	0	0.3	B	11.8	PASS
Washington	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Wood	DNC	DNC	DNC	DNC	DNC	DNC	DNC

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OKLAHOMA

American Lung Association in Oklahoma

11212 N. May Ave Suite 405
Oklahoma City, OK 73120
(405) 748-4674
www.lung.org/oklahoma

AT-RISK GROUPS

Lung Diseases

County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	Chronic Bronchitis	Emphysema	Cardio-vascular Disease	Diabetes	Poverty
Adair	22,683	6,357	2,934	649	1,559	712	319	5,471	1,732	5,971
Caddo	29,600	7,489	4,343	764	2,113	974	451	7,588	2,407	5,959
Canadian	115,541	31,094	12,576	3,174	8,046	3,600	1,509	26,910	8,485	10,526
Carter	47,557	12,247	7,078	1,250	3,377	1,565	733	12,267	3,897	8,619
Cherokee	46,987	11,333	6,338	1,157	3,393	1,528	674	11,617	3,658	9,995
Cleveland	255,755	59,176	26,177	6,040	18,627	8,087	3,192	58,573	18,263	33,075
Comanche	124,098	31,134	12,702	3,178	8,795	3,798	1,499	27,427	8,526	20,007
Cotton	6,193	1,524	1,051	156	448	212	104	1,700	543	958
Creek	69,967	17,428	10,475	1,779	5,036	2,354	1,107	18,539	5,910	10,771
Dewey	4,810	1,221	958	125	345	167	88	1,383	443	664
Jefferson	6,472	1,565	1,239	160	471	227	117	1,854	593	1,360
Kay	46,562	11,781	7,932	1,202	3,332	1,570	773	12,578	4,008	7,901
Lincoln	34,273	8,741	5,252	892	2,450	1,152	550	9,141	2,919	4,801
Love	9,423	2,294	1,618	234	683	323	159	2,592	827	1,454
McClain	34,506	9,195	4,566	938	2,422	1,115	504	8,632	2,743	3,883
McCurtain	33,151	8,599	5,140	878	2,350	1,096	522	8,660	2,755	7,812
Mayes	41,259	10,514	6,471	1,073	2,945	1,380	660	10,932	3,483	7,361
Muskogee	70,990	17,511	10,408	1,787	5,108	2,351	1,085	18,288	5,798	13,862
Oklahoma	718,633	181,118	86,357	18,486	51,118	22,791	9,700	170,734	53,666	123,967
Osage	47,472	11,553	7,278	1,179	3,449	1,626	773	12,898	4,123	7,563
Ottawa	31,848	7,856	5,418	802	2,294	1,073	523	8,539	2,713	6,315
Pittsburg	45,837	10,120	8,036	1,033	3,421	1,610	788	12,865	4,098	8,181
Sequoyah	42,391	10,926	6,329	1,115	3,011	1,400	657	10,994	3,496	8,284
Tulsa	603,403	154,276	72,856	15,746	42,748	19,139	8,200	143,934	45,314	94,185
Totals	**2,489,411**	**625,052**	**313,532**	**63,796**	**177,541**	**79,850**	**34,687**	**604,114**	**190,402**	**403,474**

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(continued)

	HIGH OZONE DAYS 2008–2010					HIGH PARTICLE POLLUTION DAYS 2008–2010						
						24 Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg	Grade	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Adair	0	0	0	0.0	A	1	0	0	0.3	B	INC	INC
Caddo	1	0	0	0.3	B	0	0	0	0.0	A	9.2	PASS
Canadian	4	0	0	1.3	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Carter	INC	INC	INC	INC	INC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Cherokee	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Cleveland	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Comanche	3	0	0	1.0	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Cotton	INC	INC	INC	INC	INC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Creek	2	0	0	0.7	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Dewey	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Jefferson	INC	INC	INC	INC	INC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Kay	3	0	0	1.0	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Lincoln	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Love	INC	INC	INC	INC	INC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
McClain	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC
McCurtain	INC	INC	INC	INC	INC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Mayes	0	0	0	0.0	A	0	0	0	0.0	A	11.0	PASS
Muskogee	INC	INC	INC	INC	INC	0	0	0	0.0	A	10.8	PASS
Oklahoma	12	0	0	4.0	F	0	0	0	0.0	A	9.7	PASS
Osage	INC	INC	INC	INC	INC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Ottawa	1	0	0	0.3	B	0	0	0	0.0	A	INC	INC
Pittsburg	0	0	0	0.0	A	0	0	0	0.0	A	10.3	PASS
Sequoyah	1	0	0	0.3	B	0	0	0	0.0	A	INC	INC
Tulsa	14	1	0	5.2	F	0	0	0	0.0	A	10.9	PASS

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OREGON

American Lung Association in Oregon

7420 SW Bridgeport Road, Suite 200
Tigard, OR 97224-7711
(503) 924-4094
www.lung.org/oregon

AT-RISK GROUPS

				Lung Diseases						
County	**Total Population**	**Under 18**	**65 & Over**	**Pediatric Asthma**	**Adult Asthma**	**Chronic Bronchitis**	**Emphysema**	**Cardio-vascular Disease**	**Diabetes**	**Poverty**
Clackamas	375,992	89,231	51,231	6,730	27,465	12,768	5,800	99,312	21,374	38,834
Columbia	49,351	11,619	6,883	876	3,614	1,691	776	13,225	2,854	6,554
Crook	20,978	4,600	4,203	347	1,547	768	400	6,349	1,410	3,610
Deschutes	157,733	36,221	23,491	2,732	11,576	5,393	2,499	42,150	9,108	23,247
Harney	7,422	1,664	1,402	126	546	269	138	2,208	489	1,389
Jackson	203,206	44,312	35,834	3,342	15,054	7,216	3,550	57,910	12,691	31,629
Josephine	82,713	16,883	18,438	1,273	6,186	3,123	1,683	26,177	5,860	15,356
Klamath	66,380	14,803	11,351	1,116	4,893	2,337	1,139	18,687	4,087	11,384
Lake	7,895	1,525	1,612	115	603	300	156	2,481	551	1,520
Lane	351,715	69,689	52,781	5,256	26,830	12,309	5,587	95,028	20,424	65,849
Linn	116,672	28,173	17,991	2,125	8,409	3,939	1,855	30,968	6,717	20,901
Marion	315,335	83,381	40,549	6,289	22,085	9,970	4,389	75,828	16,175	55,030
Multnomah	735,334	150,683	77,423	11,365	55,973	24,111	9,525	174,866	36,324	130,620
Umatilla	75,889	20,200	9,657	1,524	5,310	2,405	1,060	18,328	3,912	11,172
Union	25,748	5,797	4,308	437	1,892	896	432	7,121	1,553	4,182
Washington	529,710	135,838	53,109	10,245	37,764	16,436	6,594	120,294	25,095	50,895
Totals	**3,122,073**	**714,619**	**410,263**	**53,899**	**229,747**	**103,931**	**45,583**	**790,929**	**168,622**	**472,172**

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HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Clackamas	6	0	0	2.0	C
Columbia	0	0	0	0.0	A
Crook	DNC	DNC	DNC	DNC	DNC
Deschutes	0	0	0	0.0	A
Harney	DNC	DNC	DNC	DNC	DNC
Jackson	1	0	0	0.3	B
Josephine	DNC	DNC	DNC	DNC	DNC
Klamath	DNC	DNC	DNC	DNC	DNC
Lake	DNC	DNC	DNC	DNC	DNC
Lane	0	0	0	0.0	A
Linn	DNC	DNC	DNC	DNC	DNC
Marion	4	0	0	1.3	C
Multnomah	1	0	0	0.3	B
Umatilla	0	0	0	0.0	A
Union	DNC	DNC	DNC	DNC	DNC
Washington	0	0	0	0.0	A

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Clackamas	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Columbia	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Crook	INC	INC	INC	INC	INC	INC	INC
Deschutes	1	0	0	0.3	B	INC	INC
Harney	2	0	0	0.7	B	INC	INC
Jackson	11	0	0	3.7	F	9.0	PASS
Josephine	2	0	0	0.7	B	8.1	PASS
Klamath	13	1	0	4.8	F	11.5	PASS
Lake	10	1	0	3.8	F	9.8	PASS
Lane	26	0	0	8.7	F	10.5	PASS
Linn	1	0	0	0.3	B	INC	INC
Marion	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Multnomah	0	0	0	0.0	A	7.4	PASS
Umatilla	0	0	0	0.0	A	7.7	PASS
Union	0	0	0	0.0	A	6.8	PASS
Washington	2	0	0	0.7	B	8.0	PASS

