Indiana Department of Environmental Management

# The States' View of the Air

## State of Indiana

2013

Keith Baugues
**Assistant Commissioner**

Indiana Department of Environmental Management
*Office of Air Quality*
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# EXECUTIVE SUMMARY

**Air quality across the nation has improved over the past ten years or more. One would never know this from media reports. This analysis demonstrates the progress made from 2000 through 2011 for ozone and fine particles (PM-2.5). The national ambient air quality standards in place in 2011 were applied to all time periods in this analysis to demonstrate the progress made.**

**Figures 1 through 3 show the progress made for ozone, 24-hour PM-2.5 and annual PM-2.5. The bars represent the population of each period (based on the last year in the period). The portion that is green represents the number of people living in counties that measure air quality better than the standard. The portion of the bar that is red represents the number of people living in counties that measure air quality at levels above the standard. The blue portion of the bar represents the number of people that live in counties where air quality is not measured.**

**Compliance with standards is determined on a three year basis. In 2000 – 2002 approximately 44 million people lived in counties that measured ozone air quality levels better than the standard. By 2009 – 2011 this had increased to over 153 million people.**

**The situation for fine particles (PM-2.5) is very similar. In 2000 – 2002, 115 million people lived in counties where 24-hour PM-2.5 levels were measured below the standard. By 2009 – 2011 this had increased to 202 million people. Of note, is that monitoring for PM-2.5 is only conducted in counties with a total of 207 million people.**

**In the 2000 – 2002 period, 144 million people lived in counties where annual PM-2.5 levels were measured below the standard. By 2009 – 2011 this had increased to 207 million people. Less than 500,000 people lived in counties where annual PM-2.5 levels were measured above the standard.**

**Even with the improvements made in air quality, there are still areas of the country that need further improvement. Figure 4 shows states that have 8 hour ozone nonattainment areas based on 2009 – 2011 data using the average air quality method described in this document. Twenty four states, including the District of Columbia, would be included. Figure 5 shows the states that would be nonattainment based upon U.S. EPA methods. Only Arizona is added.**

**Figure 6 shows those states that violate the 24-hour PM-2.5 standard based on 2009 – 2011 data using average air quality data. Only six states in the northwest are included. The U.S. EPA method adds Ohio and Pennsylvania. This is shown in Figure 7.**

**Figure 8 shows those states that violate the annual PM-2.5 standard based on 2009 – 2011 data using average air quality data. Only California is included. Figure 9 shows the results for the same period using U.S. EPA's method and includes only California.**

**The bottom line is that most areas of the country were meeting the PM-2.5 standard at the 2009 – 2011 review. There are still several areas of the country that violate the current ozone standard. Many areas have made considerable progress in lowering ozone levels, but further work remains to be done. During 2012, U.S. EPA lowered the annual PM-2.5 standard. Future analyses will focus on how areas are dealing with meeting this new standard.**

Figure 1

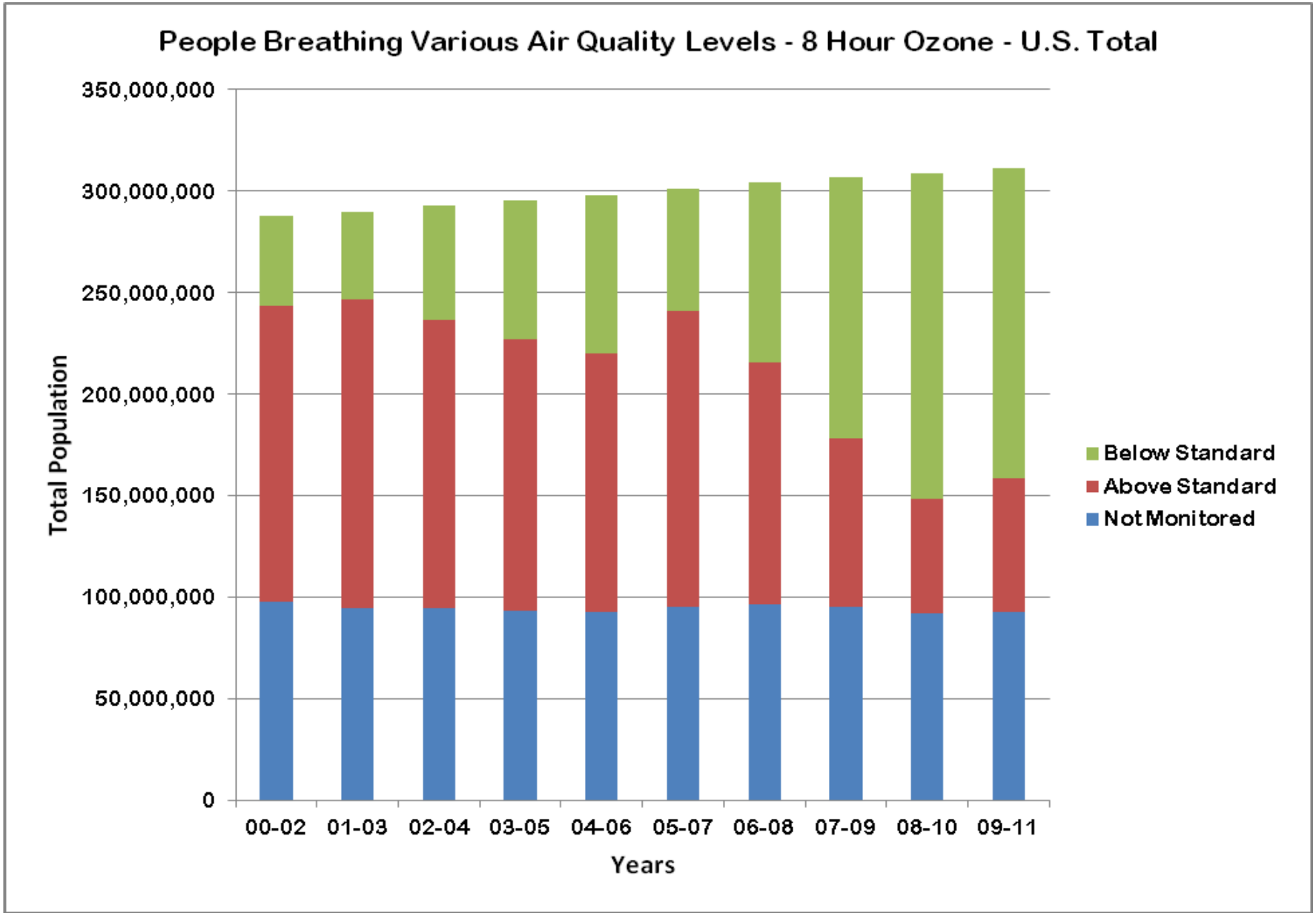

People Breathing Various Air Quality Levels - 8 Hour Ozone - U.S. Total
350,000,000
300,000,000
250,000,000
200,000,000
150,000,000
100,000,000
50,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure 2

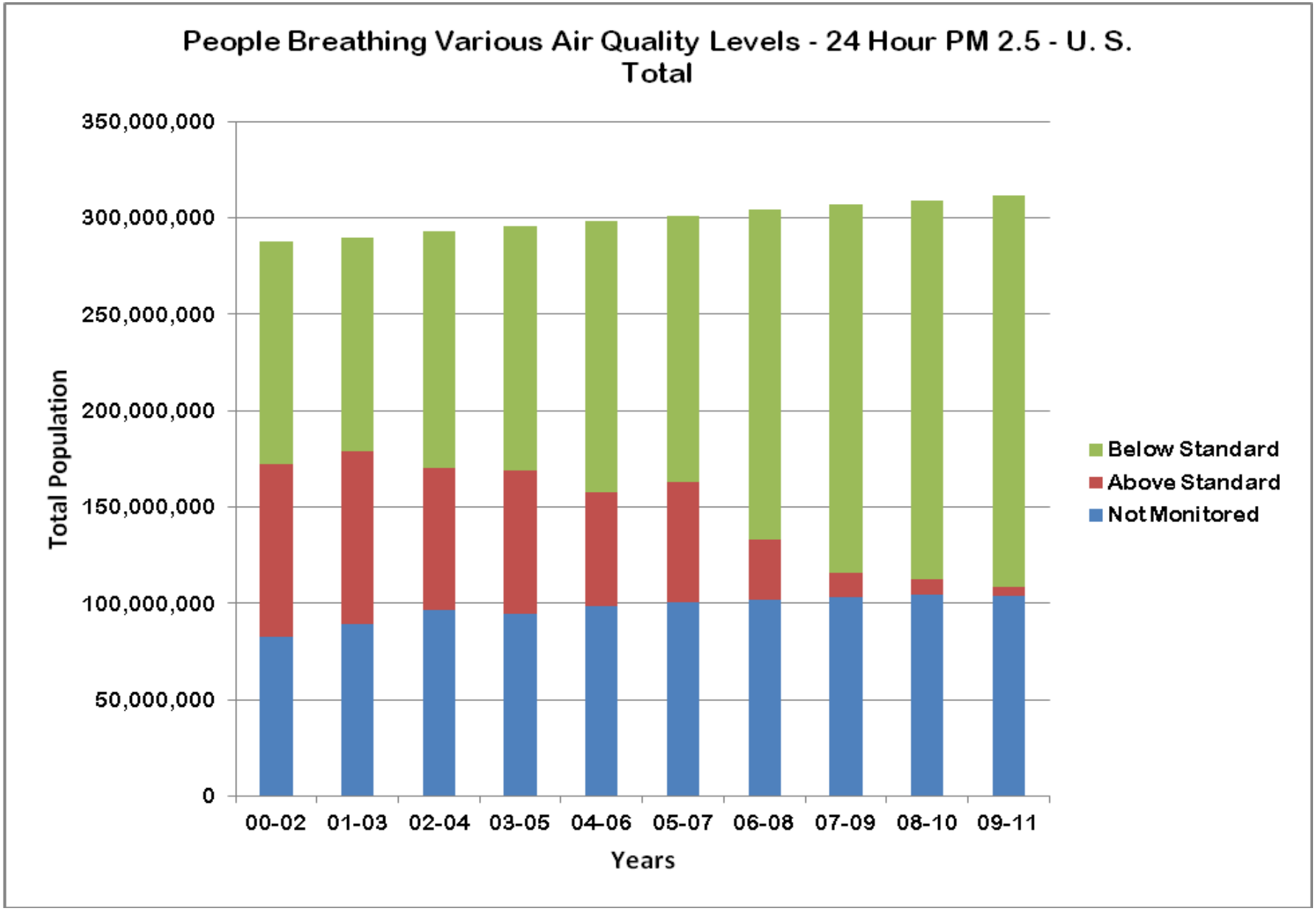

People Breathing Various Air Quality Levels - 24 Hour PM 2.5 - U. S. Total
350,000,000
300,000,000
250,000,000
200,000,000
150,000,000
100,000,000
50,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure 3

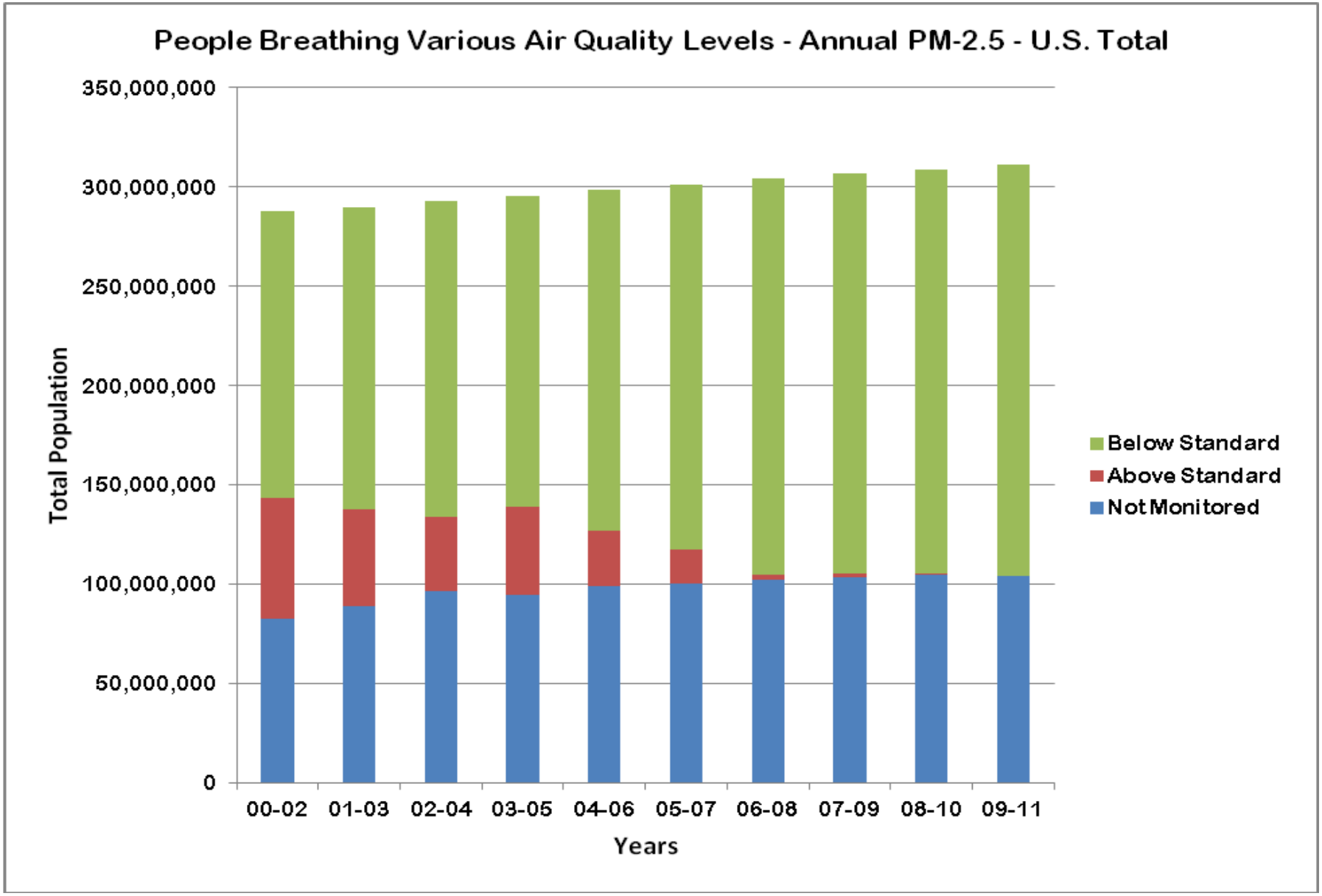

People Breathing Various Air Quality Levels - Annual PM-2.5 - U.S. Total
350,000,000
300,000,000
250,000,000
200,000,000
150,000,000
100,000,000
50,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure 4