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PENNSYLVANIA

American Lung Association in Pennsylvania

3001 Old Gettysburg Road
Camp Hill, PA 17011-7206
(717) 541-5864
www.lung.org/pennsylvania

AT-RISK GROUPS

				Lung Diseases						
County	**Total Population**	**Under 18**	**65 & Over**	**Pediatric Asthma**	**Adult Asthma**	**Chronic Bronchitis**	**Emphysema**	**Cardio-vascular Disease**	**Diabetes**	**Poverty**
Adams	101,407	22,438	15,954	2,138	7,821	3,527	1,662	27,773	8,288	9,607
Allegheny	1,223,348	241,663	205,059	23,026	96,938	43,705	20,759	344,552	102,934	141,453
Armstrong	68,941	14,189	12,687	1,352	5,394	2,520	1,259	20,419	6,137	9,346
Beaver	170,539	34,878	31,660	3,323	13,354	6,236	3,121	50,527	15,189	25,211
Berks	411,442	98,136	59,558	9,351	31,081	13,786	6,321	107,065	31,844	54,827
Blair	127,089	26,878	22,527	2,561	9,864	4,525	2,216	36,192	10,853	16,458
Bucks	625,249	143,514	91,219	13,674	47,972	21,649	10,055	170,073	50,647	39,320
Cambria	143,679	28,235	27,071	2,690	11,346	5,269	2,631	42,560	12,792	18,573
Centre	153,990	24,512	17,366	2,336	12,890	5,147	1,968	36,412	10,597	25,847
Chester	498,886	124,055	63,875	11,820	37,427	16,456	7,308	126,487	37,464	31,172
Clearfield	81,642	16,296	14,258	1,553	6,446	2,947	1,430	23,495	7,037	12,831
Cumberland	235,406	48,712	36,745	4,641	18,484	8,232	3,818	64,210	19,126	16,451
Dauphin	268,100	62,215	36,841	5,928	20,504	9,057	4,082	69,969	20,763	36,619
Delaware	558,979	130,412	79,726	12,426	42,551	18,789	8,540	145,346	43,184	53,884
Erie	280,566	63,808	40,824	6,080	21,501	9,496	4,330	73,510	21,850	46,124
Franklin	149,618	35,740	24,679	3,405	11,223	5,093	2,453	40,384	12,086	14,037
Greene	38,686	7,680	5,931	732	3,077	1,370	631	10,675	3,177	6,402
Indiana	88,880	16,846	13,944	1,605	7,121	3,126	1,427	24,121	7,173	15,537
Lackawanna	214,437	43,947	37,895	4,187	16,782	7,658	3,727	61,018	18,285	28,035
Lancaster	519,445	129,015	77,780	12,293	38,625	17,224	8,019	134,516	40,088	53,394
Lawrence	91,108	19,352	17,128	1,844	7,048	3,291	1,657	26,695	8,032	14,362
Lehigh	349,497	82,680	51,604	7,878	26,450	11,770	5,433	91,683	27,291	45,076
Luzerne	320,918	64,800	57,595	6,174	25,203	11,547	5,652	92,292	27,675	49,124
Lycoming	116,111	24,212	19,112	2,307	9,080	4,098	1,946	32,327	9,657	18,874
Mercer	116,638	25,229	21,556	2,404	8,978	4,169	2,085	33,678	10,125	18,241

EMBARGOED

(continued)

AT-RISK GROUPS

Lung Diseases

County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	Chronic Bronchitis	Emphysema	Cardio-vascular Disease	Diabetes	Poverty
Monroe	169,842	40,574	21,701	3,866	12,931	5,709	2,536	43,978	13,025	21,488
Montgomery	799,874	183,499	120,727	17,484	61,125	27,392	12,751	214,482	63,907	44,906
Northampton	297,735	65,177	46,606	6,210	23,030	10,345	4,851	81,217	24,222	30,650
Perry	45,969	10,706	6,294	1,020	3,520	1,571	714	12,219	3,629	4,557
Philadelphia	1,526,006	343,837	185,309	32,761	117,594	49,215	20,494	363,700	106,937	390,563
Tioga	41,981	8,590	7,562	818	3,286	1,510	742	12,103	3,631	6,300
Washington	207,820	42,684	36,366	4,067	16,304	7,519	3,677	60,282	18,070	21,380
Westmoreland	365,169	72,611	68,877	6,919	28,801	13,508	6,795	109,780	33,020	37,017
York	434,972	102,014	61,057	9,720	33,129	14,706	6,692	114,109	33,902	39,408
Totals	**10,843,969**	**2,399,134**	**1,637,093**	**228,594**	**836,880**	**372,162**	**171,782**	**2,897,849**	**862,633**	**1,397,074**

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PENNSYLVANIA

American Lung Association in Pennsylvania

3001 Old Gettysburg Road
Camp Hill, PA 17011-7206
(717) 541-5864
www.lung.org/pennsylvania

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HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Adams	6	0	0	2.0	C
Allegheny	30	1	0	10.5	F
Armstrong	14	0	0	4.7	F
Beaver	11	0	0	3.7	F
Berks	23	0	0	7.7	F
Blair	5	0	0	1.7	C
Bucks	24	3	0	9.5	F
Cambria	2	0	0	0.7	B
Centre	4	0	0	1.3	C
Chester	15	0	0	5.0	F
Clearfield	8	0	0	2.7	D
Cumberland	DNC	DNC	DNC	DNC	DNC
Dauphin	12	0	0	4.0	F
Delaware	13	0	0	4.3	F
Erie	6	0	0	2.0	C
Franklin	1	0	0	0.3	B
Greene	6	0	0	2.0	C
Indiana	12	0	0	4.0	F
Lackawanna	5	1	0	2.2	D
Lancaster	23	0	0	7.7	F
Lawrence	3	0	0	1.0	C
Lehigh	20	0	0	6.7	F
Luzerne	4	0	0	1.3	C
Lycoming	7	0	0	2.3	D
Mercer	12	0	0	4.0	F
Monroe	10	0	0	3.3	F

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Adams	5	0	0	1.7	C	11.4	PASS
Allegheny	73	4	0	26.3	F	16.0	FAIL
Armstrong	INC	INC	INC	INC	INC	INC	INC
Beaver	1	0	0	0.3	B	13.1	PASS
Berks	6	0	0	2.0	C	11.1	PASS
Blair	INC	INC	INC	INC	INC	INC	INC
Bucks	8	0	0	2.7	D	11.3	PASS
Cambria	9	0	0	3.0	D	12.6	PASS
Centre	2	0	0	0.7	B	9.7	PASS
Chester	12	0	0	4.0	F	13.8	PASS
Clearfield	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Cumberland	19	0	0	6.3	F	11.6	PASS
Dauphin	14	0	0	4.7	F	12.4	PASS
Delaware	6	0	0	2.0	C	13.1	PASS
Erie	4	0	0	1.3	C	10.5	PASS
Franklin	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Greene	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Indiana	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Lackawanna	3	0	0	1.0	C	9.7	PASS
Lancaster	9	0	0	3.0	D	12.6	PASS
Lawrence	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Lehigh	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Luzerne	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Lycoming	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Mercer	2	0	0	0.7	B	11.0	PASS
Monroe	INC	INC	INC	INC	INC	INC	INC

(continued)

HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Montgomery	23	1	0	8.2	F
Northampton	14	0	0	4.7	F
Perry	8	0	0	2.7	D
Philadelphia	34	1	0	11.8	F
Tioga	5	0	0	1.7	C
Washington	8	0	0	2.7	D
Westmoreland	9	0	0	3.0	D
York	14	1	0	5.2	F

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Montgomery	2	0	0	0.7	B	10.5	PASS
Northampton	12	0	0	4.0	F	12.6	PASS
Perry	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Philadelphia	14	0	0	4.7	F	12.0	PASS
Tioga	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Washington	7	0	0	2.3	D	12.9	PASS
Westmoreland	9	0	0	3.0	D	13.4	PASS
York	7	0	0	2.3	D	12.2	PASS

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RHODE ISLAND

American Lung Association in Rhode Island

260 West Exchange Street, Suite 102-B
Providence, RI 02903
(401) 533-5171
www.lung.org/rhodeisland

AT-RISK GROUPS

				Lung Diseases						
County	**Total Population**	**Under 18**	**65 & Over**	**Pediatric Asthma**	**Adult Asthma**	**Chronic Bronchitis**	**Emphysema**	**Cardio-vascular Disease**	**Diabetes**	**Poverty**
Kent	166,158	34,254	26,069	3,998	14,303	5,924	2,784	46,692	11,080	16,716
Providence	626,667	137,625	84,389	16,064	53,513	20,914	9,140	158,421	37,096	105,124
Washington	126,979	25,491	19,017	2,975	11,021	4,533	2,091	35,464	8,385	10,676
Totals	**919,804**	**197,370**	**129,475**	**23,038**	**78,836**	**31,371**	**14,015**	**240,576**	**56,561**	**132,516**

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HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Kent	4	0	0	1.3	C
Providence	8	0	0	2.7	D
Washington	8	0	0	2.7	D

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Kent	0	0	0	0.0	A	6.6	PASS
Providence	2	0	0	0.7	B	9.6	PASS
Washington	DNC	DNC	DNC	DNC	DNC	DNC	DNC

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RHODE ISLAND

SOUTH CAROLINA

American Lung Association in South Carolina

44-A Markfield Drive
Charleston, SC 29407
(843) 556-8451
www.lung.org/southcarolina

AT-RISK GROUPS

Lung Diseases

County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	Chronic Bronchitis	Emphysema	Cardio-vascular Disease	Diabetes	Poverty
Abbeville	25,417	5,787	4,203	524	1,634	887	428	7,063	2,266	4,694
Aiken	160,099	36,828	24,619	3,337	10,261	5,488	2,572	43,089	13,833	27,966
Anderson	187,126	44,825	28,329	4,062	11,847	6,319	2,954	49,533	15,903	34,446
Berkeley	177,843	44,962	17,794	4,074	11,053	5,560	2,232	40,743	13,108	26,217
Charleston	350,209	72,658	44,721	6,584	23,118	11,753	5,001	87,992	28,298	63,867
Cherokee	55,342	13,654	7,442	1,237	3,470	1,818	814	13,971	4,488	11,246
Chesterfield	46,734	11,557	6,332	1,047	2,926	1,551	701	11,998	3,853	10,910
Colleton	38,892	9,492	6,078	860	2,446	1,325	632	10,504	3,371	8,677
Darlington	68,681	16,658	9,793	1,510	4,327	2,311	1,063	18,030	5,788	15,571
Edgefield	26,985	5,771	3,524	523	1,763	928	409	7,108	2,283	4,939
Florence	136,885	33,700	18,017	3,054	8,587	4,489	1,994	34,389	11,048	29,054
Greenville	451,225	109,317	57,581	9,906	28,464	14,700	6,407	111,489	35,834	68,073
Lexington	262,391	64,162	32,111	5,814	16,487	8,572	3,713	65,033	20,897	33,587
Oconee	74,273	15,707	14,106	1,423	4,881	2,683	1,354	21,771	6,983	10,037
Pickens	119,224	24,287	15,993	2,201	7,914	4,005	1,720	30,019	9,656	19,018
Richland	384,504	87,553	37,541	7,934	24,727	12,137	4,700	87,206	28,085	60,307
Spartanburg	284,307	69,450	38,227	6,293	17,885	9,345	4,171	71,690	23,033	47,656
York	226,073	57,744	25,626	5,233	14,000	7,206	3,047	54,083	17,385	29,216
Totals	**3,076,210**	**724,112**	**392,037**	**65,618**	**195,791**	**101,077**	**43,912**	**765,710**	**246,113**	**505,481**

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HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Abbeville	3	0	0	1.0	C
Aiken	3	0	0	1.0	C
Anderson	3	0	0	1.0	C
Berkeley	1	0	0	0.3	B
Charleston	0	0	0	0.0	A
Cherokee	6	0	0	2.0	C
Chesterfield	2	0	0	0.7	B
Colleton	0	0	0	0.0	A
Darlington	5	0	0	1.7	C
Edgefield	3	0	0	1.0	C
Florence	DNC	DNC	DNC	DNC	DNC
Greenville	2	0	0	0.7	B
Lexington	DNC	DNC	DNC	DNC	DNC
Oconee	3	0	0	1.0	C
Pickens	7	0	0	2.3	D
Richland	10	0	0	3.3	F
Spartanburg	17	0	0	5.7	F
York	3	0	0	1.0	C

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Abbeville	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Aiken	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Anderson	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Berkeley	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Charleston	0	0	0	0.0	A	9.1	PASS
Cherokee	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Chesterfield	0	0	0	0.0	A	10.3	PASS
Colleton	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Darlington	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Edgefield	1	0	0	0.3	B	10.6	PASS
Florence	0	0	0	0.0	A	INC	INC
Greenville	2	0	0	0.7	B	11.3	PASS
Lexington	0	0	0	0.0	A	11.5	PASS
Oconee	0	0	0	0.0	A	8.5	PASS
Pickens	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Richland	0	0	0	0.0	A	11.2	PASS
Spartanburg	0	0	0	0.0	A	INC	INC
York	DNC	DNC	DNC	DNC	DNC	DNC	DNC

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SOUTH DAKOTA

American Lung Association in South Dakota

108 E. 38th Street, Suite 600
Sioux Falls, SD 57105
(605) 336-7222
www.lung.org/southdakota

AT-RISK GROUPS

				Lung Diseases						
County	**Total Population**	**Under 18**	**65 & Over**	**Pediatric Asthma**	**Adult Asthma**	**Chronic Bronchitis**	**Emphysema**	**Cardio-vascular Disease**	**Diabetes**	**Poverty**
Brookings	31,965	6,038	3,170	547	1,955	1,012	371	7,018	1,344	4,917
Brown	36,531	8,473	5,873	768	2,112	1,243	589	9,774	1,992	3,641
Codington	27,227	6,749	4,051	612	1,539	903	419	7,043	1,430	2,994
Custer	8,216	1,630	1,766	148	493	321	173	2,711	570	897
Jackson	3,031	997	407	90	153	89	42	696	141	990
Meade	25,434	6,415	3,038	581	1,421	826	357	6,272	1,257	2,617
Minnehaha	169,468	42,563	18,843	3,857	9,505	5,353	2,222	39,730	7,876	19,199
Pennington	100,948	24,837	13,617	2,251	5,707	3,318	1,486	25,501	5,142	15,100
Union	14,399	3,767	2,022	341	795	477	222	3,746	763	1,010
Totals	**417,219**	**101,469**	**52,787**	**9,195**	**23,680**	**13,542**	**5,881**	**102,492**	**20,515**	**51,365**

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HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Brookings	0	0	0	0.0	A
Brown	DNC	DNC	DNC	DNC	DNC
Codington	DNC	DNC	DNC	DNC	DNC
Custer	0	0	0	0.0	A
Jackson	0	0	0	0.0	A
Meade	0	0	0	0.0	A
Minnehaha	0	0	0	0.0	A
Pennington	DNC	DNC	DNC	DNC	DNC
Union	INC	INC	INC	INC	INC

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Brookings	2	0	0	0.7	B	8.4	PASS
Brown	0	0	0	0.0	A	8.2	PASS
Codington	2	0	0	0.7	B	9.0	PASS
Custer	3	3	0	2.5	D	4.9	PASS
Jackson	1	0	0	0.3	B	4.4	PASS
Meade	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Minnehaha	3	0	0	1.0	C	9.4	PASS
Pennington	1	0	0	0.3	B	6.6	PASS
Union	INC	INC	INC	INC	INC	INC	INC

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SOUTH DAKOTA

TENNESSEE

American Lung Association in Tennessee

One Vantage Way, Suite D-220
Nashville, TN 37228
(615) 329-1151
www.lung.org/tennessee