## Non-Attainment States Based on Average Data - 8 Hour Ozone

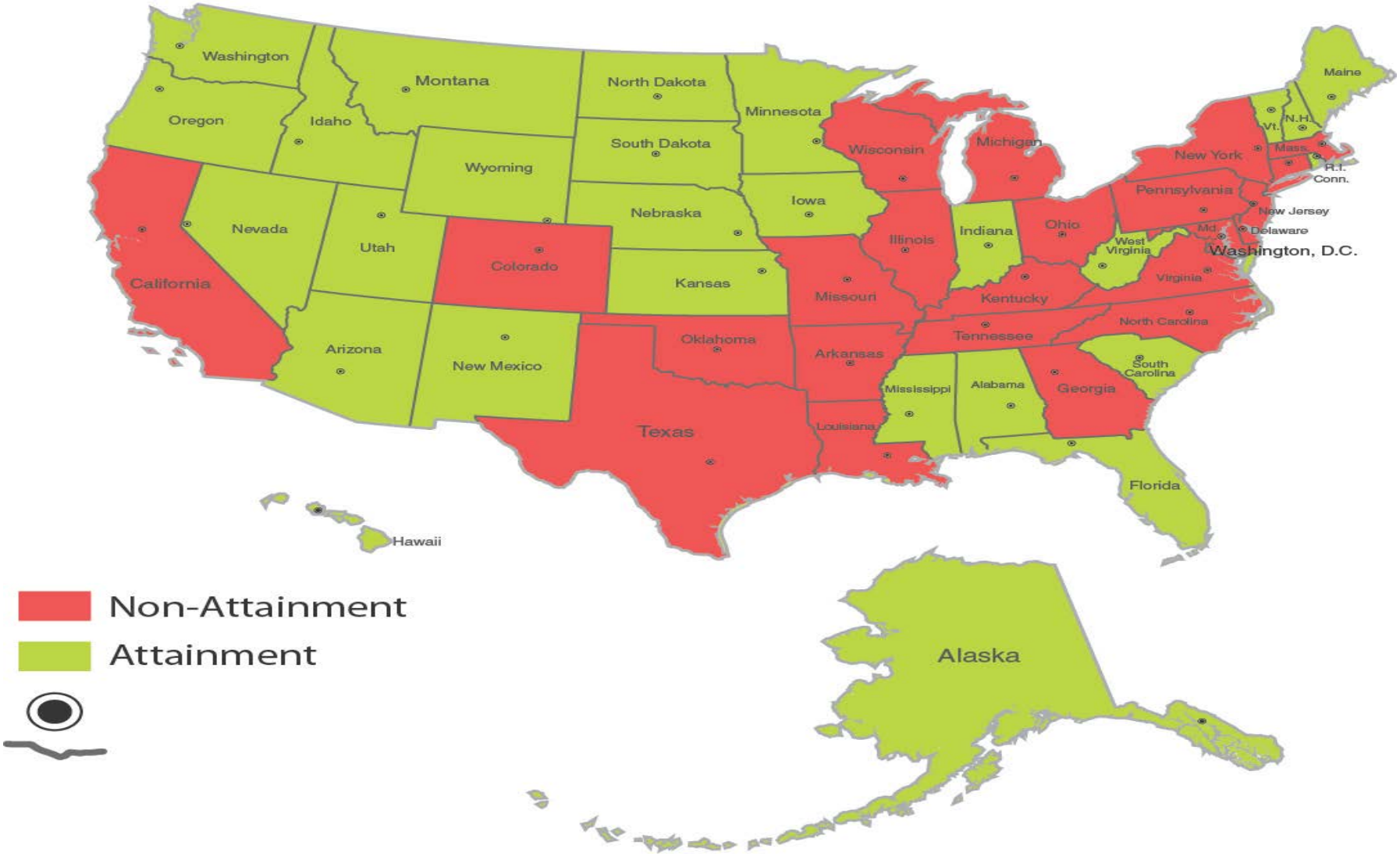


Figure 5

## Non-Attainment States Based on U.S. EPA Method - 8 Hour Ozone

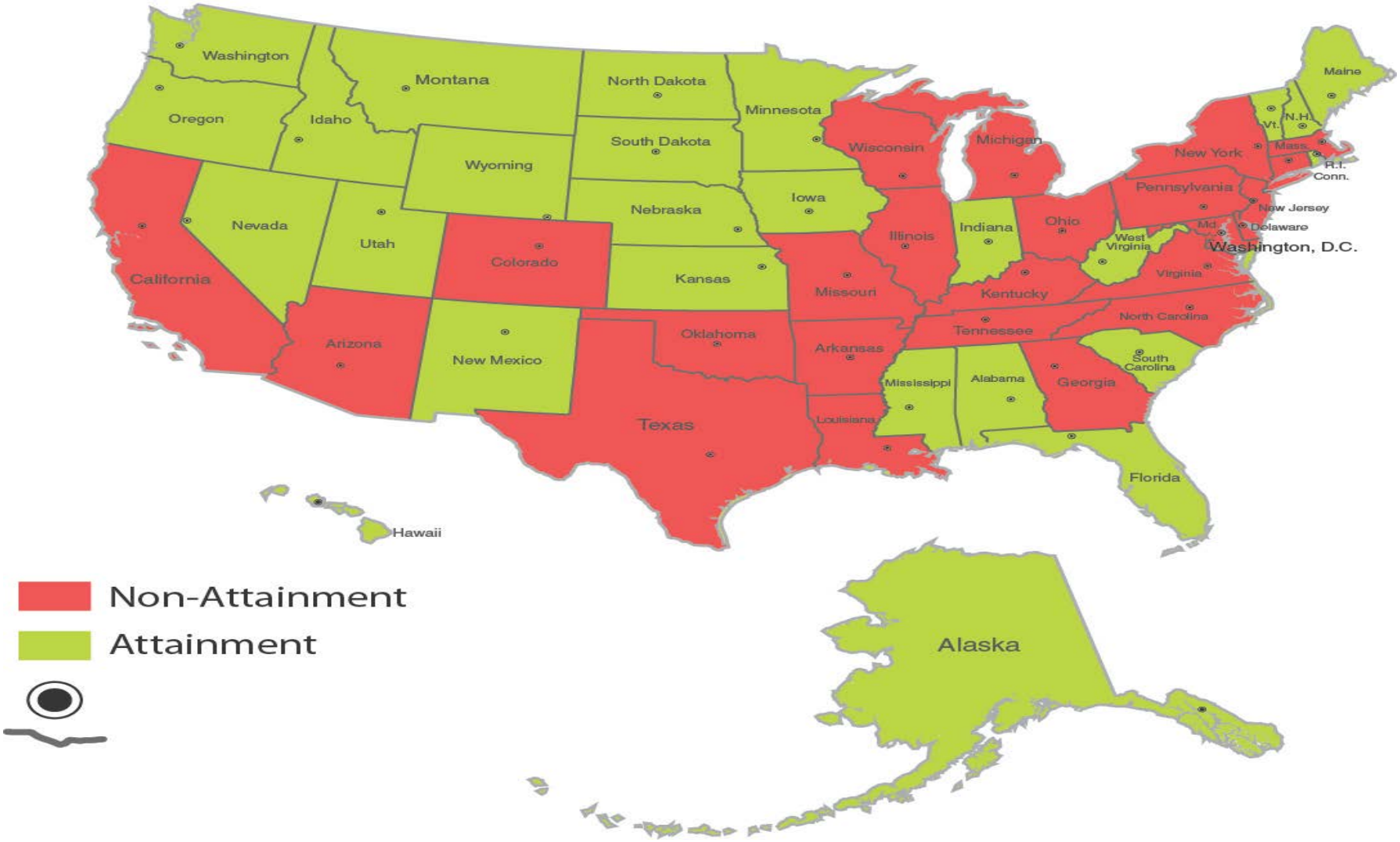


Figure 6

## Non-Attainment States Based on Average Data - 24 Hour PM 2.5

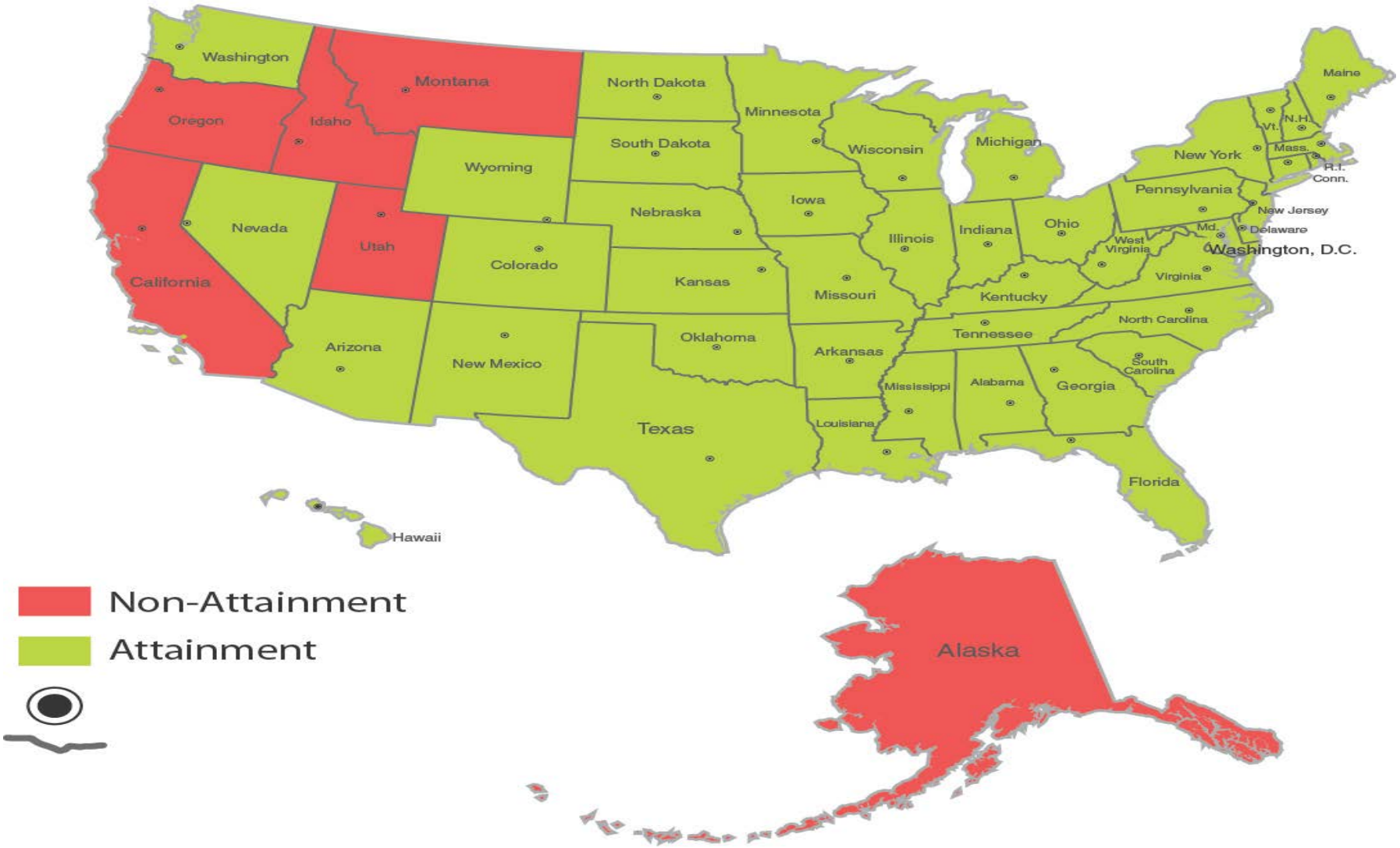


Figure 7

## Non-Attainment States Based on U.S. EPA Method - 24 Hour PM 2.5

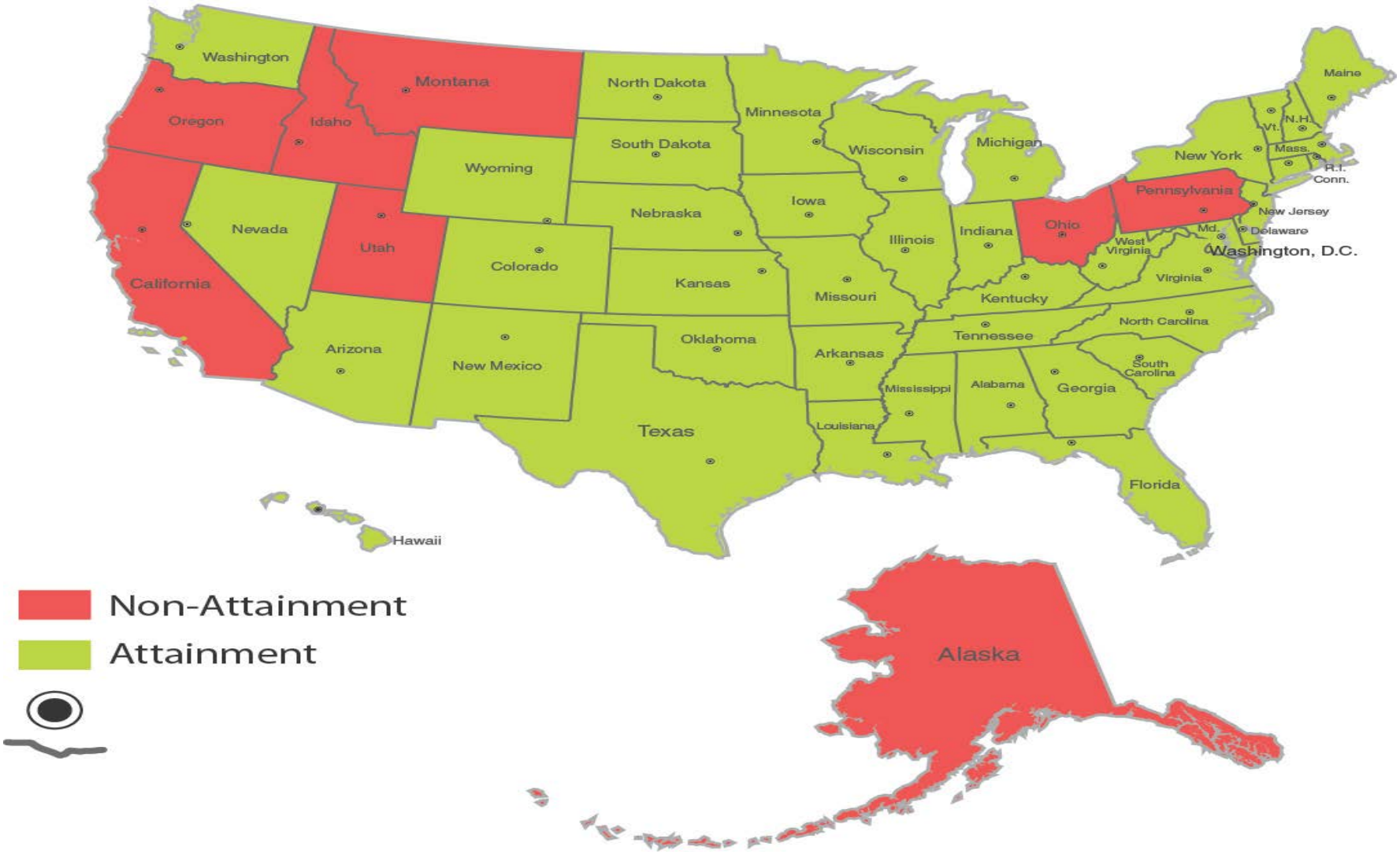


Figure 8

## Non-Attainment States Based on Average Data - Annual PM 2.5

Figure 9

## Non-Attainment States Based on U.S. EPA Method - Annual PM 2.5

# The States' View of the Air – 2013

This is the second year for this report. It was originally intended as a complimentary document to the American Lung Association's (ALA) annual report called "The State of the Air."

This report starts with the same air quality data used by the ALA. For this report, it includes data for the period of 2009 – 2011. The review of data in this report differs from the ALA in a few significant ways. First, the design values used for both ozone and PM-2.5 are based on average values for each county. This is an important distinction. While U.S. EPA's guidance for attainment/nonattainment designation purposes focuses on the worst design value for a county, this is not consistent with what people are breathing. For example, if a county has ten monitors and nine have design values below the standard and one is slightly above the standard, U.S. EPA and ALA would assume that everyone in the county were breathing air at levels above the standard. That is obviously not correct. If you combine counties into metropolitan statistical areas (cities) consisting of several counties, the entire area would be assumed to be above the standard based on the one monitor described above. This report averages design values for all monitors in a county to determine the average level that is breathed by the residents of that county. This is not to say that some individuals could be exposed to higher levels. However, not all residents in a county are exposed to levels associated with the highest monitor.

A second difference is that when design values for a number of counties are being grouped to determine the overall value for a metropolitan statistical area, the individual design values for each county are weighted by the population of that county to determine a population weighted average value. This value is more consistent with what the population is being exposed to and is in line with what health research professionals use in their analyses.

A new grading system has been established for ozone and PM-2.5 in this report. Any grading system is arbitrary in nature. The key to this grading system is that any area meeting the national ambient air quality standards should not be rated lower than a "C". In essence, we have set the standard as a "C". Any level between 90 and 100% of the standard is rated a "C". Any level between 80 and 90% of the standard is rated as "B". Any level below 80% is set as an "A". Any level between 101 and 110% of the standard is set as a "D". Any level above 110% of the standard is rated as an "F". This translates into the following ranges.

Table 1
Grading Scheme

| Grade | Ozone (ppm) | 24-hr PM-2.5 (µg/m3) | Annual PM-2.5 (µg/m3) |
|---|---|---|---|
| A | < 0.060 | < 28.0 | < 12.0 |
| B | 0.060 – 0.067 | 28.0 – 31.4 | 12.0 – 13.4 |
| C | 0.068 – 0.075 | 31.5 – 35.0 | 13.5 – 15.0 |
| D | 0.076 – 0.082 | 35.1 – 38.5 | 15.1 – 16.5 |
| F | ➢ 0.082 | ➢ 38.5 | ➢ 16.5 |

This grading scale will need to be revised in the future as the national ambient air quality standards for PM-2.5 and ozone are revised. However, these are the appropriate levels for the standards that were in place during the time period (2009 – 2011).

This report will not report population groups by county or state (those less than 18 or 65 and older, diabetics, etc.). It is very difficult to obtain this data for each state. Also, the methodology which apportions state totals to individual counties is questionable. It is based solely upon a comparison of age distribution of the state versus the county. In many cases other variables, may be important in making these allocations more accurately.

**Information on health effects is not included in this report. Instead we provide links to U.S. EPA websites that contain this information.**

Ozone: **http://epa.gov/airquality/ozonepollution/health.html**

PM-2.5: **http://epa.gov/airquality/particlepollution/health.html**

**The remainder of this report contains tables that are similar to those that are in the ALA report. The ALA report focuses solely on a three year block of data and does not provide any perspective. Our report will look at three year blocks of data from 2000 through 2011 so that the reader can see how the air quality is changing over time.**

## Ozone

**In the 2000 – 2002 period approximately 44 million people (15.4% of the U.S. population) lived in counties that met the ozone standard. During the same time period approximately 98 million people (34.0%) lived in counties where ozone was not monitored. By the 2009 – 2011 period over 153 million people (49.1%) lived in counties that met the ozone standard. During the same time period over 93 million people (29.7%) lived in counties where ozone was not monitored. Figure 1 shows the distribution of people by year.**

## 24 – Hour PM-2.5

**In the 2000 – 2002 period approximately 115 million people (40.0% of the U.S. population) lived in counties that met the 24-hour PM-2.5 standard. During this same time period approximately 83 million people (28.8%) lived in counties where PM-2.5 was not monitored. By the 2009 – 2011 period over 202 million people (65.1%) lived in counties that met the 24-hour PM-2.5 standard. During the same time period nearly 104 million people (33.4%) lived in counties where PM-2.5 was not monitored. Figure 2 shows the distribution of people by year.**

## Annual PM-2.5

**In the 2000 – 2002 period approximately 144 million people (50.2% of the U.S. population) lived in counties that met the annual PM-2.5 standard. During the same time period approximately 83 million people (28.8%) lived in counties where PM-2.5 was not monitored. By the 2009 - 2011 period nearly 207 million people (66.5%) lived in counties that met the annual PM-2.5 standard. During the same time period nearly 104 million people (33.4%) lived in counties where PM-2.5 was not monitored. Figure 3 shows the distribution of people by year.**

## Note:

**For the state summaries, the first table shows monitoring totals at the bottom that include county totals for areas that measure either Ozone or PM-2.5. The second set of tables includes totals monitored by pollutant.**

Table 2

People Breathing Ozone

| Grades | 2000-2002 | 2001-2003 | 2002-2004 | 2003-2005 | 2004-2006 | 2005-2007 | 2006-2008 | 2007-2009 | 2008-2010 | 2009-2011 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 7,324,220 | 4,694,728 | 4,003,383 | 5,745,195 | 5,287,580 | 5,360,498 | 5,011,108 | 10,243,596 | 11,980,519 | 13,396,528 |
| B | 11,513,254 | 13,814,637 | 14,377,454 | 17,563,407 | 17,379,741 | 18,234,505 | 22,753,182 | 25,017,664 | 44,358,793 | 40,702,520 |
| C | 25,458,163 | 24,595,515 | 37,536,473 | 44,810,623 | 55,695,804 | 36,860,447 | 60,830,451 | 93,280,488 | 103,701,796 | 98,688,848 |
| D | 42,363,493 | 40,121,125 | 53,163,390 | 69,172,263 | 67,553,184 | 74,353,896 | 71,572,547 | 59,293,443 | 40,103,047 | 56,096,083 |
| F | 103,078,080 | 112,175,945 | 88,952,603 | 64,991,911 | 59,733,841 | 70,912,974 | 47,447,952 | 23,437,441 | 16,589,756 | 10,136,744 |
| Subtotals | 189,737,210 | 195,401,950 | 198,033,303 | 202,283,399 | 205,650,150 | 205,722,320 | 207,615,240 | 211,272,632 | 216,733,911 | 219,020,723 |
| Not Monitored | 97,887,983 | 94,705,983 | 94,771,995 | 93,233,200 | 92,629,762 | 95,508,887 | 96,478,726 | 95,498,897 | 92,012,555 | 92,571,194 |
| Totals | 287,625,193 | 290,107,933 | 292,805,298 | 295,516,599 | 298,379,912 | 301,231,207 | 304,093,966 | 306,771,529 | 308,746,466 | 311,480,407 |