AT-RISK GROUPS

Lung Diseases

County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	Chronic Bronchitis	Emphysema	Cardio-vascular Disease	Diabetes	Poverty
Anderson	75,129	16,464	13,064	1,492	3,436	2,667	1,308	21,386	7,296	11,965
Blount	123,010	27,376	19,770	2,481	5,633	4,285	2,037	33,867	11,548	16,861
Davidson	626,681	136,391	65,403	12,360	29,794	20,132	7,935	145,652	49,343	120,757
Dyer	38,335	9,552	5,517	866	1,703	1,276	589	9,959	3,397	7,722
Hamilton	336,463	72,611	49,415	6,580	15,674	11,555	5,259	89,387	30,432	51,308
Haywood	18,787	4,810	2,583	436	826	622	285	4,851	1,658	4,378
Jefferson	51,407	11,359	8,334	1,029	2,363	1,786	848	14,085	4,797	8,307
Knox	432,226	94,490	56,491	8,563	20,233	14,451	6,263	109,218	37,122	54,395
Lawrence	41,869	10,529	6,738	954	1,847	1,401	673	11,098	3,777	7,544
Loudon	48,556	9,868	10,434	894	2,237	1,814	960	15,057	5,132	6,873
McMinn	52,266	11,795	8,813	1,069	2,378	1,825	884	14,538	4,955	9,515
Madison	98,294	23,634	12,932	2,142	4,455	3,230	1,425	24,646	8,389	18,325
Maury	80,956	19,657	10,479	1,781	3,643	2,686	1,192	20,625	7,041	11,407
Meigs	11,753	2,526	1,885	229	542	418	199	3,317	1,134	2,562
Montgomery	172,331	48,214	13,791	4,369	7,617	4,945	1,808	34,600	11,686	26,551
Putnam	72,321	15,567	10,565	1,411	3,398	2,428	1,085	18,521	6,275	14,982
Roane	54,181	11,285	10,055	1,023	2,496	1,984	998	16,132	5,512	8,138
Rutherford	262,604	68,714	21,566	6,227	11,853	7,827	2,903	55,284	18,732	37,217
Sevier	89,889	19,892	13,917	1,803	4,132	3,120	1,461	24,501	8,356	14,666
Shelby	927,644	244,742	95,224	22,178	41,149	28,788	11,752	212,607	72,380	185,976
Sullivan	156,823	32,293	29,215	2,926	7,277	5,689	2,843	45,973	15,670	27,779
Sumner	160,645	40,630	20,262	3,682	7,143	5,237	2,309	40,075	13,675	21,175
Williamson	183,182	53,629	17,807	4,860	7,722	5,648	2,365	42,565	14,600	11,740
Wilson	113,993	28,561	13,868	2,588	5,082	3,738	1,635	28,562	9,763	11,271
Totals	**4,229,345**	**1,014,589**	**518,128**	**91,941**	**192,631**	**137,552**	**59,016**	**1,036,505**	**352,670**	**691,414**

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HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Anderson	5	0	0	1.7	C
Blount	26	0	0	8.7	F
Davidson	4	0	0	1.3	C
Dyer	DNC	DNC	DNC	DNC	DNC
Hamilton	15	1	0	5.5	F
Haywood	INC	INC	INC	INC	INC
Jefferson	12	0	0	4.0	F
Knox	15	0	0	5.0	F
Lawrence	DNC	DNC	DNC	DNC	DNC
Loudon	12	0	0	4.0	F
McMinn	DNC	DNC	DNC	DNC	DNC
Madison	DNC	DNC	DNC	DNC	DNC
Maury	DNC	DNC	DNC	DNC	DNC
Meigs	3	0	0	1.0	C
Montgomery	DNC	DNC	DNC	DNC	DNC
Putnam	DNC	DNC	DNC	DNC	DNC
Roane	DNC	DNC	DNC	DNC	DNC
Rutherford	1	0	0	0.3	B
Sevier	26	0	0	8.7	F
Shelby	14	1	0	5.2	F
Sullivan	5	0	0	1.7	C
Sumner	15	0	0	5.0	F
Williamson	5	0	0	1.7	C
Wilson	6	0	0	2.0	C

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Anderson	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Blount	1	0	0	0.3	B	11.7	PASS
Davidson	1	0	0	0.3	B	11.2	PASS
Dyer	1	0	0	0.3	B	10.1	PASS
Hamilton	0	1	0	0.5	B	11.6	PASS
Haywood	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Jefferson	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Knox	5	0	0	1.7	C	12.4	PASS
Lawrence	0	0	0	0.0	A	8.9	PASS
Loudon	2	0	0	0.7	B	12.4	PASS
McMinn	0	0	0	0.0	A	11.7	PASS
Madison	0	0	0	0.0	A	9.6	PASS
Maury	0	0	0	0.0	A	9.6	PASS
Meigs	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Montgomery	0	0	0	0.0	A	10.7	PASS
Putnam	0	0	0	0.0	A	10.2	PASS
Roane	1	1	0	0.8	B	11.9	PASS
Rutherford	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Sevier	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Shelby	1	0	0	0.3	B	10.8	PASS
Sullivan	1	0	0	0.3	B	11.0	PASS
Sumner	1	0	0	0.3	B	10.5	PASS
Williamson	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Wilson	DNC	DNC	DNC	DNC	DNC	DNC	DNC

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TEXAS

American Lung Association in Texas

8150 Brookriver Drive, Suite S102
Dallas, TX 75247
(214) 631-5864
www.lung.org/texas

AT-RISK GROUPS

				Lung Diseases						
County	**Total Population**	**Under 18**	**65 & Over**	**Pediatric Asthma**	**Adult Asthma**	**Chronic Bronchitis**	**Emphysema**	**Cardio-vascular Disease**	**Diabetes**	**Poverty**
Bell	310,235	88,117	27,003	6,665	16,327	8,923	3,363	63,172	19,872	40,315
Bexar	1,714,773	465,286	175,883	35,195	92,129	51,876	20,942	379,564	120,501	285,817
Bowie	92,565	22,452	13,103	1,698	5,184	3,060	1,388	23,620	7,594	16,203
Brazoria	313,166	86,985	29,923	6,580	16,731	9,502	3,818	69,769	22,206	36,809
Brewster	9,232	1,877	1,531	142	545	330	157	2,609	844	1,356
Cameron	406,220	134,199	44,891	10,151	20,030	11,419	4,857	85,186	27,137	144,439
Collin	782,341	224,677	60,048	16,995	41,240	22,957	8,632	164,131	51,932	60,337
Dallas	2,368,139	654,263	207,972	49,489	126,318	69,927	26,763	500,451	158,070	446,466
Denton	662,614	182,260	46,043	13,786	35,438	19,318	6,912	134,935	42,411	53,457
Ector	137,130	39,808	13,954	3,011	7,181	4,065	1,658	29,906	9,509	26,466
Ellis	149,610	43,315	14,945	3,276	7,872	4,524	1,866	33,637	10,741	17,062
El Paso	800,647	240,813	82,223	18,215	41,259	23,290	9,523	171,165	54,378	193,826
Galveston	291,309	74,167	32,804	5,610	16,100	9,375	3,984	70,692	22,653	37,521
Gregg	121,730	31,021	16,476	2,346	6,696	3,910	1,744	29,885	9,582	24,124
Harris	4,092,459	1,147,835	333,487	86,823	217,153	119,788	44,982	851,786	268,745	758,916
Harrison	65,631	16,981	8,716	1,284	3,604	2,136	961	16,480	5,304	11,131
Hays	157,107	38,761	13,285	2,932	8,712	4,759	1,762	33,541	10,549	21,780
Hidalgo	774,769	268,484	72,248	20,308	37,172	20,542	8,149	148,131	46,762	258,065
Hood	51,182	10,902	10,892	825	2,987	1,895	1,006	15,768	5,150	6,014
Hunt	86,129	21,419	12,001	1,620	4,789	2,835	1,287	21,912	7,050	16,876
Jefferson	252,273	60,398	32,002	4,569	14,178	8,225	3,567	62,217	19,915	53,452
Johnson	150,934	41,149	17,331	3,113	8,129	4,729	2,029	35,724	11,444	18,917
Kaufman	103,350	29,754	10,622	2,251	5,449	3,135	1,303	23,370	7,465	12,215
Kleberg	32,061	8,050	3,681	609	1,763	984	402	7,180	2,273	7,445
Lubbock	278,831	67,862	30,622	5,133	15,514	8,653	3,483	62,942	19,926	56,067

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(continued)

AT-RISK GROUPS

Lung Diseases

County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	Chronic Bronchitis	Emphysema	Cardio-vascular Disease	Diabetes	Poverty
McLennan	234,906	59,745	29,259	4,519	12,909	7,398	3,173	55,458	17,693	48,280
Montgomery	455,746	125,979	47,404	9,529	24,429	14,092	5,865	105,209	33,630	52,473
Navarro	47,735	12,923	6,863	978	2,575	1,535	712	11,977	3,860	10,078
Nueces	340,223	88,255	40,913	6,676	18,633	10,811	4,658	81,654	26,139	66,978
Orange	81,837	20,507	11,473	1,551	4,543	2,706	1,237	21,015	6,772	12,223
Parker	116,927	29,869	14,283	2,259	6,463	3,821	1,680	29,281	9,420	13,712
Potter	121,073	33,653	13,142	2,546	6,451	3,672	1,523	27,199	8,661	28,046
Rockwall	78,337	23,507	7,540	1,778	4,063	2,335	958	17,337	5,536	4,967
Smith	209,714	53,796	29,851	4,069	11,504	6,751	3,068	51,977	16,685	30,864
Tarrant	1,809,034	507,061	161,385	38,355	96,149	53,843	20,989	389,492	123,457	258,595
Travis	1,024,266	245,037	74,759	18,535	57,295	30,719	10,739	211,362	66,059	189,811
Victoria	86,793	23,177	11,664	1,753	4,709	2,787	1,261	21,519	6,923	15,537
Webb	250,304	88,158	19,507	6,668	11,912	6,484	2,426	45,724	14,365	78,275
Totals	**19,061,332**	**5,312,502**	**1,779,729**	**401,843**	**1,014,133**	**567,111**	**222,827**	**4,106,978**	**1,301,216**	**3,414,915**

EMBARGOED

TEXAS

American Lung Association in Texas

8150 Brookriver Drive, Suite S102
Dallas, TX 75247
(214) 631-5864
www.lung.org/texas

EMBARGOED

	HIGH OZONE DAYS 2008–2010					HIGH PARTICLE POLLUTION DAYS 2008–2010						
						24 Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg	Grade	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Bell	INC	INC	INC	INC	INC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Bexar	17	0	0	5.7	F	0	0	0	0.0	A	9.1	PASS
Bowie	DNC	DNC	DNC	DNC	DNC	0	0	0	0.0	A	11.2	PASS
Brazoria	29	1	0	10.2	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Brewster	0	0	0	0.0	A	0	0	0	0.0	A	INC	INC
Cameron	0	0	0	0.0	A	0	0	0	0.0	A	11.0	PASS
Collin	12	0	0	4.0	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Dallas	23	1	0	8.2	F	1	0	0	0.3	B	10.7	PASS
Denton	32	0	0	10.7	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Ector	DNC	DNC	DNC	DNC	DNC	1	0	0	0.3	B	INC	INC
Ellis	5	0	0	1.7	C	1	0	0	0.3	B	10.2	PASS
El Paso	11	0	0	3.7	F	8	0	0	2.7	D	9.5	PASS
Galveston	13	1	0	4.8	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Gregg	7	0	0	2.3	D	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Harris	61	8	0	24.3	F	1	0	0	0.3	B	13.0	PASS
Harrison	2	0	0	0.7	B	0	0	0	0.0	A	10.0	PASS
Hays	3	0	0	1.0	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Hidalgo	1	0	0	0.3	B	0	0	0	0.0	A	10.5	PASS
Hood	10	0	0	3.3	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Hunt	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Jefferson	21	0	0	7.0	F	1	0	0	0.3	B	INC	INC
Johnson	20	0	0	6.7	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Kaufman	3	0	0	1.0	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Kleberg	INC	INC	INC	INC	INC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Lubbock	DNC	DNC	DNC	DNC	DNC	0	0	0	0.0	A	INC	INC
McLennan	2	0	0	0.7	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC

(continued)

HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Montgomery	6	0	0	2.0	C
Navarro	INC	INC	INC	INC	INC
Nueces	5	0	0	1.7	C
Orange	8	0	0	2.7	D
Parker	15	1	0	5.5	F
Potter	DNC	DNC	DNC	DNC	DNC
Rockwall	6	1	0	2.5	D
Smith	3	1	0	1.5	C
Tarrant	59	3	0	21.2	F
Travis	8	0	0	2.7	D
Victoria	1	0	0	0.3	B
Webb	0	0	0	0.0	A

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Montgomery	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Navarro	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Nueces	0	0	0	0.0	A	10.4	PASS
Orange	1	0	0	0.3	B	INC	INC
Parker	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Potter	0	0	0	0.0	A	INC	INC
Rockwall	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Smith	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Tarrant	0	0	0	0.0	A	10.6	PASS
Travis	0	0	0	0.0	A	10.0	PASS
Victoria	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Webb	DNC	DNC	DNC	DNC	DNC	DNC	DNC

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UTAH

American Lung Association in Utah

1930 South 1100 East
Salt Lake City, UT 84106-2317
(801) 484-4456
www.lung.org/utah

AT-RISK GROUPS

Lung Diseases

County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	Chronic Bronchitis	Emphysema	Cardio-vascular Disease	Diabetes	Poverty
Box Elder	49,975	16,978	5,563	1,167	3,003	1,401	605	10,551	2,456	4,661
Cache	112,656	35,639	8,694	2,451	6,988	2,985	1,062	20,466	4,503	17,323
Davis	306,479	105,339	24,992	7,244	18,297	8,166	3,128	58,335	13,132	24,577
Salt Lake	1,029,655	299,781	89,367	20,614	66,384	29,531	11,231	210,224	47,227	139,675
San Juan	14,746	5,017	1,600	345	886	414	178	3,114	724	3,674
Tooele	58,218	21,018	4,379	1,445	3,385	1,506	568	10,699	2,398	5,230
Uintah	32,588	10,857	2,997	747	1,977	894	356	6,491	1,477	4,594
Utah	516,564	181,977	33,457	12,514	30,344	12,705	4,280	85,060	18,413	74,539
Washington	138,115	41,686	23,826	2,867	8,755	4,248	2,118	33,879	8,197	20,111
Weber	231,236	69,311	23,388	4,766	14,730	6,698	2,713	48,982	11,201	31,542
Totals	**2,490,232**	**787,603**	**218,263**	**54,159**	**154,747**	**68,548**	**26,239**	**487,800**	**109,728**	**325,926**

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HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Box Elder	5	0	0	1.7	C
Cache	0	0	0	0.0	A
Davis	11	0	0	3.7	F
Salt Lake	15	0	0	5.0	F
San Juan	1	0	0	0.3	B
Tooele	4	0	0	1.3	C
Uintah	20	16	5	18.0	F
Utah	5	0	0	1.7	C
Washington	2	0	0	0.7	B
Weber	7	0	0	2.3	D

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Box Elder	11	0	0	3.7	F	8.3	PASS
Cache	39	4	0	15.0	F	10.0	PASS
Davis	13	0	0	4.3	F	9.8	PASS
Salt Lake	46	8	0	19.3	F	10.9	PASS
San Juan	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Tooele	4	1	0	1.8	C	6.8	PASS
Uintah	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Utah	30	3	0	11.5	F	9.8	PASS
Washington	INC	INC	INC	INC	INC	INC	INC
Weber	30	0	0	10.0	F	9.8	PASS

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VERMONT

American Lung Association in Vermont

372 Hurricane Lane, Suite 101
Williston, VT 05495
(802) 876-6862
www.lung.org/vermont

AT-RISK GROUPS

				Lung Diseases						
County	**Total Population**	**Under 18**	**65 & Over**	**Pediatric Asthma**	**Adult Asthma**	**Chronic Bronchitis**	**Emphysema**	**Cardio-vascular Disease**	**Diabetes**	**Poverty**
Bennington	37,125	7,603	6,995	756	3,210	1,367	690	11,131	2,266	4,894
Chittenden	156,545	31,313	17,685	3,113	14,364	5,266	2,151	38,856	7,437	17,289
Rutland	61,642	11,882	10,257	1,181	5,467	2,264	1,085	18,034	3,618	7,789
Totals	**255,312**	**50,798**	**34,937**	**5,051**	**23,041**	**8,897**	**3,926**	**68,021**	**13,321**	**29,972**

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HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Bennington	2	0	0	0.7	B
Chittenden	2	0	0	0.7	B
Rutland	DNC	DNC	DNC	DNC	DNC

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Bennington	0	0	0	0.0	A	6.9	PASS
Chittenden	0	0	0	0.0	A	7.3	PASS
Rutland	2	0	0	0.7	B	9.9	PASS