Table 3

People Breathing Short-term Particle Pollution (24-hour PM-2.5)

| Grades | 2000-2002 | 2001-2003 | 2002-2004 | 2003-2005 | 2004-2006 | 2005-2007 | 2006-2008 | 2007-2009 | 2008-2010 | 2009-2011 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 41,468,450 | 45,132,271 | 51,309,871 | 45,673,760 | 51,817,451 | 59,481,093 | 77,050,571 | 106,840,128 | 136,505,105 | 158,355,954 |
| B | 36,137,413 | 28,725,891 | 34,251,248 | 37,053,510 | 39,803,589 | 36,000,800 | 50,040,946 | 47,344,333 | 52,180,067 | 27,181,333 |
| C | 37,521,542 | 37,319,368 | 37,065,421 | 43,458,479 | 48,755,917 | 42,853,803 | 43,881,509 | 36,563,352 | 7,581,074 | 17,381,459 |
| D | 36,465,508 | 39,488,601 | 37,277,520 | 31,043,723 | 32,217,675 | 35,354,532 | 21,655,698 | 4,254,926 | 3,050,522 | 94,846 |
| F | 53,299,642 | 50,235,123 | 36,277,134 | 43,478,956 | 26,824,469 | 26,963,699 | 9,401,408 | 8,304,099 | 4,485,720 | 4,608,149 |
| Subtotals | 204,892,555 | 200,901,254 | 196,181,194 | 200,708,428 | 199,419,101 | 200,652,927 | 202,030,132 | 203,306,838 | 203,802,488 | 207,621,741 |
| Not Monitored | 82,732,638 | 89,206,679 | 96,624,104 | 94,808,171 | 98,960,811 | 100,578,280 | 102,063,834 | 103,464,691 | 104,943,978 | 103,970,176 |
| Totals | 287,625,193 | 290,107,933 | 292,805,298 | 295,516,599 | 298,379,912 | 301,231,207 | 304,093,966 | 306,771,529 | 308,746,466 | 311,480,407 |

Table 4

People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grades | 2000-2002 | 2001-2003 | 2002-2004 | 2003-2005 | 2004-2006 | 2005-2007 | 2006-2008 | 2007-2009 | 2008-2010 | 2009-2011 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 69,260,623 | 74,329,502 | 75,801,240 | 78,293,203 | 88,674,706 | 89,129,714 | 105,845,474 | 131,935,176 | 174,248,887 | 192,503,461 |
| B | 38,660,185 | 38,445,215 | 40,829,864 | 43,907,930 | 38,626,733 | 40,397,813 | 47,809,219 | 61,299,632 | 26,101,649 | 11,231,342 |
| C | 36,378,138 | 39,762,783 | 42,208,660 | 33,959,039 | 43,939,218 | 54,308,068 | 45,786,585 | 8,308,985 | 2,705,926 | 3,437,685 |
| D | 31,382,366 | 28,317,903 | 20,585,463 | 28,003,936 | 26,473,397 | 15,148,108 | 488,882 | 921,478 | 595,161 | 449,253 |
| F | 29,211,243 | 20,045,851 | 16,755,967 | 16,544,320 | 1,705,047 | 1,669,047 | 1,999,972 | 841,567 | 150,865 | 0 |
| Subtotals | 204,894,555 | 200,901,254 | 196,181,194 | 200,708,428 | 199,419,101 | 200,652,927 | 202,034,132 | 203,306,838 | 203,802,488 | 207,621,741 |
| Not Monitored | 82,732,638 | 89,206,679 | 96,624,104 | 94,808,171 | 98,960,811 | 100,578,280 | 102,063,834 | 103,464,691 | 104,943,978 | 103,970,176 |
| Totals | 287,625,193 | 290,107,933 | 292,805,298 | 295,516,599 | 298,379,912 | 301,231,207 | 304,093,966 | 306,771,529 | 308,746,466 | 311,480,407 |

Table 5
High Cities - Year Round Particle Pollution (Annual PM-2.5)
(2009 -2011)

| Rank | MSA | PW DV | Grade | 2011 Population |
|---|---|---|---|---|
| 1 | Visalia-Porterville, CA | 15.2 | D | 449,253 |
| 2 | Fresno, CA | 14.5 | C | 942,904 |
| 3 | Fairbanks, AK | 14.3 | C | 99,192 |
| 4 | Johnstown, PA | 13.1 | B | 143,728 |
| 4 | Indianapolis-Carmel, IN | 13.1 | B | 1,778,558 |
| 6 | Canton-Massillon, OH | 12.9 | B | 166,473 |
| 7 | Modesto, CA | 12.7 | B | 518,522 |
| 7 | Cincinnati-Middletown, OH-KY-IN | 12.7 | B | 2,138,038 |
| 9 | Dayton, OH | 12.6 | B | 845,383 |
| 9 | Springfield, OH | 12.6 | B | 137,691 |
| 11 | Wheeling, WV | 12.4 | B | 147,197 |
| 11 | Evansville, IN-KY | 12.4 | B | 359,879 |
| 11 | Louisville, KY-IN | 12.4 | B | 1,294,849 |
| 11 | Terre Haute, IN | 12.4 | B | 108,182 |
| 11 | Allentown-Bethlehem, PA-NJ | 12.4 | B | 824,916 |
| 16 | Pittsburgh, PA | 12.3 | B | 2,359,746 |
| 16 | Owensboro, KY | 12.3 | B | 115,333 |
| 16 | Parkersburg-Marietta, WV-OH | 12.3 | B | 162,248 |
| 19 | Macon, GA | 12.2 | B | 232,920 |
| 20 | Rome, GA | 12.1 | B | 95,989 |
| 21 | Lancaster, PA | 12.0 | B | 523,594 |
| 21 | St. Joseph, MO-IL | 12.0 | B | 127,574 |
| 21 | Steubenville-Weirton, OH-WV | 12.0 | B | 60,921 |
| 21 | Atlanta, GA | 12.0 | B | 5,359,205 |
| 25 | Columbus, GA-AL | 11.9 | A | 301,439 |

MSA – Metropolitan Statistical Area PW – Population Weighted DV – Design Value

**Of the top 25 cities, only one has air quality that exceeds the national ambient air quality standard. Two cities are rated as C. Twenty one cities are rated as B and one is rated as A.**

Table 6
Highest Cities – Short Term Particle Pollution (24-hour PM-2.5)
(2009 -2011)

| Rank | MSA | PW DV | Grade | 2011 Population |
|---|---|---|---|---|
| 1 | **Fresno, CA** | **53** | **F** | 942,904 |
| 2 | **Fairbanks, AK** | **51** | **F** | 99,192 |
| 3 | **Modesto, CA** | **48** | **F** | 518,522 |
| 4 | **Visalia-Porterville, CA** | **47** | **F** | 449,253 |
| 5 | **Logan, UT-ID** | **42** | **F** | 127,549 |
| 6 | **Ogden-Clearfield, UT** | **40** | **F** | 244,105 |
| 7 | **Merced, CA** | **39** | **F** | 259,898 |
| 8 | **Salt Lake City, UT** | **38** | **D** | 1,145,905 |
| 9 | **Provo-Orem, UT** | **37** | **D** | 540,834 |
| 10 | Yakima, WA | 35 | C | 247,141 |
| 10 | Chico, CA | 35 | C | 220,266 |
| 12 | Bakersfield, CA | 34 | C | 851,710 |
| 13 | Green Bay, WI | 33 | C | 309,469 |
| 13 | Grand Junction, CO | 33 | C | 147,083 |
| 13 | Johnstown, PA | 32 | C | 143,728 |
| 16 | Sacramento, CA | 31 | B | 2,176,235 |
| 16 | Lancaster, PA | 31 | B | 523,594 |
| 16 | Harrisburg-Carlisle, PA | 31 | B | 552,911 |
| 16 | Milwaukee-Waukesha, WI | 31 | B | 1,562,216 |
| 16 | Appleton, WI | 31 | B | 227,403 |
| 16 | Elkhart-Goshen, IN | 31 | B | 198,941 |
| 16 | Minneapolis-St. Paul, MN-WI | 31 | B | 3,318,486 |
| 16 | Cedar Rapids, IA | 31 | B | 260,575 |
| 24 | Los Angeles-Long Beach, CA | 30 | B | 12,944,801 |
| 24 | Pittsburgh, PA | 30 | B | 2,359,746 |
| 24 | St. Joseph, MO-IL | 30 | B | 127,574 |
| 24 | Hagerstown-Martinsburg, MD-WV | 30 | B | 271,528 |
| 24 | San Jose, CA | 30 | B | 1,865,450 |
| 24 | Madison, WI | 30 | B | 576,467 |
| 24 | Rochester, MN | 30 | B | 187,612 |

MSA – Metropolitan Statistical Area PW – Population Weighted DV – Design Value

**Of the 30 highest cities, 7 have ratings of F, 2 are D, 6 are C and 15 are B.**

Table 7
Highest 8-Hour Ozone Cities
(2009 -2011)

| Rank | MSA | PW DV | Grade | 2011 Population |
|---|---|---|---|---|
| 1 | Fresno, CA | 0.094 | F | 942,904 |
| 2 | Riverside-San Bernardino, CA | 0.092 | F | 4,304,997 |
| 3 | Bakersfield, CA | 0.088 | F | 851,710 |
| 3 | Visalia-Porterville, CA | 0.088 | F | 449,253 |
| 5 | Hanford-Corcoran, CA | 0.084 | F | 153,765 |
| 6 | Merced, CA | 0.082 | D | 259,898 |
| 7 | Dallas-Ft. Worth, TX | 0.081 | D | 6,526,548 |
| 7 | Modesto, CA | 0.081 | D | 518,522 |
| 7 | Sheboygan, WI | 0.081 | D | 115,149 |
| 10 | Madera-Chowchilla, CA | 0.080 | D | 152,925 |
| 11 | Baltimore-Towson, MD | 0.079 | D | 2,729,110 |
| 11 | Bridgeport, CT | 0.079 | D | 925,899 |
| 11 | Houston-Sugarland, TX | 0.079 | D | 2,323,738 |
| 11 | Sacramento, CA | 0.079 | D | 2,176,235 |
| 15 | Longview, TX | 0.078 | D | 216,666 |
| 15 | Washington, DC-VA-MD-WV | 0.078 | D | 5,703,948 |
| 17 | Atlanta, GA | 0.077 | D | 5,359,205 |
| 17 | Baton Rouge, LA | 0.077 | D | 808,242 |
| 17 | Lancaster, PA | 0.077 | D | 523,594 |
| 17 | Norwich-New London, CT | 0.077 | D | 273,502 |
| 17 | Philadelphia-Camden, PA-NJ-DE-MD | 0.077 | D | 5,992,414 |
| 17 | Shreveport-Bossier City, LA | 0.077 | D | 403,595 |
| 17 | Vineland-Millville, NJ | 0.077 | D | 157,095 |
| 24 | Cincinnati-Middletown, OH-KY-IN | 0.076 | D | 2,138,038 |
| 24 | Los Angeles-Long Beach, CA | 0.076 | D | 12,944,801 |
| 24 | Louisville-Jefferson, KY-IN | 0.076 | D | 1,294,849 |
| 24 | Muskegon-North Shores, MI | 0.076 | D | 171,302 |
| 24 | New Haven-Milford, CT | 0.076 | D | 861,113 |
| 24 | New York, NY-NJ-PA | 0.076 | D | 19,015,900 |
| 24 | Oklahoma City, OK | 0.076 | D | 1,268,053 |

MSA – Metropolitan Statistical Area PW – Population Weighted DV – Design Value

**Of the 30 highest rated cities, five are rated F, while 25 are rated D.**

Table 8

Highest Counties - Short Term Particle Pollution (24-hour PM-2.5)
(2009 -2011)

| Rank | County/State | DV | Grade | 2011 Population |
|---|---|---|---|---|
| 1 | Fresno, CA | 53 | F | 942,904 |
| 2 | Fairbanks, AK | 51 | F | 99,192 |
| 3 | Stanislaus, CA | 48 | F | 518,522 |
| 4 | Tulare, CA | 47 | F | 449,253 |
| 5 | Cache, UT | 42 | F | 114,699 |
| 6 | Davis UT | 41 | F | 311,811 |
| 7 | Box Elder, UT | 40 | F | 50,290 |
| 8 | Merced, CA | 39 | F | 259,898 |
| 8 | Salt Lake, UT | 39 | F | 1,048,985 |
| 8 | Weber, UT | 39 | F | 234,420 |
| 11 | Lemhi, ID | 38 | D | 7,967 |
| 11 | Lewis & Clark, MT | 38 | D | 64,318 |
| 11 | Klamath, OR | 38 | D | 66,299 |
| 14 | Shoshone, ID | 37 | D | 12,672 |
| 14 | Utah, UT | 37 | D | 530,499 |
| 16 | Lake, OR | 36 | D | 7,908 |
| 17 | Butte, CA | 35 | C | 220,266 |
| 17 | Sacramento, CA | 35 | C | 1,436,105 |
| 17 | Pierce, WA | 35 | C | 807,904 |
| 17 | Yakima, WA | 35 | C | 247,141 |
| 21 | Kern, CA | 34 | C | 851,710 |
| 21 | Ramsey, MN | 34 | C | 514,696 |
| 21 | Chester, PA | 34 | C | 503,897 |
| 24 | Mesa, CO | 33 | C | 146,723 |
| 24 | Northampton, PA | 33 | C | 298,476 |
| 24 | Westmoreland, PA | 33 | C | 364,471 |
| 24 | Brown, WI | 33 | C | 251,412 |

DV – Design Value

**Of the 27 highest counties, ten are rated F, six are D, and 11 are rated C (meeting the National ambient air quality standard).**

Table 9
Highest Counties Year Round Particle Pollution (Annual PM-2.5)
(2009 -2011)

| Rank | County/State | DV | Grade | 2011 Population |
|---|---|---|---|---|
| 1 | Tulare, CA | 15.2 | D | 449,253 |
| 2 | Fresno, CA | 14.5 | C | 942,904 |
| 3 | Fairbanks, AK | 14.3 | C | 99,192 |
| 3 | Chester, PA | 14.3 | C | 503,897 |
| 5 | Westmoreland, PA | 14.1 | C | 364,471 |
| 5 | Mendocino, CA | 14.1 | C | 87,553 |
| 7 | Northampton, PA | 13.6 | C | 298,476 |
| 8 | Cambria, PA | 13.1 | B | 143,728 |
| 8 | Marion, IN | 13.1 | B | 911,296 |
| 8 | Hamilton, OH | 13.1 | B | 800,362 |
| 11 | Marshall, WV | 13.0 | B | 32,800 |
| 11 | Butler, OH | 13.0 | B | 369,999 |
| 13 | Montgomery, OH | 12.9 | B | 537,602 |
| 13 | Stark, OH | 12.9 | B | 375,087 |
| 13 | Dubois, IN | 12.9 | B | 42,199 |
| 16 | Vanderburgh, IN | 12.8 | B | 180,305 |
| 17 | Stanislaus, CA | 12.7 | B | 518,522 |
| 17 | Adair, OK | 12.7 | B | 22,612 |
| 19 | Beaver, PA | 12.6 | B | 170,414 |
| 19 | Clark, OH | 12.6 | B | 137,691 |
| 21 | St. Louis City, MO | 12.5 | B | 318,069 |
| 21 | Madison, IL | 12.5 | B | 268,459 |
| 21 | Clark, IN | 12.5 | B | 111,570 |
| 21 | Clayton, GA | 12.5 | B | 261,532 |
| 21 | Fulton, GA | 12.5 | B | 949,599 |
| 21 | Saint Clair, IL | 12.5 | B | 270,259 |

DV – Design Value

**Of the 26 highest counties, only one is rated a D. All others meet the national ambient air quality standards with six being rated as C, and 19 rated as B.**

Table 10
Highest Ozone Counties
(2009 -2011)

| Rank | County/State | DV | Grade | 2011 Population |
|---|---|---|---|---|
| 1 | Fresno, CA | 0.094 | F | 942,904 |
| 2 | San Bernardino, CA | 0.093 | F | 2,065,377 |
| 3 | Riverside , CA | 0.092 | F | 2,239,620 |
| 4 | Kern, CA | 0.088 | F | 851,710 |
| 4 | Tulare, CA | 0.088 | F | 449,253 |
| 6 | Harford, MD | 0.085 | F | 246,489 |
| 6 | Tarrant, TX | 0.085 | F | 1,849,815 |
| 8 | Kings, CA | 0.084 | F | 153,765 |
| 9 | El Dorado, CA | 0.083 | F | 180,938 |
| 9 | Richmond, NY | 0.083 | F | 470,467 |
| 9 | Denton, TX | 0.083 | F | 686,406 |
| 12 | Merced, CA | 0.082 | D | 259,898 |
| 12 | Gloucester, NJ | 0.082 | D | 289,104 |
| 12 | Fairfax, VA | 0.082 | D | 1,100,692 |
| 15 | Placer, CA | 0.081 | D | 357,138 |
| 15 | Stanislaus, CA | 0.081 | D | 518,522 |
| 15 | Bossier, LA | 0.081 | D | 119,732 |
| 15 | Anne Arundel, MD | 0.081 | D | 544,403 |
| 15 | Cecil, MD | 0.081 | D | 101,694 |
| 15 | Ocean, NJ | 0.081 | D | 579,369 |
| 15 | Bucks, PA | 0.081 | D | 626,854 |
| 15 | Collin, TX | 0.081 | D | 812,226 |
| 15 | Sheboygan, WI | 0.081 | D | 115,149 |
| 24 | Madera, CA | 0.080 | D | 152.925 |
| 24 | Fulton, GA | 0.080 | D | 949,599 |
| 24 | Middlesex, NJ | 0.080 | D | 814,217 |
| 24 | Monmouth, NJ | 0.080 | D | 631,020 |
| 24 | Arlington, VA | 0.080 | D | 216,004 |