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VERMONT

VIRGINIA

American Lung Association in Virginia

9702 Gayton Road, #110
Richmond, VA 23238
(804) 955-4910
www.lung.org/virginia

AT-RISK GROUPS

Lung Diseases

County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	Chronic Bronchitis	Emphysema	Cardio-vascular Disease	Diabetes	Poverty
Albemarle	98,970	21,285	14,124	1,757	6,528	3,373	1,513	25,895	7,038	8,419
Arlington	207,627	32,626	18,054	2,692	14,474	6,829	2,397	46,820	11,953	14,903
Caroline	28,545	6,844	3,744	565	1,828	950	422	7,294	1,981	3,150
Charles City	7,256	1,301	1,214	107	507	276	133	2,220	616	864
Chesterfield	316,236	82,515	32,878	6,809	19,668	10,062	4,191	75,353	20,186	21,475
Fairfax	1,081,726	262,648	106,290	21,675	68,772	34,750	14,023	256,450	68,162	63,915
Fauquier	65,203	16,445	8,289	1,357	4,129	2,184	983	16,973	4,635	4,839
Frederick	78,305	19,675	9,954	1,624	4,938	2,561	1,132	19,620	5,323	5,756
Hanover	99,863	24,998	13,104	2,063	6,335	3,348	1,517	26,058	7,122	5,218
Henrico	306,935	74,372	37,924	6,137	19,528	9,996	4,317	75,598	20,379	29,987
Loudoun	312,311	95,434	20,425	7,876	18,105	8,829	3,192	62,169	16,089	11,525
Madison	13,308	2,970	2,330	245	878	477	237	3,862	1,077	1,544
Page	24,042	5,193	4,248	429	1,595	858	422	6,890	1,915	3,725
Prince William	402,002	116,175	27,220	9,587	23,862	11,644	4,221	82,070	21,252	24,696
Roanoke	92,376	20,113	15,912	1,660	6,122	3,299	1,616	26,492	7,360	6,291
Rockbridge	22,307	4,264	4,620	352	1,533	845	439	6,969	1,962	2,705
Rockingham	76,314	18,072	11,964	1,491	4,916	2,604	1,234	20,548	5,661	8,054
Stafford	128,961	37,197	9,464	3,070	7,691	3,821	1,441	27,465	7,190	6,531
Wythe	29,235	6,110	5,212	504	1,956	1,051	517	8,436	2,344	4,578
Alexandria city	139,966	23,970	12,806	1,978	9,633	4,633	1,696	32,464	8,391	12,898
Bristol city	17,835	3,707	3,381	306	1,191	635	317	5,103	1,420	3,744
Hampton city	137,436	31,274	16,856	2,581	8,903	4,528	1,930	34,013	9,137	17,439
Lynchburg city	75,568	14,774	10,556	1,219	5,056	2,508	1,068	18,591	4,969	14,921
Newport News city	180,719	43,913	19,219	3,624	11,417	5,662	2,278	41,332	10,937	26,088
Norfolk city	242,803	50,612	22,796	4,177	15,926	7,620	2,815	53,346	13,792	39,903

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(continued)

AT-RISK GROUPS

Lung Diseases

County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	Chronic Bronchitis	Emphysema	Cardio-vascular Disease	Diabetes	Poverty
Roanoke city	97,032	21,126	13,836	1,743	6,379	3,298	1,481	25,341	6,890	21,414
Salem city	24,802	4,934	4,240	407	1,673	881	420	6,947	1,915	2,247
Suffolk city	84,585	22,137	9,727	1,827	5,254	2,701	1,158	20,432	5,506	9,956
Virginia Beach city	437,994	105,249	46,435	8,686	27,840	13,938	5,659	102,512	27,223	34,303
Totals	**4,830,262**	**1,169,933**	**506,822**	**96,547**	**306,638**	**154,161**	**62,769**	**1,137,263**	**302,426**	**411,088**

EMBARGOED

VIRGINIA

American Lung Association in Virginia

9702 Gayton Road, #110
Richmond, VA 23238
(804) 955-4910
www.lung.org/virginia

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	HIGH OZONE DAYS 2008–2010					HIGH PARTICLE POLLUTION DAYS 2008–2010						
						24 Hour					Annual	
County	**Orange**	**Red**	**Purple**	**Wgt. Avg**	**Grade**	**Orange**	**Red**	**Purple**	**Wgt. Avg**	**Grade**	**Design Value**	**Pass/ Fail**
Albemarle	6	0	0	2.0	C	1	0	0	0.3	B	INC	INC
Arlington	22	1	0	7.8	F	1	0	0	0.3	B	10.8	PASS
Caroline	9	0	0	3.0	D	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Charles City	15	0	0	5.0	F	0	0	0	0.0	A	9.5	PASS
Chesterfield	7	4	0	4.3	F	0	0	0	0.0	A	10.3	PASS
Fairfax	23	2	0	8.7	F	2	0	0	0.7	B	10.3	PASS
Fauquier	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Frederick	3	0	0	1.0	C	0	0	0	0.0	A	11.1	PASS
Hanover	13	0	0	4.3	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Henrico	15	1	0	5.5	F	2	0	0	0.7	B	10.0	PASS
Loudoun	12	1	0	4.5	F	2	0	0	0.7	B	10.3	PASS
Madison	8	0	0	2.7	D	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Page	0	0	0	0.0	A	0	0	0	0.0	A	9.8	PASS
Prince William	4	0	0	1.3	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Roanoke	2	0	0	0.7	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Rockbridge	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Rockingham	1	0	0	0.3	B	2	0	0	0.7	B	10.8	PASS
Stafford	6	0	0	2.0	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Wythe	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Alexandria city	13	0	0	4.3	F	INC	INC	INC	INC	INC	INC	INC
Bristol city	DNC	DNC	DNC	DNC	DNC	0	0	0	0.0	A	10.2	PASS
Hampton city	INC	INC	INC	INC	INC	1	0	0	0.3	B	INC	INC
Lynchburg city	DNC	DNC	DNC	DNC	DNC	0	0	0	0.0	A	9.4	PASS
Newport News city	INC	INC	INC	INC	INC	INC	INC	INC	INC	INC	INC	INC
Norfolk city	DNC	DNC	DNC	DNC	DNC	5	2	0	2.7	D	11.1	PASS

(continued)

HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Roanoke city	DNC	DNC	DNC	DNC	DNC
Salem city	DNC	DNC	DNC	DNC	DNC
Suffolk city	11	0	0	3.7	F
Virginia Beach city	DNC	DNC	DNC	DNC	DNC

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Roanoke city	1	0	0	0.3	B	10.4	PASS
Salem city	0	0	0	0.0	A	INC	INC
Suffolk city	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Virginia Beach city	6	3	0	3.5	F	10.3	PASS

EMBARGOED

WASHINGTON

American Lung Association in Washington

822 John Street
Seattle, WA 98109
(206) 441-5100
www.lung.org/washington

AT-RISK GROUPS

Lung Diseases

County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	Chronic Bronchitis	Emphysema	Cardio-vascular Disease	Diabetes	Poverty
Asotin	21,623	4,704	4,172	283	1,620	779	397	6,356	1,525	3,384
Chelan	72,453	18,063	11,175	1,086	5,227	2,435	1,155	19,222	4,571	10,181
Clallam	71,404	12,989	17,189	781	5,577	2,788	1,532	23,566	5,707	10,828
Clark	425,363	112,575	48,710	6,770	30,165	13,465	5,753	101,576	23,846	53,717
King	1,931,249	413,502	210,679	24,868	146,231	63,698	25,872	468,913	109,387	232,704
Kittitas	40,915	7,484	5,212	450	3,201	1,385	573	10,198	2,384	8,049
Okanogan	41,120	9,667	7,070	581	3,027	1,448	717	11,695	2,796	8,943
Pierce	795,225	198,127	87,785	11,915	57,550	25,357	10,557	188,871	44,196	95,688
Skagit	116,901	27,737	18,876	1,668	8,561	4,001	1,917	31,718	7,552	15,012
Snohomish	713,335	174,167	73,544	10,474	52,100	22,927	9,380	170,011	39,699	70,226
Spokane	471,221	109,502	60,969	6,585	34,797	15,597	6,814	118,502	27,895	67,272
Thurston	252,264	58,122	32,764	3,495	18,708	8,448	3,718	64,548	15,209	26,767
Whatcom	201,140	42,205	26,640	2,538	15,268	6,795	2,945	51,335	12,072	28,328
Yakima	243,231	74,038	28,122	4,453	16,242	7,193	3,096	54,119	12,716	57,612
Totals	**5,397,444**	**1,262,882**	**632,907**	**75,950**	**398,274**	**176,316**	**74,426**	**1,320,630**	**309,554**	**688,711**