DV – Design Value

**Of the top 28 counties, 11 are rated as F, while 17 are rated as D.**

Table 11
Cleanest U.S. Cities for Short-term Particle Pollution (24-hr PM-2.5)
(2009 -2011)

| Rank | MSA | PW DV | Grade | 2011 Population |
|---|---|---|---|---|
| 1 | Cheyenne, WY | 9 | A | 92,680 |
| 1 | Santa Fe, NM | 9 | A | 145,648 |
| 3 | Prescott, AZ | 10 | A | 211,888 |
| 4 | Casper, WY | 11 | A | 76,366 |
| 4 | St. George, UT | 11 | A | 141,666 |
| 6 | Tucson, AZ | 12 | A | 989,569 |
| 6 | Honolulu, HI | 12 | A | 963,607 |
| 8 | Farmington, NM | 13 | A | 128,200 |
| 8 | Pueblo, CO | 13 | A | 160,545 |
| 8 | Miami-Ft. Lauderdale, FL | 13 | A | 5,670,125 |
| 11 | Flagstaff, AZ | 14 | A | 134,511 |
| 11 | Colorado Springs, CO | 14 | A | 660,319 |
| 11 | Cape Coral-Fort Myers, FL | 14 | A | 631,330 |
| 11 | Salinas, CA | 14 | A | 421,898 |
| 15 | Odessa, TX | 15 | A | 140,111 |
| 15 | Las Vegas, NV | 15 | A | 1,969,975 |
| 15 | North Port-Bradenton, FL | 15 | A | 709,355 |
| 15 | Lakeland-Winter Haven, FL | 15 | A | 609,492 |
| 15 | Redding, CA | 15 | A | 177,774 |
| 15 | Palm Bay-Melbourne, FL | 15 | A | 543,566 |
| 15 | Bismarck, ND | 15 | A | 110,879 |
| 15 | Rapid City, SD | 15 | A | 128,361 |
| 23 | Orlando-Kissimmee, FL | 16 | A | 2,171,360 |
| 23 | Albuquerque, NM | 16 | A | 898,642 |
| 23 | San Luis Obispo, CA | 16 | A | 271,969 |

MSA – Metropolitan Statistical Area PW – Population Weighted DV – Design Value

**Of the 25 cleanest cities, all are rated as A.**

Table 12
Cleanest U.S. Cities for Year Round Particle Pollution (Annual PM-2.5)
(2009 -2011)

| Rank | MSA | PW DV | Grade | 2011 Population |
|---|---|---|---|---|
| 1 | Santa Fe, NM | 4.1 | A | 145,648 |
| 2 | St. George, UT | 4.2 | A | 141,666 |
| 2 | Cheyenne, WY | 4.2 | A | 92,680 |
| 4 | Prescott, AZ | 4.3 | A | 211,888 |
| 5 | Farmington, NM | 4.5 | A | 128,200 |
| 5 | Casper, WY | 4.5 | A | 76,366 |
| 7 | Anchorage, AK | 5.2 | A | 387,516 |
| 8 | Redding, CA | 5.3 | A | 177,774 |
| 9 | Tucson, AZ | 5.4 | A | 989,569 |
| 10 | Pueblo, CA | 5.6 | A | 160,545 |
| 11 | Albuquerque, NM | 5.7 | A | 898,642 |
| 11 | Rapid City, SD | 5.7 | A | 128,361 |
| 13 | Las Vegas, NV | 5.8 | A | 1,969,975 |
| 13 | Salinas, CA | 5.8 | A | 421,898 |
| 15 | Duluth, MN-WI | 5.9 | A | 279,815 |
| 15 | Flagstaff, AZ | 5.9 | A | 134,511 |
| 15 | Colorado Springs, CO | 5.9 | A | 660,319 |
| 18 | Burlington-S. Burlington VT | 6.2 | A | 212,535 |
| 19 | Fort Collins-Loveland, CO | 6.3 | A | 305,525 |
| 20 | Boulder, CO | 6.5 | A | 299,378 |
| 20 | Miami-Ft. Lauderdale, FL | 6.5 | A | 5,670,125 |
| 22 | Palm Bay-Melbourne, FL | 6.6 | A | 543,566 |
| 22 | Bismarck, ND | 6.6 | A | 110,879 |
| 24 | Boise City-Nampa, ID | 6.7 | A | 627,664 |
| 25 | Reno-Sparks, NV | 6.8 | A | 429,606 |
| 25 | San Luis Obispo, CA | 6.8 | A | 271,969 |

MSA – Metropolitan Statistical Area PW – Population Weighted DV – Design Value

**Of the 26 cleanest cities all are rated as A.**

Table 13
Cleanest U.S. Cities for Ozone Air Pollution
(2009 -2011)

| Rank | MSA | PW DV | Grade | 2011 Population |
|---|---|---|---|---|
| 1 | Bellingham, WA | 0.046 | A | 203,663 |
| 2 | Honolulu, HI | 0.047 | A | 963,607 |
| 3 | Santa Rosa, CA | 0.051 | A | 488,116 |
| 4 | Lincoln, NE | 0.052 | A | 306,503 |
| 5 | Mt. Vernon-Anacortes, WA | 0.054 | A | 118,109 |
| 6 | San Francisco, CA | 0.055 | A | 4,391,037 |
| 7 | Duluth, MN-WI | 0.056 | A | 279,815 |
| 7 | Olympia, WA | 0.056 | A | 256,591 |
| 7 | Seattle-Tacoma, WA | 0.056 | A | 3,500,026 |
| 10 | Bangor, ME | 0.057 | A | 153,786 |
| 10 | Bismarck, ND | 0.057 | A | 110,879 |
| 10 | Coeur d'Alene, ID | 0.057 | A | 141,132 |
| 10 | Rapid City, SD | 0.057 | A | 128,361 |
| 10 | Salinas, CA | 0.057 | A | 421,898 |
| 10 | Spokane, WA | 0.057 | A | 473,761 |
| 16 | Des Moines-W. Des Moines, IA | 0058 | A | 580,255 |
| 16 | Laredo, TX | 0.058 | A | 256,496 |
| 16 | St. Cloud, MN | 0.058 | A | 190,014 |
| 16 | Tuscaloosa, AL | 0.058 | A | 221,553 |
| 20 | Bend, OR | 0.059 | A | 160,338 |
| 20 | Fargo, ND-MN | 0.059 | A | 212,171 |
| 20 | Omaha-Council Bluffs, NE-IA | 0.059 | A | 877,110 |
| 20 | Portland-Vancouver, OR-WA | 0.059 | A | 2,262,605 |
| 24 | Ames, IA | 0.060 | B | 89,663 |
| 24 | Rochester, MN | 0.060 | B | 187,612 |
| 24 | Utica-Rome, NY | 0.060 | B | 298,447 |

MSA – Metropolitan Statistical Area PW – Population Weighted DV – Design Value

**Of the cleanest 26 cities, 23 are rated A, while 3 are rated B.**

Table 14
Cleanest Counties – Short Term Particle Pollution (24-hour PM-2.5)
(2009 -2011)

| Rank | County/State | DV | Grade | 2011 Population |
|---|---|---|---|---|
| 1 | Lake, CA | 7 | A | 64,323 |
| 2 | Elbert, CO | 9 | A | 23,086 |
| 2 | Santa Fe, NM | 9 | A | 145,648 |
| 2 | Laramie, WY | 9 | A | 92,680 |
| 5 | Apache, AZ | 10 | A | 72,401 |
| 5 | Yavapai, AZ | 10 | A | 211,888 |
| 7 | Grant, NM | 11 | A | 29,380 |
| 7 | Billings, ND | 11 | A | 816 |
| 7 | Jackson, SD | 11 | A | 3,169 |
| 7 | Washington, UT | 11 | A | 141,666 |
| 7 | Natrona, WY | 11 | A | 76,366 |
| 7 | Park, WY | 11 | A | 28,592 |
| 7 | Teton, WY | 11 | A | 21,548 |
| 14 | Pima, AZ | 12 | A | 989,569 |
| 14 | Honolulu, HI | 12 | A | 963,607 |
| 14 | Custer, SD | 12 | A | 8,338 |
| 14 | Sweetwater, WY | 12 | A | 44,175 |
| 18 | Siskiyou, CA | 13 | A | 44,507 |
| 18 | Pueblo, CO | 13 | A | 159,063 |
| 18 | Broward, FL | 13 | A | 1,780,172 |
| 18 | Miami-Dade, FL | 13 | A | 2,554,766 |
| 18 | Hawaii, HI | 13 | A | 186,738 |
| 18 | Hancock, ME | 13 | A | 54,578 |
| 18 | San Juan, NM | 13 | A | 128,200 |
| 18 | Mercer, ND | 13 | A | 8,449 |
| 18 | Albany, WY | 13 | A | 36,889 |

DV – Design Value

**The cleanest 26 counties are all rated as A.**

Table 15
Cleanest Counties - Year Round Particle Pollution (Annual PM-2.5)
(2009 -2011)

| Rank | County/State | DV | Grade | 2011 Population |
|---|---|---|---|---|
| 1 | Lake, CA | 3.3 | A | 64,323 |
| 2 | Apache, AZ | 3.5 | A | 72,401 |
| 3 | Jackson, SD | 3.8 | A | 3,169 |
| 4 | Elbert, CO | 4.0 | A | 23,086 |
| 5 | Santa Fe, NM | 4.1 | A | 145,648 |
| 6 | Custer, SD | 4.2 | A | 8,338 |
| 6 | Washington, UT | 4.2 | A | 141,666 |
| 6 | Laramie, WY | 4.2 | A | 92,680 |
| 9 | Billings, ND | 4.3 | A | 816 |
| 9 | Yavapai, AZ | 4.3 | A | 211,888 |
| 11 | Essex, NY | 4.4 | A | 39,181 |
| 11 | Park, WY | 4.4 | A | 28,592 |
| 13 | Hancock, ME | 4.5 | A | 54,578 |
| 13 | San Juan, NM | 4.5 | A | 128,200 |
| 13 | Natrona, WY | 4.5 | A | 76,366 |
| 13 | Teton, WY | 4.5 | A | 21,548 |
| 17 | Maui, HI | 4.8 | A | 156,674 |
| 18 | Sublette, WY | 4.9 | A | 10,146 |
| 18 | Grant, NM | 4.9 | A | 29,380 |
| 20 | Piscataquis, ME | 5.0 | A | 17,419 |
| 20 | Siskiyou, CA | 5.0 | A | 44,507 |
| 20 | Albany, WY | 5.0 | A | 36,889 |
| 23 | Anchorage, AK | 5.2 | A | 295,570 |
| 23 | Nevada, CA | 5.2 | A | 98,612 |
| 25 | Humboldt, CA | 5.3 | A | 134,761 |
| 25 | Matanuska, AK | 5.3 | A | 91,946 |
| 25 | Shasta, CA | 5.3 | A | 177,774 |

DV – Design Value

**The cleanest 27 counties are all rated as A.**

Table 16
Cleanest Counties - Ozone Air Pollution
(2009 -2011)

| Rank | County/State | DV | Grade | 2011 Population |
|---|---|---|---|---|
| 1 | Franklin, NY | 0.045 | A | 51,551 |
| 2 | Humboldt, CA | 0.046 | A | 134,761 |
| 2 | Whatcom, WA | 0.046 | A | 203,663 |
| 4 | San Francisco, CA | 0.047 | A | 812,826 |
| 4 | Honolulu, HI | 0.047 | A | 963,607 |
| 6 | Mendocino, CA | 0.048 | A | 87,553 |
| 7 | Sonoma, CA | 0.051 | A | 488,116 |
| 8 | Aroostook, ME | 0.052 | A | 71,482 |
| 8 | Lancaster, NE | 0.052 | A | 289,800 |
| 10 | Denali, AK | 0.053 | A | 1,885 |
| 10 | Columbia, OR | 0.053 | A | 49,402 |
| 12 | Marin, CA | 0.054 | A | 255,031 |
| 12 | Carlton, MN | 0.054 | A | 35,455 |
| 12 | Pierce, WA | 0.054 | A | 807,904 |
| 12 | Skagit, WA | 0.054 | A | 118,109 |
| 16 | Oxford, ME | 0.055 | A | 57,695 |
| 16 | Flathead, MT | 0.055 | A | 91,301 |
| 16 | Jackson, SD | 0.055 | A | 3,169 |
| 16 | Clallam, WA | 0.055 | A | 71,838 |
| 20 | San Mateo, CA | 0.056 | A | 727,209 |
| 20 | Saint Louis, MN | 0.056 | A | 200,255 |
| 20 | Thurston, WA | 0.056 | A | 256,591 |
| 23 | Lake, CA | 0.057 | A | 64,323 |
| 23 | Monterey, CA | 0.057 | A | 421,898 |
| 23 | Kootenai, ID | 0.057 | A | 141,132 |
| 23 | Rock Island, IL | 0.057 | A | 147,556 |
| 23 | Polk, IA | 0.057 | A | 437,399 |
| 23 | Penobscot, ME | 0.057 | A | 153,786 |
| 23 | Washington, ME | 0.057 | A | 32,637 |
| 23 | Burleigh, ND | 0.057 | A | 83,145 |
| 23 | Multnomah, OR | 0.057 | A | 748,031 |
| 23 | Meade, SD | 0.057 | A | 25,546 |
| 23 | Clark, WA | 0.057 | A | 433,418 |
| 23 | King, WA | 0.057 | A | 1,969,722 |
| 23 | Spokane, WA | 0.057 | A | 473,761 |

DV – Design Value

**Of the 35 cleanest counties, all are rated A.**

# STATE BY STATE ANALYSES

## STATES' OF AIR – FROM ALABAMA TO LOUISIANA

# ALABAMA

## Ozone

**Significant progress has been made in ozone levels in Alabama. In the 2000 – 2002 time period, no people lived in counties that met the ozone standard. By 2009 – 2011 this had increased to 2.8 million people (57.4%). The remainder of the people in 2009 – 2011 lived in counties where ozone was not measured. Figure AL-1 shows the distribution of people by year.**

## 24-Hour PM-2.5

**Significant progress has been made in 24-hour PM-2.5 levels in Alabama. In the 2000 – 2002 time period, approximately 1.5 million people (32.6%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 -2011 this had increased to approximately 2.9 million people (60.3%). The remainder of the people in 2009 -2011 lived in counties where PM-2.5 was not measured. Figure AL-2 shows the distribution of people by year.**

## Annual PM-2.5

**Significant progress has been made in annual PM-2.5 levels in Alabama. In the 2000 – 2002 time period, approximately 1.2 million people (25.8%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this had increased to approximately 2.9 million people (60.3%). The remainder of the people in 2009 – 2011 lived in counties where PM-2.5 was not measured. Figure AL-3 shows the distribution of people by year.**

Table AL-1

2009 – 2011

| | | Ozone | | Particle Pollution (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg. 24-Hr DV | Grade | Avg. Ann DV | Grade |
| Baldwin | 186,717 | 0.072 | C | 21 | A | 9.7 | A |
| Clay | 13,862 | ND | --- | 22 | A | 10.1 | A |
| Colbert | 54,512 | 0.064 | B | 20 | A | 10.0 | A |
| DeKalb | 71,375 | ND | --- | 22 | A | 10.8 | A |
| Elmore | 80,162 | 0.067 | B | ND | --- | ND | --- |
| Etowah | 104,303 | 0.063 | B | 23 | A | 11.1 | A |
| Houston | 102,369 | 0.063 | B | 20 | A | 10.0 | A |
| Jefferson | 658,931 | 0.072 | C | 23 | A | 11.2 | A |
| Madison | 340,111 | 0.070 | C | 22 | A | 11.0 | A |
| Mobile | 412,577 | 0.072 | C | 20 | A | 9.5 | A |
| Montgomery | 232,032 | 0.069 | C | 22 | A | 10.7 | A |
| Morgan | 119,953 | 0.067 | B | 21 | A | 10.5 | A |
| Russell | 54,572 | 0.066 | B | 27 | A | 12.2 | B |
| Shelby | 197,936 | 0.073 | C | 22 | A | 10.6 | A |
| Sumter | 13,478 | 0.061 | B | ND | --- | ND | --- |
| Talladega | 81,664 | ND | --- | 23 | A | 11.9 | A |
| Tuscaloosa | 197,211 | 0.058 | A | 24 | A | 10.6 | A |
| Walker | 66,661 | ND | --- | 22 | A | 10.9 | A |
| | | | | | | | |
| Subtotal | 2,988,426 | | | | | | |
| Not Monitored | 1,814,314 | | | | | | |
| Total | 4,802,740 | | | | | | |

DV – Design Value ND - No Data

## ALABAMA

### Table AL-2
### People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 251,723 |
| B | 0 | 0 | 0 | 237,751 | 14,059 | 13,926 | 13,882 | 272,911 | 720,564 | 474,837 |
| C | 0 | 237,009 | 617,702 | 1,159,404 | 822,392 | 646,485 | 802,548 | 1,592,403 | 2,012,982 | 2,028,304 |
| D | 1,188,120 | 1,899,695 | 1,633,030 | 976,563 | 1,651,591 | 1,208,810 | 1,208,243 | 851,149 | 0 | 0 |
| F | 923,260 | 159,704 | 165,757 | 171,691 | 178,841 | 838,654 | 845,044 | 0 | 0 | 0 |
| Subtotal | 2,111,380 | 2,296,408 | 2,416,489 | 2,545,409 | 2,666,883 | 2,707,875 | 2,687,717 | 2,716,463 | 2,733,546 | 2,754,864 |
| NM | 2,368,709 | 2,207,083 | 2,114,240 | 2,024,396 | 1,962,098 | 1,964,965 | 2,030,489 | 2,041,475 | 2,046,190 | 2,047,876 |
| Total | 4,480,089 | 4,503,491 | 4,530,729 | 4,569,805 | 4,628,981 | 4,672,840 | 4,718,206 | 4,757,938 | 4,779,736 | 4,802,740 |

### People Breathing Short-Term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 546,506 | 587,387 | 156,266 | 162,183 | 168,121 | 578,119 | 585,023 | 1,549,298 | 2,645,472 | 2,894,786 |
| B | 142,351 | 995,288 | 1,019,751 | 505,045 | 871,584 | 37,839 | 1,096,394 | 1,309,678 | 0 | 0 |
| C | 772,745 | 922,501 | 1,296,261 | 1,321,559 | 877,915 | 1,464,728 | 1,149,679 | 0 | 0 | 0 |
| D | 784,634 | 0 | 49,498 | 704,650 | 815,423 | 103,893 | 0 | 0 | 0 | 0 |
| F | 102,988 | 0 | 0 | 0 | 0 | 655,163 | 0 | 0 | 0 | 0 |
| Subtotal | 2,449,224 | 2,505,176 | 2,521,776 | 2,693,437 | 2,733,043 | 2,839,742 | 2,831,096 | 2,858,976 | 2,645,472 | 2,894,786 |
| NM | 2,030,865 | 1,998,315 | 2,008,953 | 1,876,368 | 1,895,938 | 1,833,098 | 1,887,110 | 1,898,962 | 2,134,264 | 1,907,954 |
| Total | 4,480,089 | 4,503,491 | 4,530,729 | 4,569,805 | 4,628,981 | 4,672,840 | 4,718,206 | 4,757,983 | 4,779,736 | 4,802,740 |