EMBARGOED

HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Asotin	DNC	DNC	DNC	DNC	DNC
Chelan	DNC	DNC	DNC	DNC	DNC
Clallam	0	0	0	0.0	A
Clark	1	0	0	0.3	B
King	8	0	0	2.7	D
Kittitas	DNC	DNC	DNC	DNC	DNC
Okanogan	DNC	DNC	DNC	DNC	DNC
Pierce	3	0	0	1.0	C
Skagit	0	0	0	0.0	A
Snohomish	DNC	DNC	DNC	DNC	DNC
Spokane	0	0	0	0.0	A
Thurston	1	0	0	0.3	B
Whatcom	INC	INC	INC	INC	INC
Yakima	DNC	DNC	DNC	DNC	DNC

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Asotin	INC	INC	INC	INC	INC	INC	INC
Chelan	INC	INC	INC	INC	INC	INC	INC
Clallam	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Clark	8	0	0	2.7	D	7.8	PASS
King	0	0	0	0.0	A	6.6	PASS
Kittitas	INC	INC	INC	INC	INC	INC	INC
Okanogan	INC	INC	INC	INC	INC	INC	INC
Pierce	11	0	0	3.7	F	8.9	PASS
Skagit	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Snohomish	12	0	0	4.0	F	8.2	PASS
Spokane	1	0	0	0.3	B	INC	INC
Thurston	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Whatcom	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Yakima	13	0	0	4.3	F	9.3	PASS

EMBARGOED

WASHINGTON

WEST VIRGINIA

American Lung Association in West Virginia

415 Dickinson Street
P.O. Box 3980
Charleston, West Virginia 25339-3980
(304) 342-6600
www.lung.org/westvirginia

AT-RISK GROUPS

				Lung Diseases						
County	**Total Population**	**Under 18**	**65 & Over**	**Pediatric Asthma**	**Adult Asthma**	**Chronic Bronchitis**	**Emphysema**	**Cardio-vascular Disease**	**Diabetes**	**Poverty**
Berkeley	104,169	26,216	11,858	1,714	5,664	3,352	1,422	25,219	8,491	13,140
Brooke	24,069	4,577	4,602	299	1,411	895	449	7,255	2,432	3,402
Cabell	96,319	18,908	15,364	1,236	5,625	3,369	1,553	26,103	8,686	21,577
Greenbrier	35,480	7,116	6,838	465	2,053	1,310	664	10,675	3,580	7,225
Hancock	30,676	6,161	5,754	403	1,774	1,134	571	9,225	3,101	4,126
Harrison	69,099	15,172	11,408	992	3,908	2,431	1,168	19,318	6,483	11,819
Kanawha	193,063	39,734	32,315	2,598	11,111	6,919	3,322	54,988	18,465	28,101
Marion	56,418	11,205	9,541	733	3,281	2,008	955	15,827	5,284	9,237
Marshall	33,107	6,892	5,814	451	1,897	1,203	592	9,691	3,262	5,538
Monongalia	96,189	15,252	9,826	997	5,917	3,189	1,177	22,260	7,321	19,844
Ohio	44,443	8,465	8,213	554	2,607	1,634	807	13,133	4,396	6,962
Raleigh	78,859	16,380	12,661	1,071	4,531	2,789	1,315	21,955	7,364	13,495
Wood	86,956	18,991	14,718	1,242	4,925	3,072	1,489	24,504	8,218	13,305
Totals	**948,847**	**195,069**	**148,912**	**12,756**	**54,702**	**33,305**	**15,484**	**260,152**	**87,082**	**157,771**

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HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Berkeley	2	0	0	0.7	B
Brooke	DNC	DNC	DNC	DNC	DNC
Cabell	2	0	0	0.7	B
Greenbrier	0	0	0	0.0	A
Hancock	8	0	0	2.7	D
Harrison	DNC	DNC	DNC	DNC	DNC
Kanawha	5	0	0	1.7	C
Marion	DNC	DNC	DNC	DNC	DNC
Marshall	DNC	DNC	DNC	DNC	DNC
Monongalia	4	0	0	1.3	C
Ohio	4	0	0	1.3	C
Raleigh	DNC	DNC	DNC	DNC	DNC
Wood	3	0	0	1.0	C

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Berkeley	4	0	0	1.3	C	12.9	PASS
Brooke	8	0	0	2.7	D	13.7	PASS
Cabell	1	0	0	0.3	B	13.1	PASS
Greenbrier	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Hancock	3	0	0	1.0	C	12.4	PASS
Harrison	1	0	0	0.3	B	11.8	PASS
Kanawha	3	0	0	1.0	C	13.2	PASS
Marion	0	0	0	0.0	A	12.9	PASS
Marshall	5	0	0	1.7	C	13.1	PASS
Monongalia	1	0	0	0.3	B	11.5	PASS
Ohio	0	0	0	0.0	A	12.4	PASS
Raleigh	0	0	0	0.0	A	10.1	PASS
Wood	2	0	0	0.7	B	13.1	PASS

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WEST VIRGINIA

WISCONSIN

American Lung Association in Wisconsin

13100 West Lisbon Road, Suite 700
Brookfield, WI 53005-2508
(262) 703-4200
www.lung.org/wisconsin

AT-RISK GROUPS

Lung Diseases

County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	Chronic Bronchitis	Emphysema	Cardio-vascular Disease	Diabetes	Poverty
Ashland	16,157	3,744	2,567	333	1,020	557	265	4,402	957	2,920
Brown	248,007	61,823	28,789	5,491	15,440	7,963	3,378	59,793	12,676	24,829
Columbia	56,833	13,267	8,294	1,178	3,581	1,945	901	15,236	3,295	5,233
Dane	488,073	106,084	50,144	9,423	31,891	15,811	6,254	114,875	23,963	58,375
Dodge	88,759	19,579	13,251	1,739	5,699	3,062	1,413	23,881	5,159	7,608
Door	27,785	5,076	6,245	451	1,838	1,092	588	9,186	2,053	3,048
Eau Claire	98,736	20,872	12,435	1,854	6,491	3,267	1,376	24,300	5,140	15,663
Florence	4,423	774	931	69	295	175	92	1,464	326	587
Fond du Lac	101,633	23,044	15,225	2,047	6,473	3,484	1,614	27,216	5,885	11,372
Forest	9,304	2,043	1,888	181	593	337	175	2,771	615	1,526
Grant	51,208	10,886	7,974	967	3,341	1,750	805	13,536	2,920	7,561
Jefferson	83,686	19,857	11,042	1,764	5,276	2,777	1,230	21,255	4,550	8,766
Kenosha	166,426	42,829	18,679	3,804	10,250	5,280	2,224	39,550	8,372	21,380
Kewaunee	20,574	4,849	3,393	431	1,288	714	347	5,711	1,248	2,033
La Crosse	114,638	24,462	15,201	2,173	7,497	3,834	1,657	28,880	6,145	14,216
Manitowoc	81,442	18,210	13,714	1,618	5,177	2,882	1,404	23,087	5,049	9,205
Marathon	134,063	32,869	18,988	2,920	8,338	4,474	2,050	34,801	7,507	15,691
Milwaukee	947,735	236,377	109,133	20,996	59,283	29,830	12,425	221,107	46,656	202,825
Oneida	35,998	6,639	7,800	590	2,383	1,395	739	11,638	2,592	4,016
Outagamie	176,695	44,424	20,834	3,946	10,953	5,694	2,440	42,986	9,134	15,798
Ozaukee	86,395	20,372	13,208	1,810	5,399	3,009	1,432	23,933	5,208	4,834
Racine	195,408	48,510	25,739	4,309	12,109	6,463	2,897	49,854	10,702	27,675
Rock	160,331	40,183	21,759	3,569	9,926	5,249	2,362	40,430	8,685	21,943
St. Croix	84,345	22,883	8,468	2,033	5,092	2,627	1,082	19,557	4,121	5,648
Sauk	61,976	14,767	9,288	1,312	3,886	2,099	979	16,449	3,562	6,952