### People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 147,957 | 151,509 | 170,590 | 176,326 | 182,893 | 172,404 | 585,023 | 1,370,549 | 2,592,525 | 2,840,214 |
| B | 412,925 | 518,689 | 617,179 | 794,674 | 870,865 | 609,852 | 867,358 | 1,488,427 | 52,947 | 54,572 |
| C | 596,440 | 1,673,015 | 1,684,509 | 1,017,787 | 967,390 | 1,247,356 | 1,378,715 | 0 | 0 | 0 |
| D | 1,242,413 | 161,963 | 49,498 | 704,650 | 711,895 | 810,130 | 0 | 0 | 0 | 0 |
| F | 49,489 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 2,449,224 | 2,505,176 | 2,521,776 | 2,693,437 | 2,733,043 | 2,839,742 | 2,831,096 | 2,858,976 | 2,645,472 | 2,894,786 |
| NM | 2,030,865 | 1,998,315 | 2,008,953 | 1,876,368 | 1,895,938 | 1,833,098 | 1,887,110 | 1,898,962 | 2,134,264 | 1,907,954 |
| Total | 4,480,089 | 4,503,491 | 4,530,729 | 4,569,805 | 4,628,981 | 4,672,840 | 4,718,206 | 4,757,938 | 4,779,736 | 4,802,740 |

NM – Not Monitored

Figure AL-1

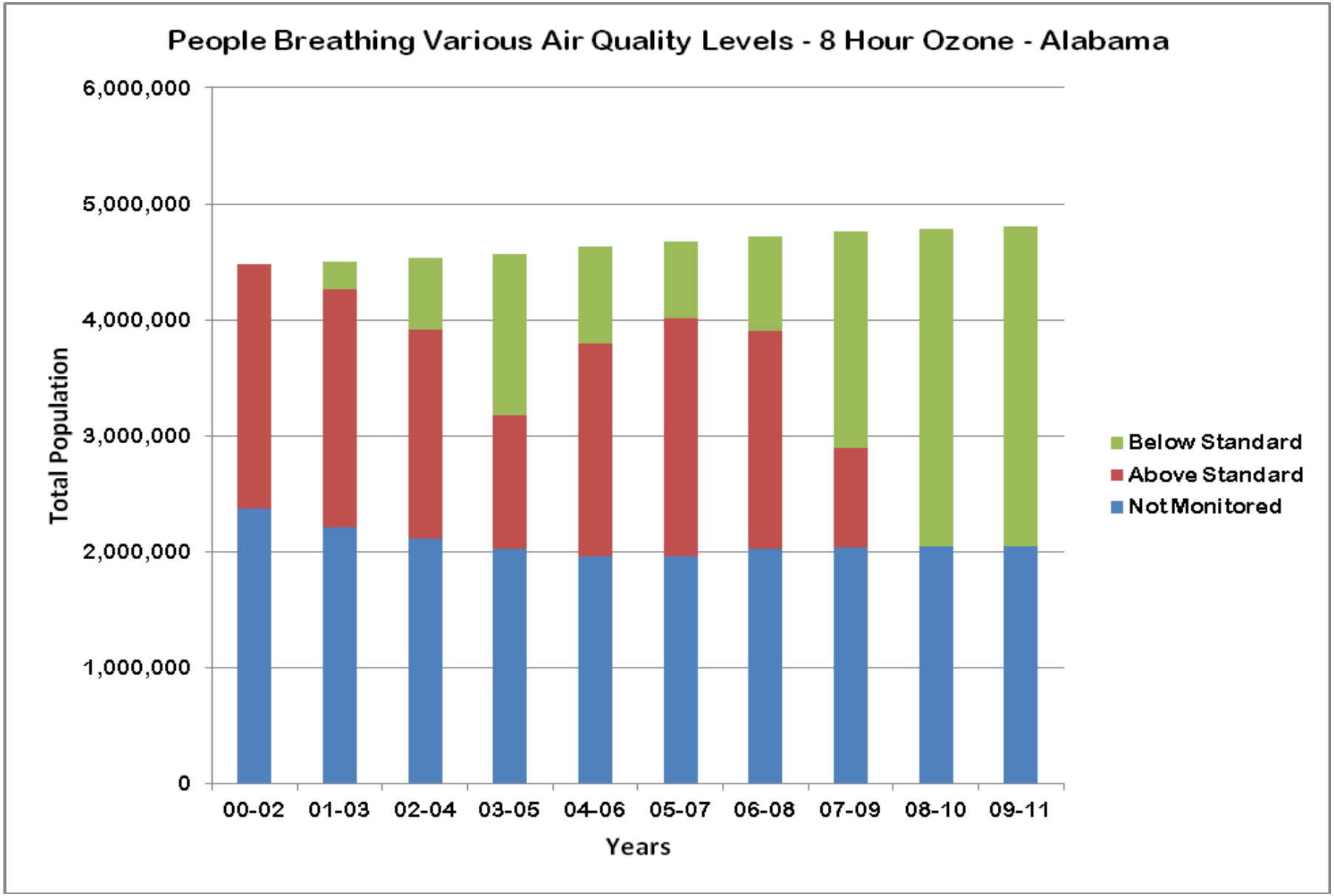

People Breathing Various Air Quality Levels - 8 Hour Ozone - Alabama
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure AL-2

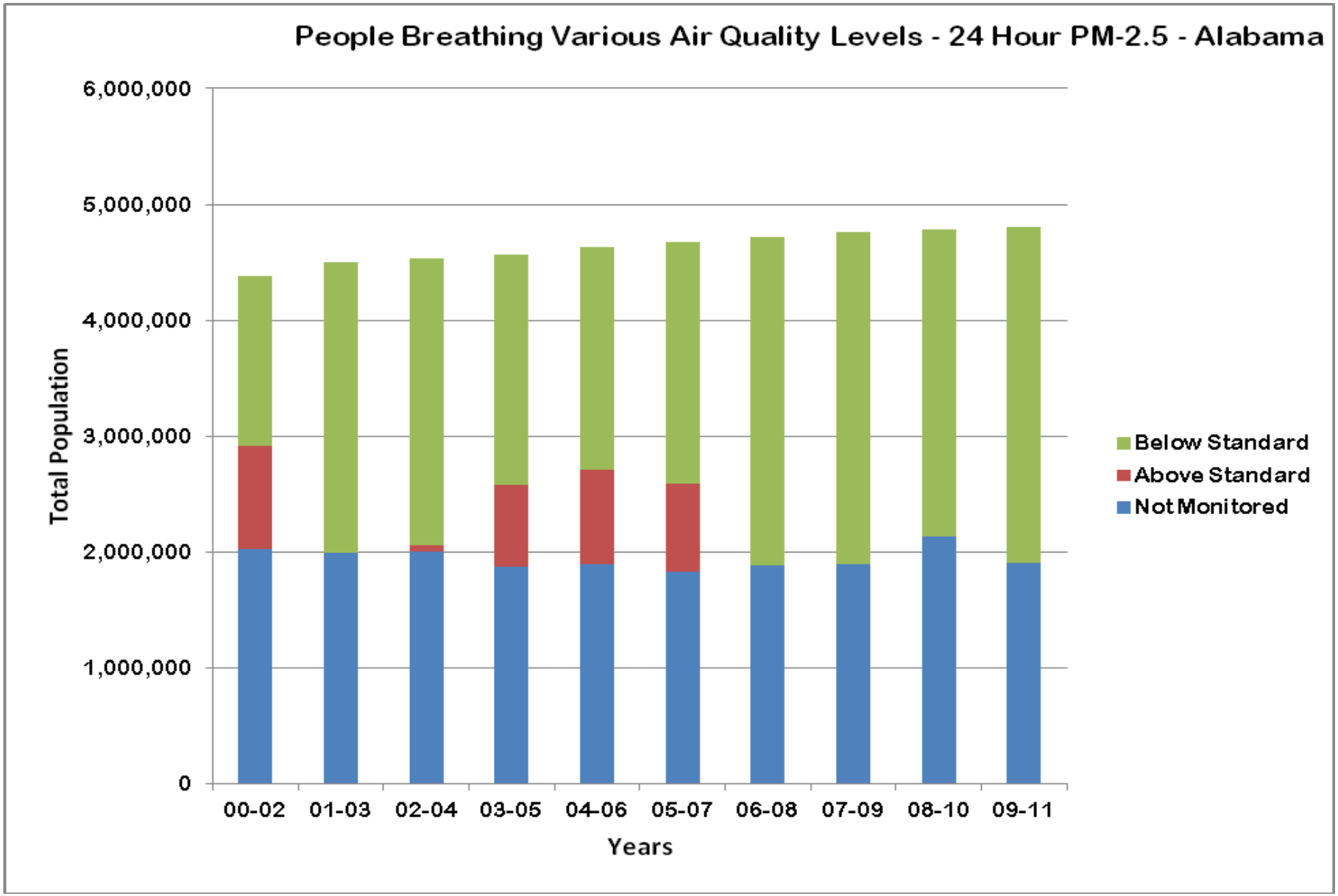
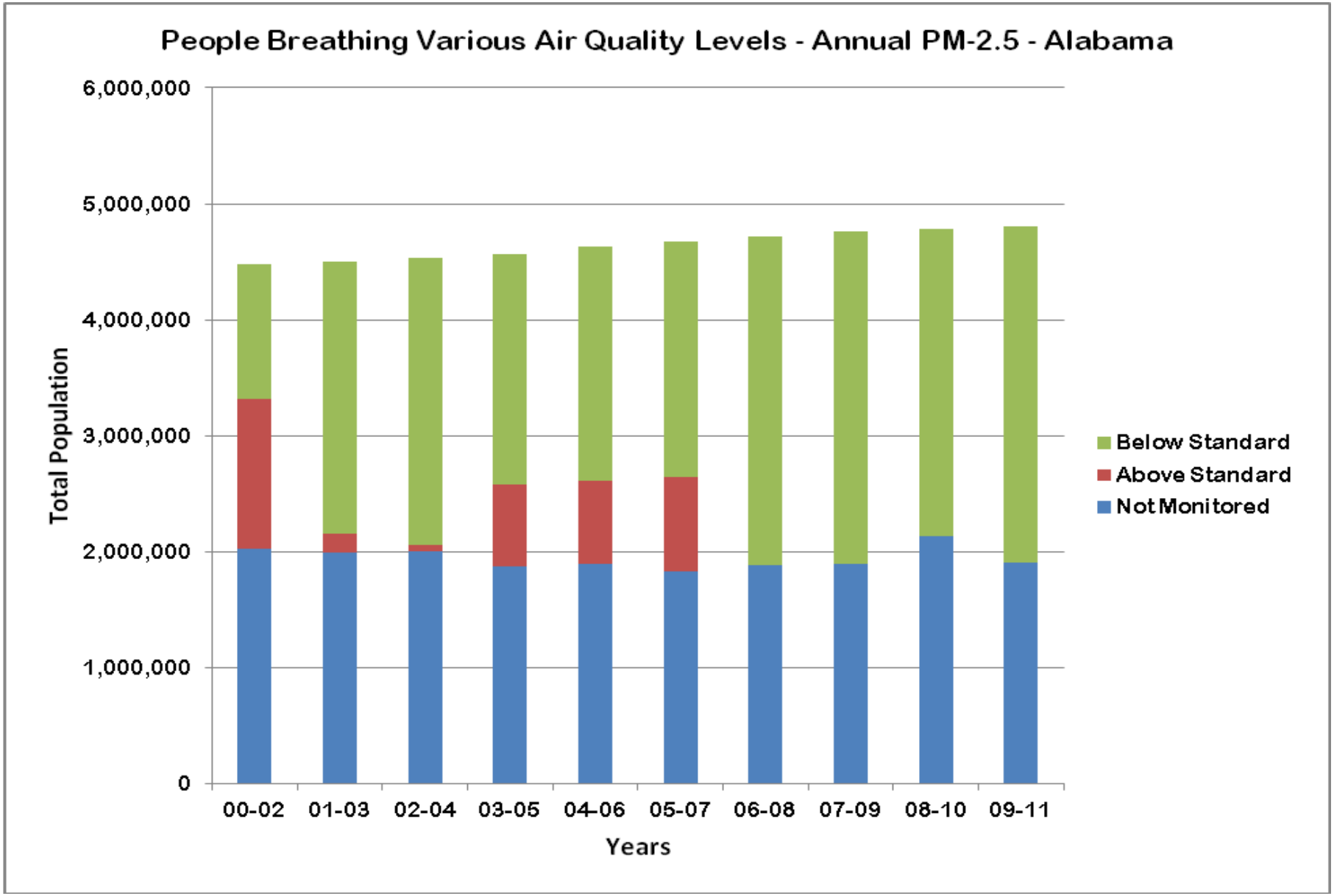

People Breathing Various Air Quality Levels - 24 Hour PM-2.5 - Alabama
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure AL-3


People Breathing Various Air Quality Levels - Annual PM-2.5 - Alabama
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# ALASKA

## Ozone

**Ozone levels in Alaska have historically been better than the standard. In the 2000 – 2002 time period, approximately two thousand people (0.3%) lived in counties that met the ozone standard and the rest of the population lived in counties where ozone is not measured. By 2009 – 2011 were two thousand people (0.3%) and the rest of the population lived in counties where ozone is not measured. Figure AK-1 shows the distribution of people by year.**

## 24-Hour PM-2.5

**Progress has been made in 24-hour PM-2.5 levels in Alaska. In the 2000 – 2002 time period, approximately four hundred thousand people (59.0%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 -2011 this was approximately four hundred thousand people (58.1%). Approximately two hundred thousand people in 2009 -2011 lived in counties where PM-2.5 was not measured. Figure AK-2 shows the distribution of people by year.**

## Annual PM-2.5

**Annual PM-2.5 levels in Alaska have historically been better than the standard. In the 2000 – 2002 time period, approximately five hundred twenty thousand people (59.0%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this had increased to approximately four hundred thousand people (58.1%). Approximately two hundred thousand people in 2009 – 2011 lived in counties where PM-2.5 was not measured. Figure AK-3 shows the distribution of people by year.**

Table AK-1
2009 – 2011

| | | OZONE | | PARTICLE POLLUTION (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| **County** | **Population** | **Avg. DV** | **Grade** | **Avg. 24-Hr DV** | **Grade** | **Avg. Ann DV** | **Grade** |
| Anchorage | 295,570 | ND | --- | 17 | A | 5.2 | A |
| Denali | 1,855 | 0.053 | A | ND | --- | ND | --- |
| **Fairbanks** | **99,192** | ND | --- | **51** | **F** | 14.3 | C |
| Juneau | 32,164 | ND | --- | 25 | A | 7.2 | A |
| Matanuska | 91,946 | ND | --- | 19 | A | 5.3 | A |
| | | | | | | | |
| Subtotal | 520,727 | | | | | | |
| Not Monitored | 201,991 | | | | | | |
| Total | 722,718 | | | | | | |

DV – Design Value ND - No Data

# ALASKA

## Table AK-2

### People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 1,862 | 1,825 | 1,877 | 1,834 | 1,837 | 1,803 | 1,803 | 1,817 | 1,826 | 1,855 |
| B | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 1,862 | 1,825 | 1,877 | 1,834 | 1,837 | 1,803 | 1,803 | 1,817 | 1,826 | 1,855 |
| NM | 640,475 | 646,589 | 657,409 | 665,112 | 673,465 | 678,497 | 685,652 | 697,078 | 708,405 | 720,863 |
| Total | 642,337 | 648,414 | 659,286 | 666,946 | 675,302 | 680,300 | 687,455 | 698,895 | 710,231 | 722,718 |

### People Breathing Short-term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 365,156 | 303,386 | 376,348 | 381,896 | 280,085 | 360,194 | 281,554 | 374,562 | 323,101 | 295,570 |
| B | 0 | 67,162 | 0 | 0 | 109,441 | 0 | 84,079 | 0 | 0 | 32,164 |
| C | 0 | 0 | 0 | 0 | 0 | 0 | 31,110 | 30,857 | 88,995 | 91,946 |
| D | 0 | 0 | 0 | 0 | 0 | 30,682 | 0 | 0 | 0 | 0 |
| F | 86,095 | 86,885 | 89,043 | 90,431 | 90,545 | 93,545 | 94,552 | 95,238 | 97,581 | 99,192 |
| Subtotal | 451,251 | 457,433 | 465,391 | 472,327 | 480,071 | 484,421 | 491,295 | 500,657 | 509,677 | 518,872 |
| NM | 191,086 | 190,981 | 193,895 | 194,619 | 195,231 | 195,879 | 196,160 | 198,238 | 200,554 | 203,846 |
| Total | 642,337 | 648,414 | 659,286 | 666,946 | 675,302 | 680,300 | 687,455 | 698,895 | 710,231 | 722,718 |

### People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 365,156 | 457,433 | 465,391 | 472,327 | 480,071 | 484,421 | 491,295 | 500,657 | 509,677 | 518,872 |
| B | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C | 86,095 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 451,251 | 457,433 | 465,391 | 472,327 | 480,071 | 484,421 | 491,295 | 500,657 | 509,677 | 518,872 |
| NM | 191,086 | 190,981 | 193,895 | 194,619 | 195,231 | 195,879 | 196,160 | 198,238 | 200,554 | 203,846 |
| Total | 642,337 | 648,414 | 659,286 | 666,946 | 675,302 | 680,300 | 687,455 | 698,895 | 710,231 | 722,718 |