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AT-RISK GROUPS

Lung Diseases

County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	Chronic Bronchitis	Emphysema	Cardio-vascular Disease	Diabetes	Poverty
Sheboygan	115,507	27,582	16,821	2,450	7,234	3,912	1,810	30,587	6,613	11,080
Taylor	20,689	5,089	3,334	452	1,278	709	343	5,665	1,237	2,807
Vernon	29,773	7,878	4,962	700	1,789	1,008	500	8,148	1,789	4,326
Vilas	21,430	3,809	5,556	338	1,423	863	490	7,432	1,680	3,046
Walworth	102,228	24,000	13,757	2,132	6,464	3,410	1,519	26,167	5,609	12,699
Washington	131,887	32,377	17,803	2,876	8,176	4,435	2,017	34,514	7,435	8,288
Waukesha	389,891	93,810	55,688	8,333	24,258	13,364	6,213	105,179	22,771	23,416
Totals	**4,352,035**	**1,038,968**	**562,910**	**92,287**	**274,143**	**143,471**	**63,021**	**1,093,593**	**233,657**	**565,366**

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WISCONSIN

American Lung Association in Wisconsin

13100 West Lisbon Road, Suite 700
Brookfield, WI 53005-2508
(262) 703-4200
www.lung.org/wisconsin

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HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Ashland	0	0	0	0.0	A
Brown	0	0	0	0.0	A
Columbia	0	0	0	0.0	A
Dane	0	0	0	0.0	A
Dodge	0	0	0	0.0	A
Door	9	0	0	3.0	D
Eau Claire	DNC	DNC	DNC	DNC	DNC
Florence	0	0	0	0.0	A
Fond du Lac	0	0	0	0.0	A
Forest	0	0	0	0.0	A
Grant	DNC	DNC	DNC	DNC	DNC
Jefferson	0	0	0	0.0	A
Kenosha	10	0	0	3.3	F
Kewaunee	5	0	0	1.7	C
La Crosse	0	0	0	0.0	A
Manitowoc	8	0	0	2.7	D
Marathon	0	0	0	0.0	A
Milwaukee	8	0	0	2.7	D
Oneida	0	0	0	0.0	A
Outagamie	0	0	0	0.0	A
Ozaukee	7	0	0	2.3	D
Racine	9	0	0	3.0	D
Rock	0	0	0	0.0	A
St. Croix	0	0	0	0.0	A
Sauk	0	0	0	0.0	A
Sheboygan	12	0	0	4.0	F

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Ashland	1	0	0	0.3	B	5.8	PASS
Brown	21	0	0	7.0	F	11.0	PASS
Columbia	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Dane	12	0	0	4.0	F	11.4	PASS
Dodge	2	0	0	0.7	B	INC	INC
Door	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Eau Claire	INC	INC	INC	INC	INC	INC	INC
Florence	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Fond du Lac	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Forest	1	0	0	0.3	B	6.6	PASS
Grant	4	0	0	1.3	C	11.5	PASS
Jefferson	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Kenosha	2	0	0	0.7	B	10.6	PASS
Kewaunee	DNC	DNC	DNC	DNC	DNC	DNC	DNC
La Crosse	7	0	0	2.0	C	10.5	PASS
Manitowoc	2	0	0	0.7	B	9.7	PASS
Marathon	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Milwaukee	17	1	0	5.7	F	11.8	PASS
Oneida	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Outagamie	10	0	0	3.3	F	10.4	PASS
Ozaukee	6	0	0	2.0	C	10.2	PASS
Racine	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Rock	DNC	DNC	DNC	DNC	DNC	DNC	DNC
St. Croix	6	0	0	2.0	C	10.0	PASS
Sauk	5	0	0	1.7	C	9.5	PASS
Sheboygan	DNC	DNC	DNC	DNC	DNC	DNC	DNC

(continued)

HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Taylor	DNC	DNC	DNC	DNC	DNC
Vernon	0	0	0	0.0	A
Vilas	0	0	0	0.0	A
Walworth	1	0	0	0.3	B
Washington	0	0	0	0.0	A
Waukesha	0	0	0	0.0	A

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Taylor	2	0	0	0.7	B	8.7	PASS
Vernon	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Vilas	1	0	0	0.3	B	6.2	PASS
Walworth	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Washington	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Waukesha	10	0	0	3.3	F	12.3	PASS

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WYOMING

American Lung Association in Wyoming

825 Helena Avenue
Helena, MT 59601-3459
(406) 442-6556
www.lung.org/wyoming

AT-RISK GROUPS

Lung Diseases

County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	Chronic Bronchitis	Emphysema	Cardio-vascular Disease	Diabetes	Poverty
Albany	36,299	6,037	3,166	398	3,020	1,166	404	7,920	1,632	7,096
Campbell	46,133	12,982	2,616	855	3,293	1,352	475	9,457	1,956	3,117
Carbon	15,885	3,751	2,044	247	1,186	534	237	4,105	894	1,863
Converse	13,833	3,512	1,776	231	1,007	457	205	3,531	771	1,429
Crook	7,083	1,689	1,150	111	522	249	121	2,003	445	581
Fremont	40,123	10,212	5,805	673	2,912	1,332	619	10,428	2,295	5,447
Laramie	91,738	22,401	11,505	1,475	6,790	3,004	1,311	22,855	4,961	10,849
Natrona	75,450	18,020	9,392	1,187	5,626	2,485	1,079	18,870	4,091	7,601
Park	28,205	5,911	4,942	389	2,158	1,020	502	8,209	1,829	3,295
Sheridan	29,116	6,485	4,548	427	2,197	1,025	486	8,122	1,795	2,885
Sublette	10,247	2,428	1,039	160	768	338	139	2,525	541	607
Sweetwater	43,806	11,869	3,643	782	3,155	1,332	514	9,639	2,035	3,914
Teton	21,294	4,076	2,098	268	1,701	713	278	5,162	1,092	1,902
Uinta	21,118	6,371	1,874	420	1,451	630	255	4,666	996	2,344
Totals	**480,330**	**115,744**	**55,598**	**7,623**	**35,785**	**15,637**	**6,625**	**117,491**	**25,333**	**52,930**

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HIGH OZONE DAYS 2008–2010

County	Orange	Red	Purple	Wgt. Avg	Grade
Albany	DNC	DNC	DNC	DNC	DNC
Campbell	0	0	0	0.0	A
Carbon	1	0	0	0.3	B
Converse	DNC	DNC	DNC	DNC	DNC
Crook	0	0	0	0.0	A
Fremont	7	0	0	2.3	D
Laramie	DNC	DNC	DNC	DNC	DNC
Natrona	DNC	DNC	DNC	DNC	DNC
Park	DNC	DNC	DNC	DNC	DNC
Sheridan	DNC	DNC	DNC	DNC	DNC
Sublette	9	4	1	5.7	F
Sweetwater	2	0	0	0.7	B
Teton	1	0	0	0.3	B
Uinta	0	0	0	0.0	A

HIGH PARTICLE POLLUTION DAYS 2008–2010

	24 Hour					Annual	
County	Orange	Red	Purple	Wgt. Avg	Grade	Design Value	Pass/ Fail
Albany	INC	INC	INC	INC	INC	INC	INC
Campbell	0	0	0	0.0	A	INC	INC
Carbon	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Converse	0	0	0	0.0	A	INC	INC
Crook	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Fremont	2	0	0	0.7	B	8.5	PASS
Laramie	0	0	0	0.0	A	4.2	PASS
Natrona	INC	INC	INC	INC	INC	INC	INC
Park	1	0	0	0.3	B	INC	INC
Sheridan	1	0	0	0.3	B	8.4	PASS
Sublette	1	0	0	0.3	B	INC	INC
Sweetwater	0	0	0	0.0	A	6.2	PASS
Teton	0	0	0	0.0	A	4.7	PASS
Uinta	DNC	DNC	DNC	DNC	DNC	DNC	DNC

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We will breathe easier when the air in every
American community is clean and healthy.

We will breathe easier when people are free from the addictive
grip of tobacco and the debilitating effects of lung disease.

We will breathe easier when the air in our public spaces and
workplaces is clear of secondhand smoke.

We will breathe easier when children no longer
battle airborne poisons or fear an asthma attack.

Until then, we are fighting for air.

About the American Lung Association

Now in its second century, the American Lung Association is the leading organization working to save lives by improving lung health and preventing lung disease. With your generous support, the American Lung Association is "Fighting for Air" through research, education and advocacy. For more information about the American Lung Association, a Charity Navigator Four Star Charity and holder of the Better Business Bureau Wise Giving Guide Seal, or to support the work it does, call 1-800-LUNG-USA (1-800-586-4872) or visit www.lung.org.

AMERICAN LUNG ASSOCIATION®
Fighting for Air