NM – Not Monitored

Figure AK-1

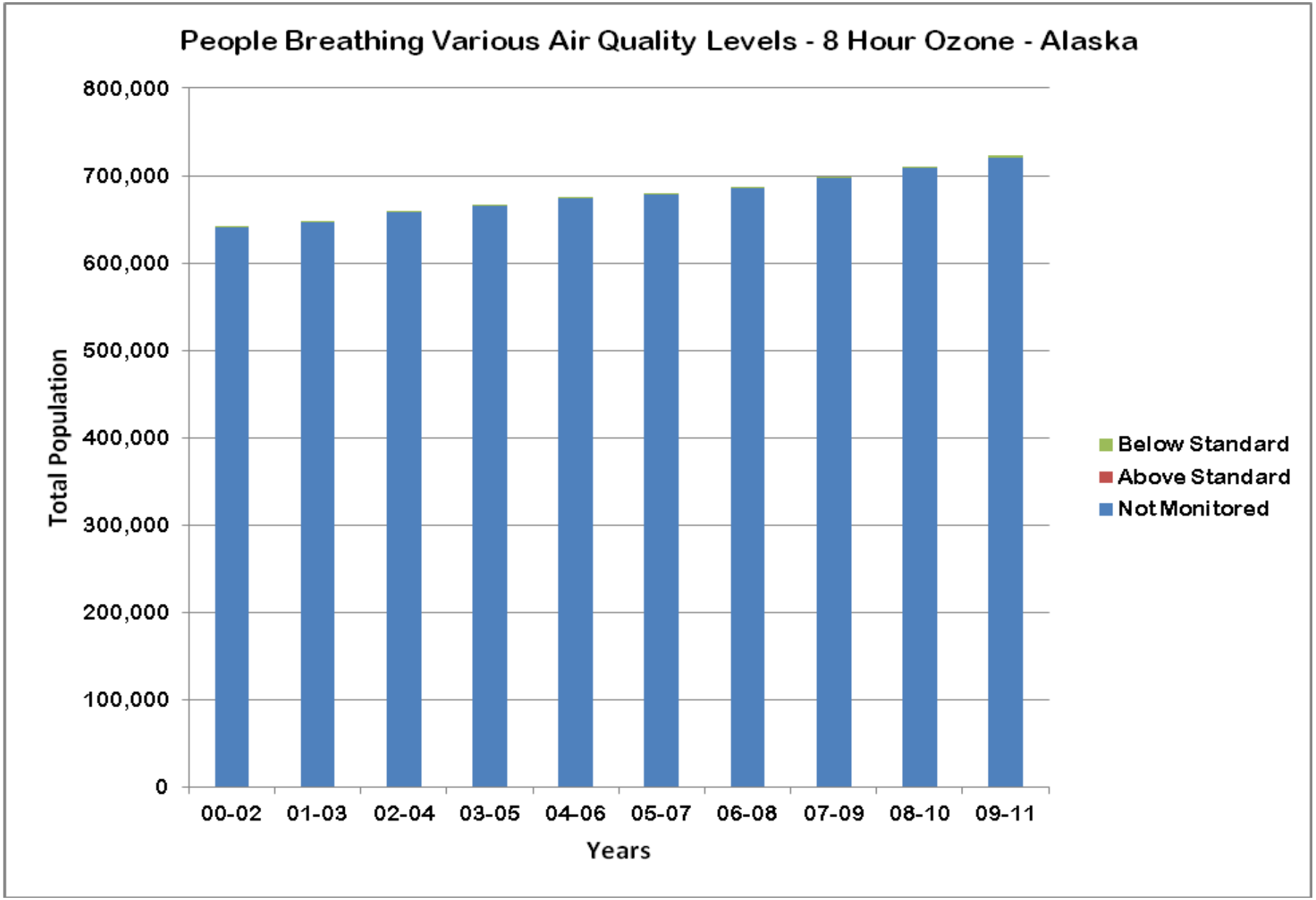

People Breathing Various Air Quality Levels - 8 Hour Ozone - Alaska
800,000
700,000
600,000
500,000
400,000
300,000
200,000
100,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure AK-2

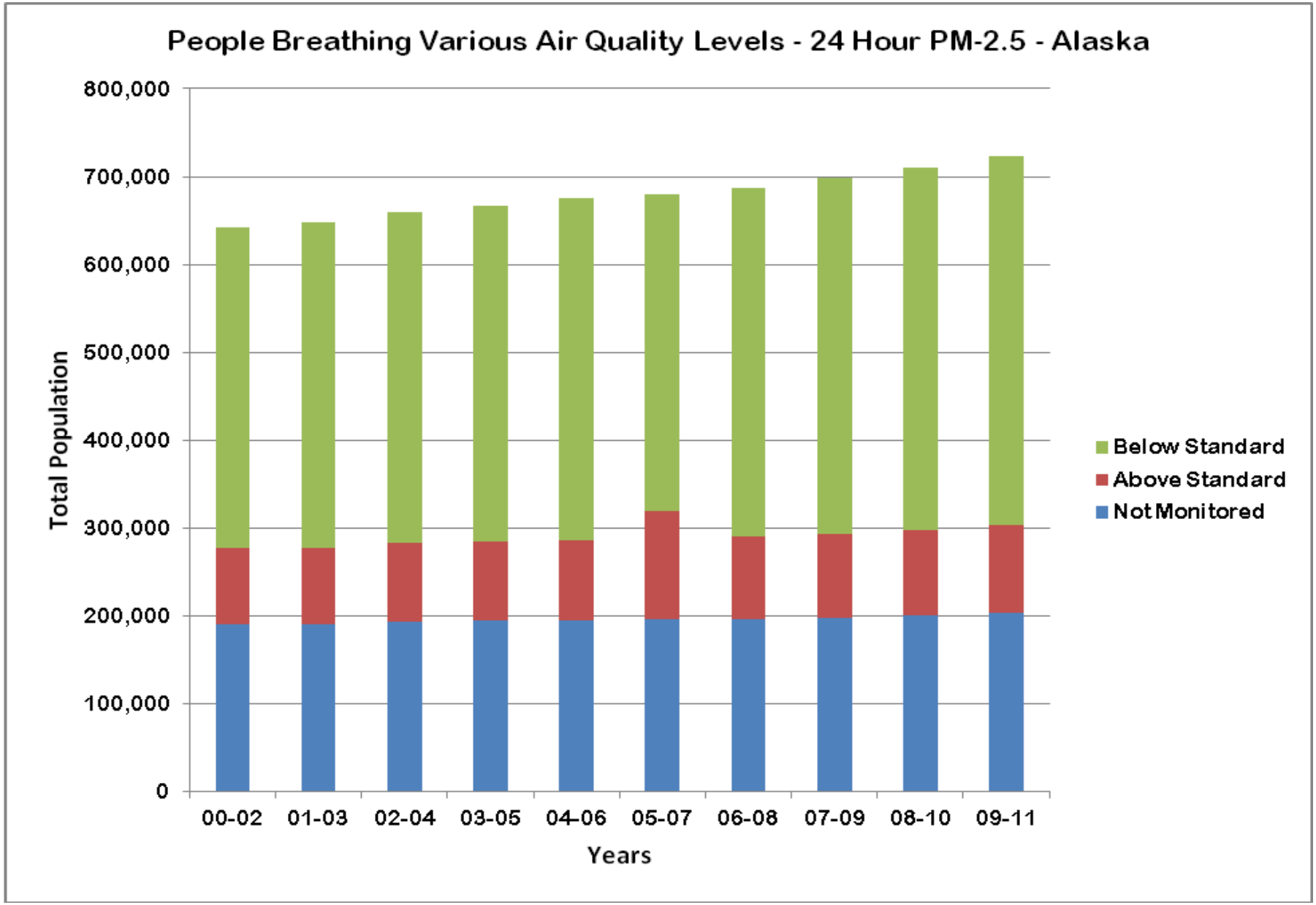
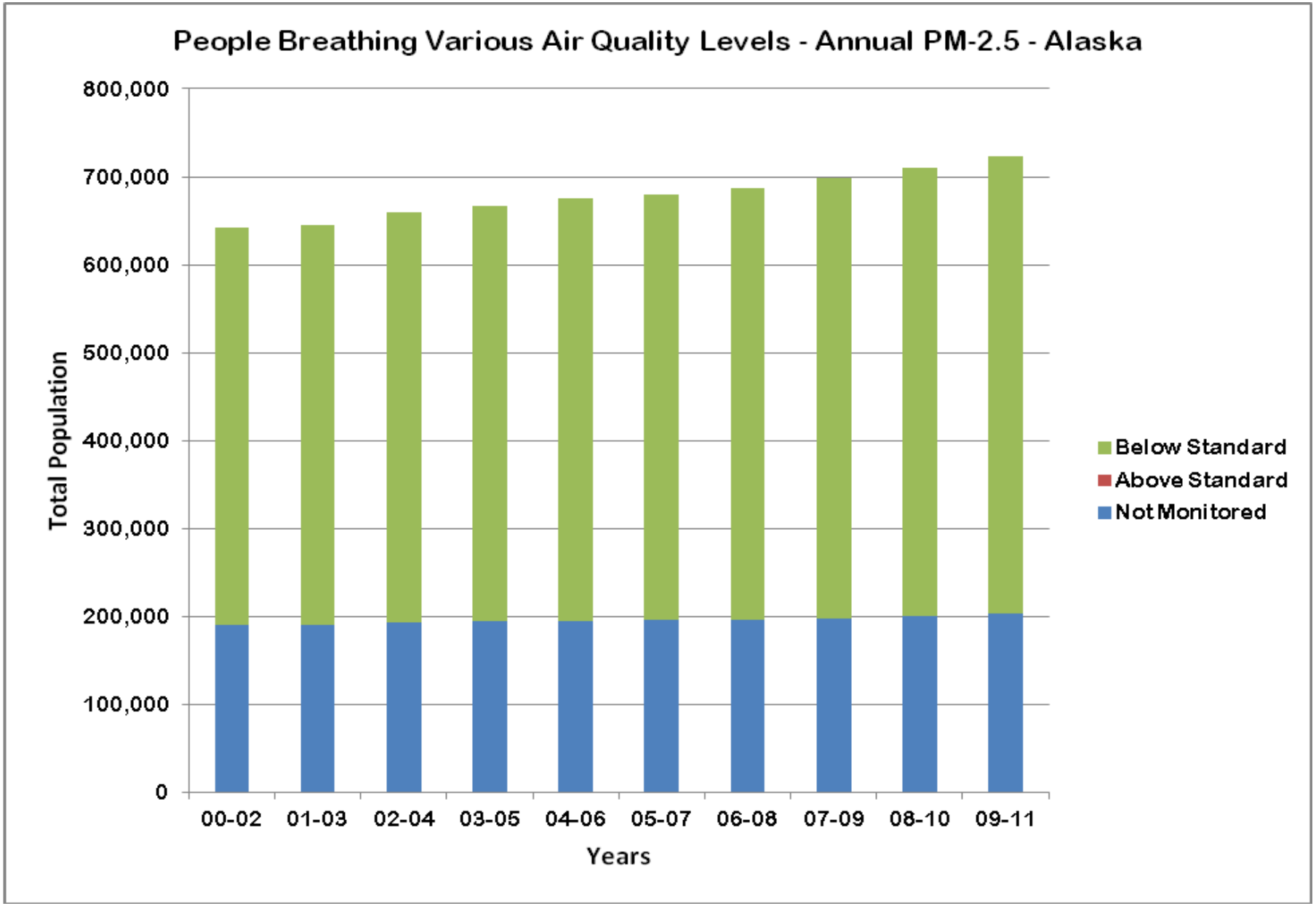

People Breathing Various Air Quality Levels - 24 Hour PM-2.5 - Alaska
800,000
700,000
600,000
500,000
400,000
300,000
200,000
100,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure AK-3


People Breathing Various Air Quality Levels - Annual PM-2.5 - Alaska
800,000
700,000
600,000
500,000
400,000
300,000
200,000
100,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# ARIZONA

## Ozone

**Significant progress has been made in ozone levels in Arizona. In the 2000 – 2002 time period, approximately 1.1 million people (20.6%) lived in counties that met the ozone standard. By 2009 – 2011 this had increased to approximately 6.1 million people (94.3%). The remainder of the people in 2009 – 2011 lived in counties where ozone was not measured. Figure AZ-1 shows the distribution of people by year.**

## 24-Hour PM-2.5

**24-hour PM-2.5 levels in Arizona have historically been better than the standard. In the 2000 – 2002 time period, approximately 4.8 million people (89.4%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 -2011 this had increased to approximately 5.7 million people (88.4%). Figure AZ-2 shows the distribution of people by year.**

## Annual PM-2.5

**Annual PM-2.5 levels in Arizona have historically been better than the standard. In the 2000 – 2002 time period, approximately 4.8 million people (89.4%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this had increased to approximately 5.8 million people (89.2%). The remainder of the people in 2009 – 2011 lived in counties where PM-2.5 was not measured. Figure AZ-3 shows the distribution of people by year.**

Table AZ-1
2009 – 2011

| | | OZONE | | PARTICLE POLLUTION (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg. 24-Hr DV | Grade | Avg. Ann DV | Grade |
| Apache | 72,401 | ND | --- | 10 | A | 3.5 | A |
| Cochise | 133,289 | 0.070 | C | 14 | A | 7.0 | A |
| Coconino | 134,511 | 0.069 | C | 14 | A | 5.9 | A |
| Gila | 53,144 | 0.073 | C | ND | --- | ND | --- |
| La Paz | 20,419 | 0.071 | C | ND | --- | ND | --- |
| Maricopa | 3,880,244 | 0.072 | C | 19 | A | 8.1 | A |
| Navajo | 107,398 | 0.066 | B | ND | --- | ND | --- |
| Pima | 989,569 | 0.067 | B | 12 | A | 5.4 | A |
| Pinal | 382,992 | 0.070 | C | 20 | A | 9.6 | A |
| Santa Cruz | 47,676 | ND | --- | 30 | B | 10.5 | A |
| Yavapai | 211,888 | 0.066 | B | 10 | A | 4.3 | A |
| Yuma | 200,870 | 0.073 | C | ND | --- | ND | --- |
| | | | | | | | |
| Subtotal | 6,234,401 | | | | | | |
| Not Monitored | 247,104 | | | | | | |
| Total | 6,482,505 | | | | | | |

DV – Design Value ND - No Data

# ARIZONA

## Table AZ-2

### People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| B | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,105,661 | 1,087,712 | 1,308,855 |
| C | 1,115,422 | 1,129,413 | 1,149,693 | 1,513,001 | 1,757,666 | 1,814,975 | 5,654,409 | 4,468,732 | 4,728,491 | 4,805,469 |
| D | 3,255,388 | 3,510,558 | 3,825,154 | 3,769,459 | 3,695,425 | 3,765,206 | 53,437 | 0 | 0 | 0 |
| F | 177,362 | 207,920 | 51,423 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 4,548,172 | 4,847,891 | 5,026,270 | 5,282,460 | 5,453,091 | 5,580,181 | 5,707,846 | 5,574,393 | 5,816,203 | 6,114,324 |
| NM | 848,083 | 662,473 | 626,134 | 556,617 | 576,050 | 587,500 | 572,516 | 768,761 | 575,814 | 368,181 |
| Total | 5,396,255 | 5,510,364 | 5,652,404 | 5,839,077 | 6,029,141 | 6,167,681 | 6,280,362 | 6,343,154 | 6,392,017 | 6,482,505 |

### People Breathing Short-term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 1,530,137 | 4889,771 | 5,018,969 | 1,649,245 | 1,716,903 | 5,485,657 | 5,535,104 | 5,592,443 | 5,845,701 | 5,732,493 |
| B | 3,295,397 | 40,625 | 41,623 | 3,581,949 | 3,642,884 | 0 | 0 | 0 | 0 | 47,676 |
| C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 44,298 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 45,338 | 46,144 | 47,011 | 47,420 | 0 |
| Subtotal | 4,825,534 | 4,930,396 | 5,060,592 | 5,231,194 | 5,404,085 | 5,530,995 | 5,581,248 | 5,639,454 | 5,893,121 | 5,780,169 |
| NM | 570,721 | 579,968 | 591,812 | 607,883 | 625,056 | 636,686 | 699,114 | 703,700 | 498,896 | 702,336 |
| Total | 5,396,255 | 5,510,364 | 5,652,404 | 5,839,077 | 6,029,141 | 6,167,681 | 6,280,362 | 6,343,154 | 6,392,017 | 6,482,505 |

### People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 4,785,525 | 4,930,396 | 5,060,592 | 5,231,194 | 5,359,787 | 5,179,483 | 5,199,793 | 5,242,613 | 5,893,121 | 5,780,169 |
| B | 40,009 | 0 | 0 | 0 | 44,298 | 306,174 | 335,311 | 396,841 | 0 | 0 |
| C | 0 | 0 | 0 | 0 | 0 | 45,338 | 46,144 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 4,825,534 | 4,930,396 | 5,060,592 | 5,231,194 | 5,404,085 | 5,530,995 | 5,581,248 | 5,639,454 | 5,893,121 | 5,780,169 |
| NM | 570,721 | 579,968 | 591,812 | 607,883 | 625,056 | 636,686 | 699,114 | 703,700 | 498,896 | 702,336 |
| Total | 5,396,255 | 5,510,364 | 5,652,404 | 5,839,077 | 6,029,141 | 6,167,681 | 6,280,362 | 6,343,154 | 6,392,017 | 6,482,505 |

NM – Not Monitored

Figure AZ-1

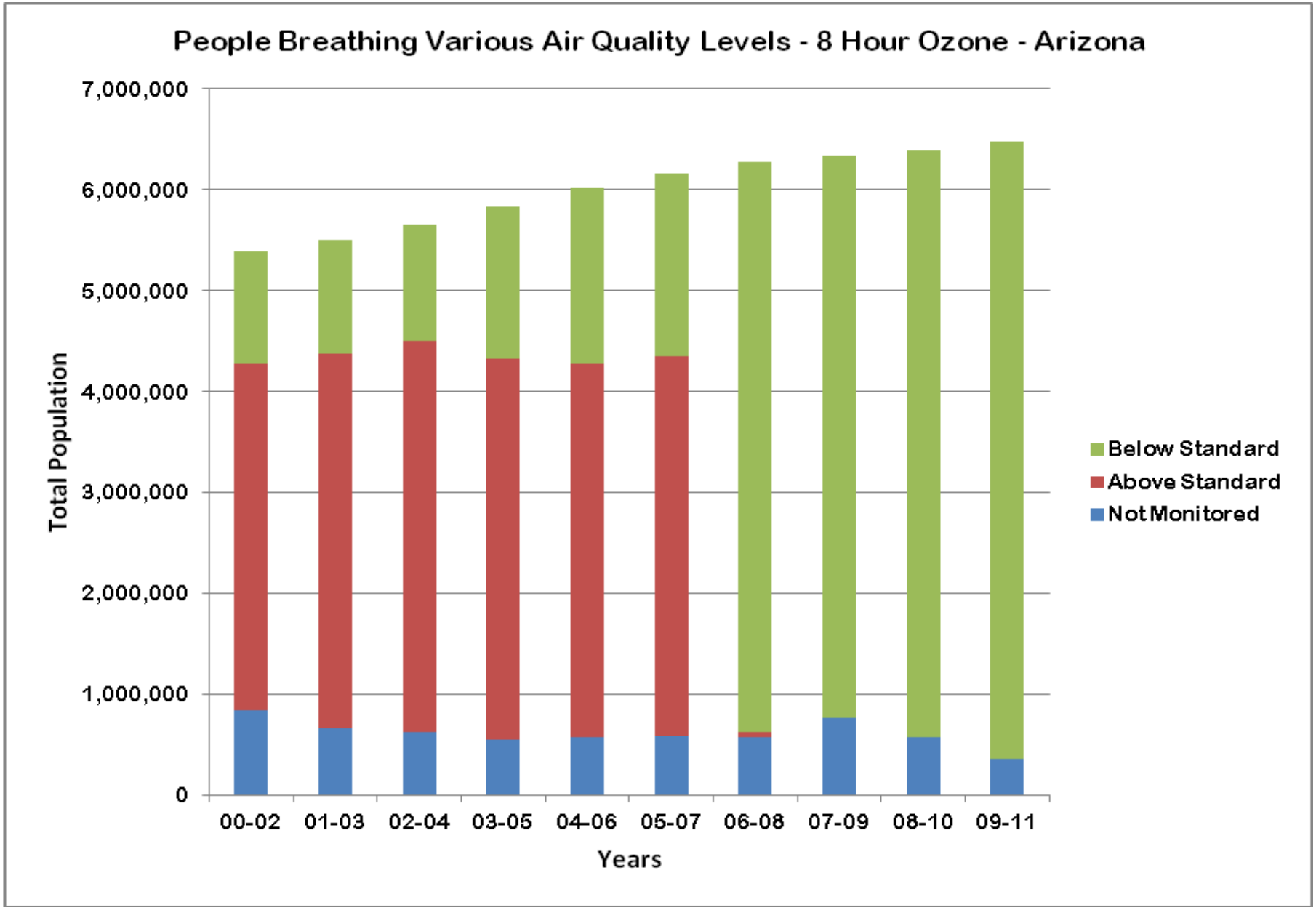

People Breathing Various Air Quality Levels - 8 Hour Ozone - Arizona
7,000,000
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure AZ-2

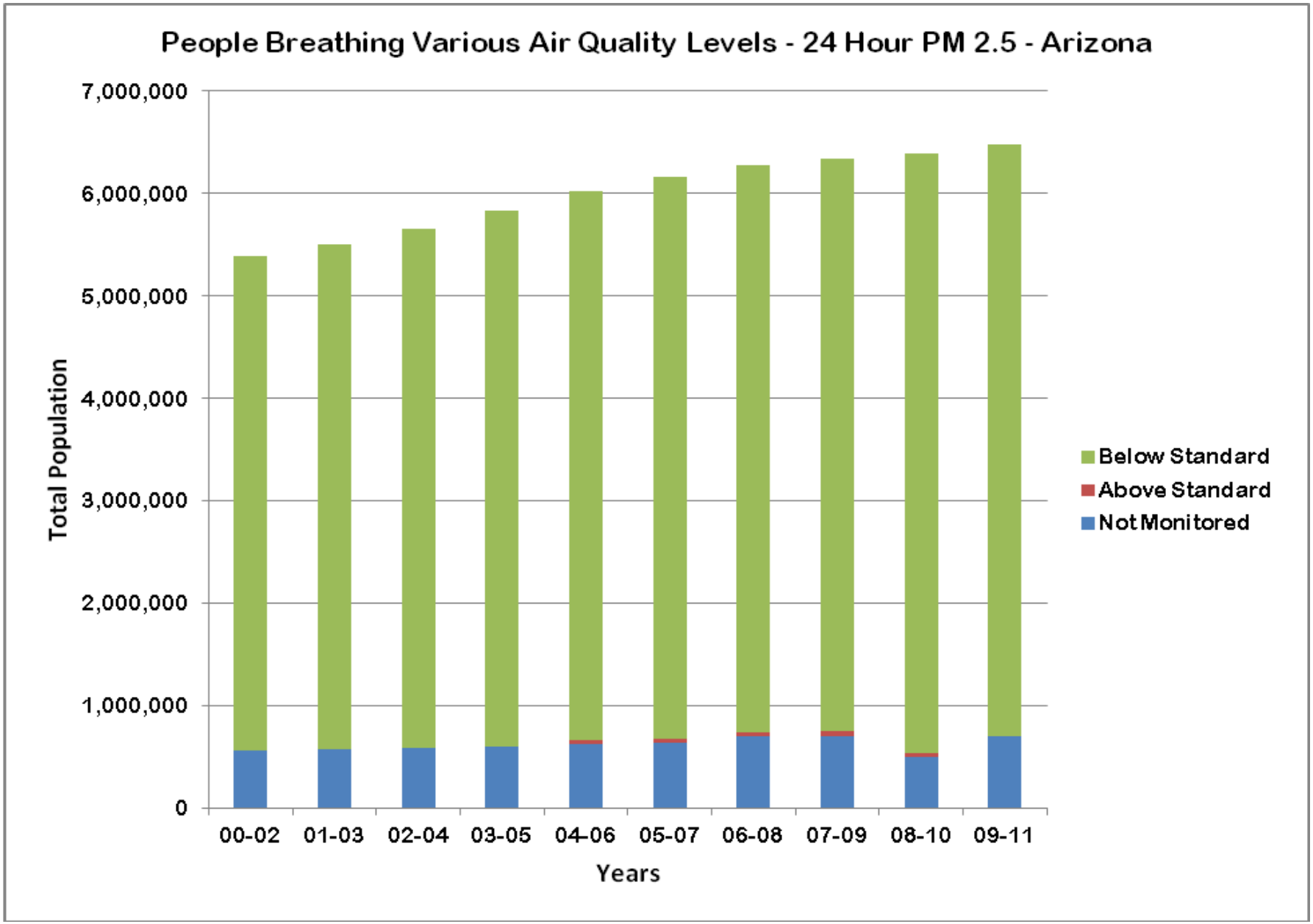
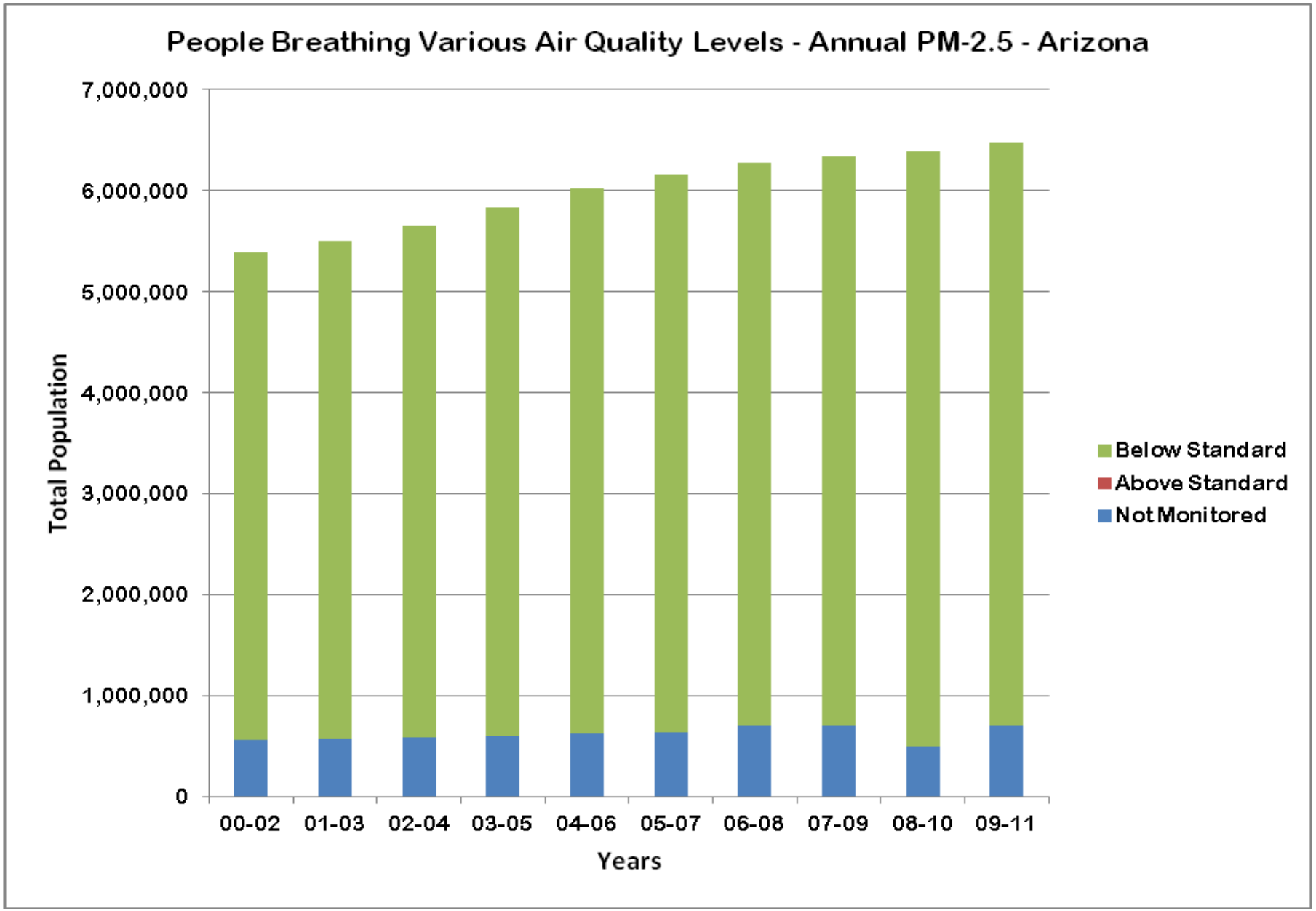

People Breathing Various Air Quality Levels - 24 Hour PM 2.5 - Arizona
7,000,000
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure AZ-3


People Breathing Various Air Quality Levels - Annual PM-2.5 - Arizona
7,000,000
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# ARKANSAS

## Ozone

**Significant progress has been made in ozone levels in Arkansas. In the 2000 – 2002 time period, approximately 9 thousand people (0.3%) lived in counties that met the ozone standard. By 2009 – 2011 this had increased to approximately 623 thousand people (21.2%). Figure AR-1 shows the distribution of people by year.**

## 24-Hour PM-2.5

**24-hour PM-2.5 levels in Arkansas have historically been better than the standard. In the 2000 – 2002 time period, approximately 1.2 million people (43.3%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 – 2011 this had increased to approximately 1.3 million people (43.1%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure AR-2 shows the distribution of people by year.**

## Annual PM-2.5

**Annual PM-2.5 levels in Arkansas have historically been better than the standard. In the 2000 – 2002 time period, approximately 1.2 million people (43.3%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this had increased to approximately 1.3 million people (43.1%). The remainder of the population lived in areas where PM-2.5 was not measured. Figure AR-3 shows the distribution of people by year.**

Table AR-1

2009 – 2011

| | | OZONE | | PARTICLE POLLUTION (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg. 24-Hr DV | Grade | Avg. Ann DV | Grade |
| Arkansas | 18,892 | ND | --- | 22 | A | 10.7 | A |
| Ashley | 21,692 | ND | --- | 22 | A | 10.6 | A |
| **Crittenden** | **50,525** | **0.077** | **D** | 22 | A | 11.1 | A |
| Faulkner | 116,342 | ND | --- | 19 | A | 10.6 | A |
| Garland | 97,124 | ND | --- | 21 | A | 10.8 | A |
| Jackson | 17,866 | ND | --- | 22 | A | 10.2 | A |
| Newton | 8,264 | 0.068 | C | ND | --- | ND | --- |
| Phillips | 21,442 | ND | --- | 21 | A | 10.7 | A |
| Polk | 20,610 | 0.073 | C | 21 | A | 10.8 | A |
| Pope | 62,331 | ND | --- | 23 | A | 11.4 | A |
| Pulaski | 386,299 | 0.072 | C | 23 | A | 11.7 | A |
| Sebastian | 127,127 | ND | --- | 23 | A | 11.5 | A |
| Union | 41,427 | ND | --- | 22 | A | 11.1 | A |
| Washington | 207,521 | 0.069 | C | 23 | A | 11.0 | A |
| White | 78,167 | ND | --- | 22 | A | 11.2 | A |
| | | | | | | | |
| Subtotal | 1,298,487 | | | | | | |
| Not Monitored | 1,639,492 | | | | | | |
| Total | 2,937,979 | | | | | | |

DV – Design Value ND - No Data

# ARKANSAS

## Table AR-2

### People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| B | 0 | 9,239 | 9,334 | 0 | 0 | 0 | 0 | 199,774 | 211,395 | 0 |
| C | 9,150 | 0 | 0 | 8,467 | 8,474 | 8,428 | 28,555 | 408,947 | 445,312 | 622,694 |
| D | 8,534 | 373,871 | 375,111 | 368,274 | 371,647 | 393,780 | 429,351 | 50,929 | 0 | 50,525 |
| F | 414,949 | 50,252 | 50,266 | 50,244 | 50,360 | 50,438 | 0 | 0 | 0 | 0 |
| Subtotal | 432,633 | 433,362 | 434,711 | 426,985 | 430,481 | 452,646 | 457,906 | 659,650 | 656,707 | 673,219 |
| NM | 2,273,294 | 2,291,454 | 2,314,975 | 2,354,112 | 2,391,280 | 2,396,004 | 2,416,648 | 2,237,193 | 2,259,211 | 2,264,760 |
| Total | 2,705,927 | 2,724,816 | 2,749,686 | 2,781,097 | 2,821,761 | 2,848,650 | 2,874,554 | 2,896,843 | 2,915,918 | 2,937,979 |

### People Breathing Short-term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 292,881 | 491,874 | 485,194 | 20,203 | 20,422 | 0 | 607,661 | 992,910 | 1,244,477 | 1,267,365 |
| B | 513,776 | 687,093 | 628,734 | 596,807 | 930,166 | 957,187 | 427,266 | 50,929 | 0 | 0 |
| C | 364,327 | 0 | 0 | 418,518 | 0 | 50,438 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 1,170,984 | 1,178,967 | 1,113,928 | 1,035,528 | 950,588 | 1,007,625 | 1,034,927 | 1,043,839 | 1,244,477 | 1,267,365 |
| NM | 1,534,943 | 1,545,849 | 1,635,758 | 1,745,569 | 1,871,173 | 1,841,025 | 1,839,267 | 1,853,004 | 1,671,441 | 1,670,614 |
| Total | 2,705,927 | 2,724,816 | 2,749,686 | 2,781,097 | 2,821,761 | 2,848,650 | 2,874,554 | 2,896,843 | 2,915,918 | 2,937,979 |

### People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 203,251 | 277,145 | 557,145 | 20,203 | 43,666 | 0 | 524,985 | 663,786 | 1,244,477 | 1,267,365 |
| B | 511,861 | 536,564 | 556,783 | 647,051 | 535,275 | 634,222 | 509,942 | 380,053 | 0 | 0 |
| C | 455,872 | 365,258 | 0 | 368,274 | 371,647 | 373,403 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 1,170,984 | 1,178,967 | 1,113,928 | 1,035,528 | 950,588 | 1,007,625 | 1,034,927 | 1,043,839 | 1,244,477 | 1,267,365 |
| NM | 1,534,943 | 1,545,849 | 1,635,758 | 1,745,569 | 1,871,173 | 1,841,025 | 1,839,627 | 1,853,004 | 1,671,441 | 1,670,614 |
| Total | 2,705,927 | 2,724,816 | 2,749,686 | 2,781,097 | 2,821,761 | 2,848,650 | 2,874,554 | 2,896,843 | 2,915,918 | 2,937,979 |

NM – Not Monitored

Figure AR-1

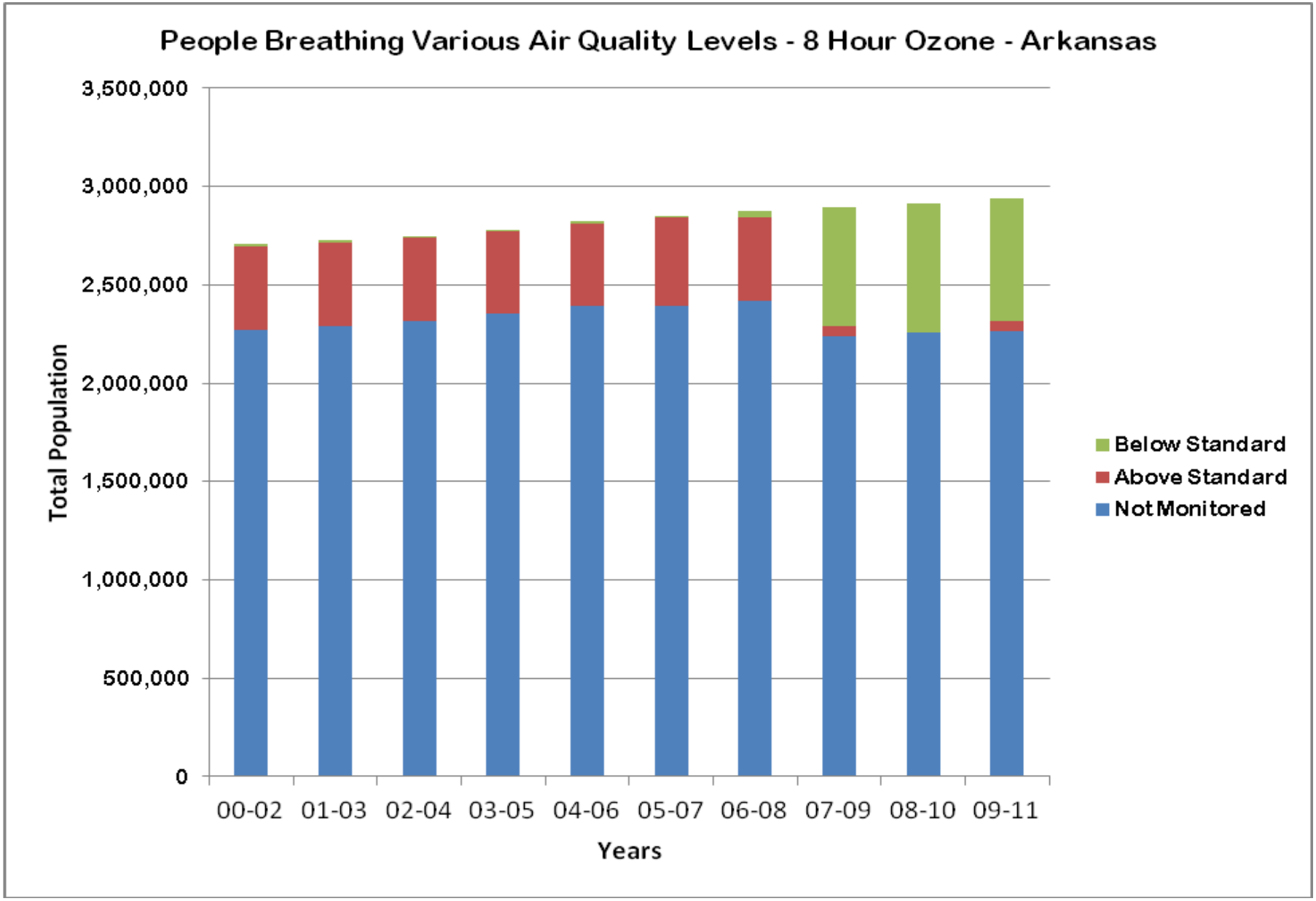

People Breathing Various Air Quality Levels - 8 Hour Ozone - Arkansas
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure AR-2

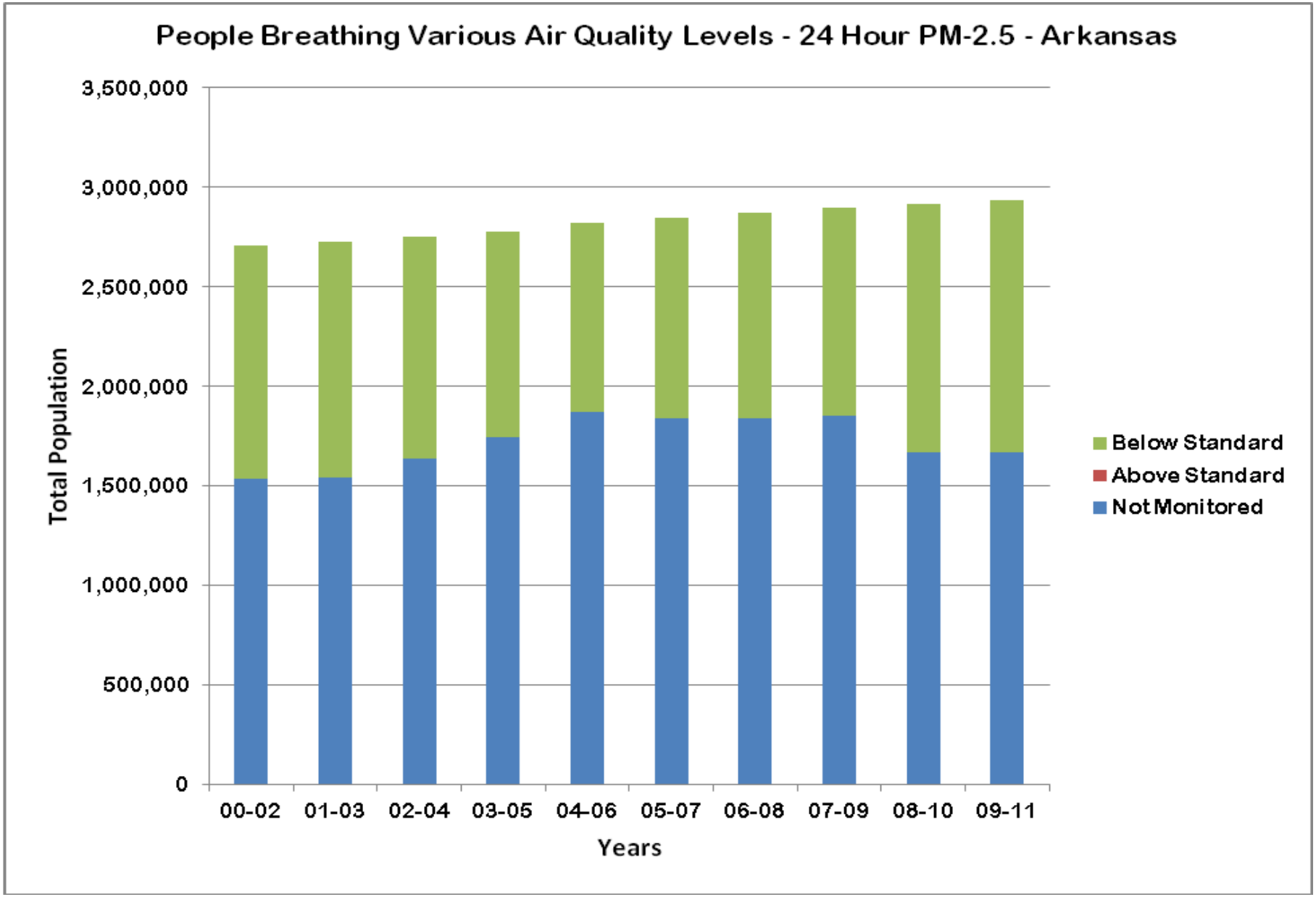
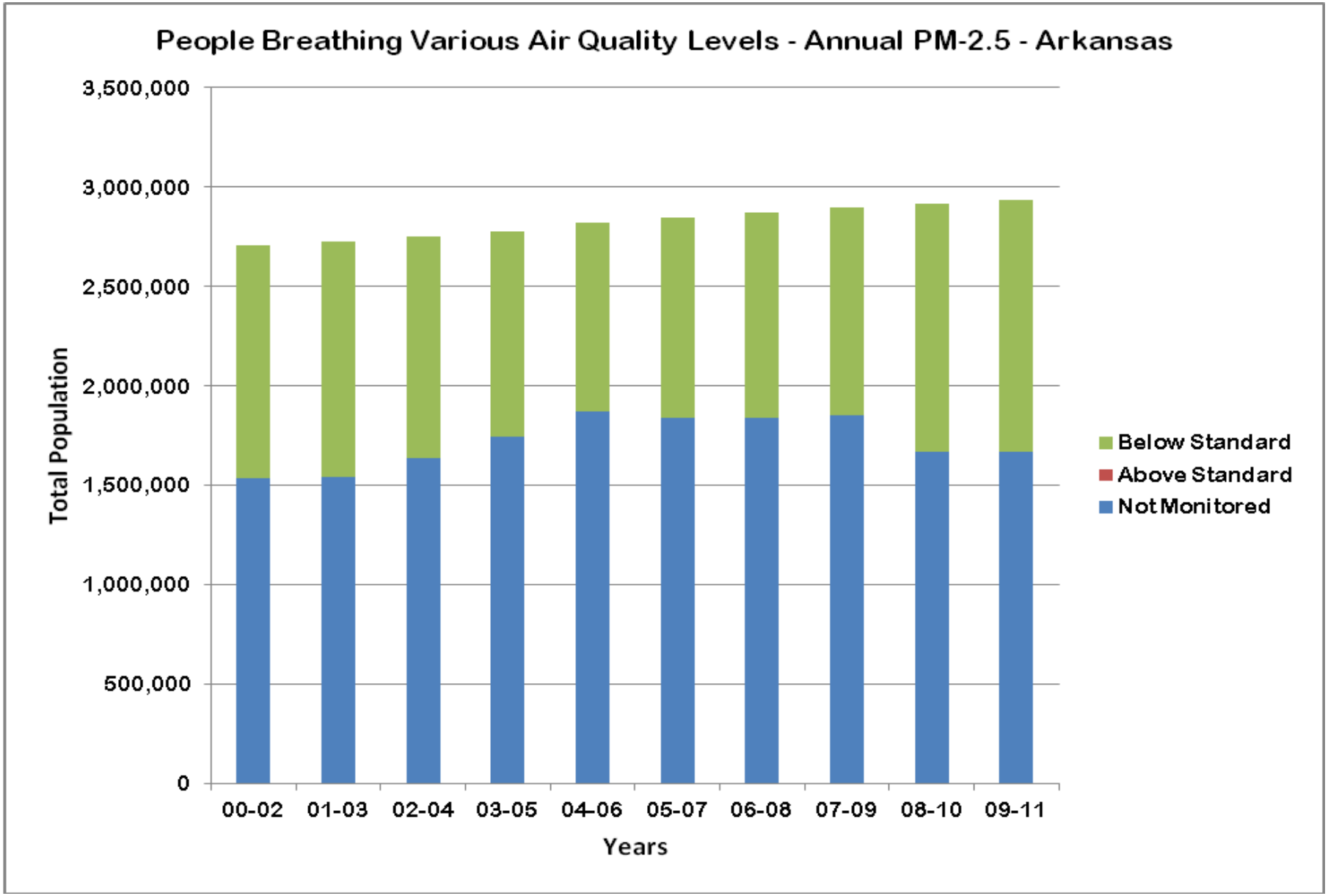

People Breathing Various Air Quality Levels - 24 Hour PM-2.5 - Arkansas
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure AR-3


People Breathing Various Air Quality Levels - Annual PM-2.5 - Arkansas
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# CALIFORNIA

## Ozone

**Significant progress has been made in ozone levels in California. In the 2000 – 2002 time period, approximately 13.3 million people (38.2%) lived in counties that met the ozone standard. By 2009 – 2011 this had increased to approximately 16.8 million people (44.5%). Figure CA-1 shows the distribution of people by year.**

## 24-Hour PM-2.5

**Significant progress has been made in 24-hour PM-2.5 levels in California. In the 2000 – 2002 time period, approximately 2.3 million people (6.5%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 -2011 this had increased to approximately 30.2 million people (80.2%). Figure CA-2 shows the distribution of people by year.**

## Annual PM-2.5

**Significant progress has been made in annual PM-2.5 levels in California. In the 2000 – 2002 time period, approximately 11.6 million people (33.1%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this had increased to approximately 32.0 million people (84.8%). Figure CA-3 shows the distribution of people by year.**

# CALIFORNIA

Table CA-1

2009 – 2011

| | | OZONE | | PARTICLE POLLUTION (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg. 24-Hr DV | Grade | Avg. Ann DV | Grade |
| Alameda | 1,529,875 | 0.063 | B | 27 | A | 8.9 | A |
| Amador | 67,953 | 0.071 | C | ND | --- | ND | --- |
| Butte | 220,266 | 0.072 | C | 35 | C | 10.0 | A |
| **Calaveras** | **45,052** | **0.077** | **D** | ND | --- | ND | --- |
| Colusa | 21,549 | 0.063 | B | 20 | A | 6.3 | A |
| Contra Costa | 1,066,096 | 0.065 | B | 27 | A | 7.8 | A |
| **El Dorado** | **180,938** | **0.083** | **F** | ND | --- | ND | --- |
| **Fresno** | **942,904** | **0.094** | **F** | **53** | **F** | 14.5 | C |
| Glenn | 28,128 | 0.066 | B | ND | --- | ND | --- |
| Humboldt | 134,761 | 0.046 | A | 21 | A | 6.3 | A |
| Imperial | 177,057 | 0.074 | C | 22 | A | 9.2 | A |
| Inyo | 18,478 | 0.071 | C | 25 | A | 6.2 | A |
| **Kern** | **851,710** | **0.088** | **F** | 34 | C | 11.2 | A |
| **Kings** | **153,765** | **0.084** | **F** | ND | --- | ND | --- |
| Lake | 64,323 | 0.057 | A | 7 | A | 3.3 | A |
| **Los Angeles** | **9,778,056** | **0.078** | **D** | 31 | B | 11.6 | A |
| **Madera** | **152,925** | **0.080** | **D** | ND | --- | ND | --- |
| Marin | 255,031 | 0.054 | A | ND | --- | ND | --- |
| **Mariposa** | **18,191** | **0.077** | **D** | ND | --- | ND | --- |
| Mendocino | 87,553 | 0.048 | A | 23 | A | 14.1 | C |
| **Merced** | **259,898** | **0.082** | **D** | **39** | **F** | 11.7 | A |
| Monterey | 421,898 | 0.057 | A | 14 | C | 5.8 | A |
| Napa | 138,088 | 0.065 | B | ND | --- | ND | --- |
| **Nevada** | **98,612** | **0.078** | **D** | 14 | A | 5.2 | A |
| Orange | 3,055,745 | 0.068 | C | 26 | A | 9.9 | A |
| **Placer** | **357,138** | **0.081** | **D** | 21 | A | 7.9 | A |
| Plumas | 19,765 | ND | --- | 32 | C | 9.9 | A |
| **Riverside** | **2,239,620** | **0.092** | **F** | 24 | A | 11.0 | A |
| **Sacramento** | **1,436,105** | **0.079** | **D** | 35 | C | 9.4 | A |
| San Benito | 56,072 | 0.068 | C | ND | --- | ND | --- |
| **San Bernardino** | **2,065,377** | **0.093** | **F** | 29 | B | 11.0 | A |
| San Diego | 3,140,069 | 0.068 | C | 22 | A | 10.5 | A |
| San Francisco | 812,826 | 0.047 | A | ND | -- | ND | --- |
| San Joaquin | 696,214 | 0.074 | C | ND | -- | ND | -- |
| San Luis Obispo | 271,969 | 0.066 | B | 16 | A | 6.8 | A |
| San Mateo | 727,209 | 0.056 | A | ND | --- | ND | --- |
| Santa Barbara | 426,878 | 0.061 | B | ND | --- | ND | --- |
| Santa Clara | 1,809,378 | 0.070 | C | 30 | B | 9.6 | A |
| Santa Cruz | 264,298 | 0.066 | B | ND | --- | ND | --- |
| Shasta | 177,774 | 0.067 | B | 15 | A | 5.3 | A |
| Siskiyou | 44,507 | 0.059 | A | 13 | A | 5.0 | A |
| Solano | 416,471 | 0.067 | B | 27 | B | 10.0 | A |
| Sonoma | 488,116 | 0.051 | A | ND | --- | ND | --- |
| **Stanislaus** | **518,522** | **0.081** | **D** | **48** | **F** | 12.7 | B |
| Sutter | 94,949 | 0.069 | C | 27 | A | 7.1 | A |
| **Tehama** | **63,061** | **0.076** | **D** | ND | --- | ND | --- |
| **Tulare** | **449,253** | **0.088** | **F** | **47** | **F** | **15.2** | **D** |
| Tuolumne | 54,953 | 0.074 | C | ND | --- | ND | --- |
| Ventura | 831,771 | 0.073 | C | 19 | A | 9.1 | A |
| Yolo | 202,054 | 0.070 | C | 24 | A | 6.9 | A |
| | | | | | | | |
| Subtotal | 37,514,711 | | | | | | |
| Not Monitored | 177,201 | | | | | | |
| Total | 37,691,912 | | | | | | |

DV – Design Value ND - No Data

# CALIFORNIA

## Table CA-2

### People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 3,520,577 | 2,511,921 | 1,812,289 | 3,944,141 | 2,909,386 | 3,061,460 | 2,966,481 | 3,137,618 | 3,159,876 | 3,300,522 |
| B | 2,131,019 | 2,716,690 | 3,402,242 | 4,390,081 | 5,453,591 | 5,367,691 | 2,811,662 | 1,343,272 | 2,643,100 | 3,010,732 |
| C | 7,684,926 | 5,207,805 | 5,888,569 | 4,009,128 | 3,022,303 | 6,159,066 | 6,039,072 | 9,421,857 | 11,481,097 | 10,452,197 |
| D | 2,538,372 | 4,949,414 | 5,352,117 | 4,518,190 | 5,446,150 | 2,440,779 | 5,399,243 | 6,031,773 | 2,719,071 | 13,847,928 |
| F | 18,623,002 | 19,507,260 | 18,777,296 | 18,620,135 | 18,835,483 | 18,864,583 | 18,877,685 | 16,820,313 | 16,589,756 | 6,883,567 |
| Subtotal | 34,497,896 | 34,893,090 | 35,232,513 | 35,481,675 | 35,666,913 | 35,893,579 | 36,094,143 | 36,754,833 | 36,592,900 | 37,494,946 |
| NM | 373,947 | 360,069 | 342,063 | 346,268 | 354,289 | 356,732 | 510,194 | 206,396 | 661,056 | 196,966 |
| Total | 34,871,843 | 35,253,159 | 35,574,576 | 35,827,943 | 36,021,202 | 36,250,311 | 36,604,337 | 36,961,229 | 37,253,956 | 37,691,912 |

### People Breathing Short-term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 1,561,201 | 1,782,558 | 2,094,623 | 3,316,455 | 5,710,162 | 2,772,980 | 3,673,152 | 10,106,692 | 10,668,343 | 13,924,310 |
| B | 340,447 | 634,894 | 1,669,392 | 5,645,973 | 2,616,830 | 5,429,906 | 4,600,997 | 2,830,586 | 16,762,528 | 3,893,233 |
| C | 350,525 | 806,663 | 2,407,208 | 2,191,220 | 4,457,688 | 2,659,206 | 5,673,617 | 14,939,846 | 1,658,795 | 12,416,902 |
| D | 3,865,582 | 4,405,499 | 4,613,381 | 1,764,076 | 5,031,822 | 7,127,081 | 14,015,205 | 2,424,250 | 839,631 | 0 |
| F | 27,794,237 | 26,654,301 | 23,813,961 | 21,763,577 | 17,033,401 | 17,080,337 | 7,451,591 | 5,431,001 | 3,132,028 | 2,170,577 |
| Subtotal | 33,911,992 | 34,283,915 | 34,598,565 | 34,681,301 | 34,849,903 | 35,069,510 | 35,414,562 | 35,732,375 | 33,061,325 | 32,405,022 |
| NM | 959,851 | 969,244 | 976,011 | 1,146,642 | 1,171,299 | 1,180,801 | 1,189,775 | 1,228,854 | 4,192,631 | 5,286,890 |
| Total | 34,871,843 | 35,253,159 | 35,574,576 | 35,827,943 | 36,021,202 | 36,250,311 | 36,604,337 | 36,961,229 | 37,253,965 | 37,691,912 |

### People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 5,815,497 | 8,526,941 | 8,995,902 | 11,340,165 | 14,513,682 | 14,456,481 | 14,648,812 | 18,001,836 | 19,956,367 | 29,642,633 |
| B | 5,535,305 | 3,092,509 | 2,457,161 | 3,810,112 | 3,595,073 | 3,817,178 | 3,176,627 | 14,625,821 | 11,428,482 | 518,522 |
| C | 209,120 | 3,541,480 | 4,522,266 | 4,443,355 | 3,518,356 | 13,335,197 | 15,589,151 | 1,341,673 | 930,450 | 1,794,614 |
| D | 7,111,700 | 1,433,364 | 3,671,504 | 1,931,785 | 11,776,297 | 1,992,161 | 0 | 921,478 | 595,161 | 449,253 |
| F | 15,240,370 | 17,689,621 | 14,951,732 | 13,155,884 | 1,446,495 | 1,468,493 | 1,999,972 | 841,567 | 150,865 | 0 |
| Subtotal | 33,911,992 | 34,283,915 | 34,598,565 | 34,681,301 | 34,849,903 | 35,069,510 | 35,414,562 | 35,132,375 | 33,061,325 | 32,405,022 |
| NM | 959,851 | 969,244 | 976,011 | 1,146,642 | 1,171,299 | 1,180,801 | 1,189,775 | 1,228,854 | 4,192,631 | 5,286,890 |
| Total | 34,871,843 | 35,253,159 | 35,574,576 | 35,827,943 | 36,021,202 | 36,250,311 | 36,604,337 | 36,961,229 | 37,253,956 | 37,691,912 |

NM - Not Monitored

Figure CA-1

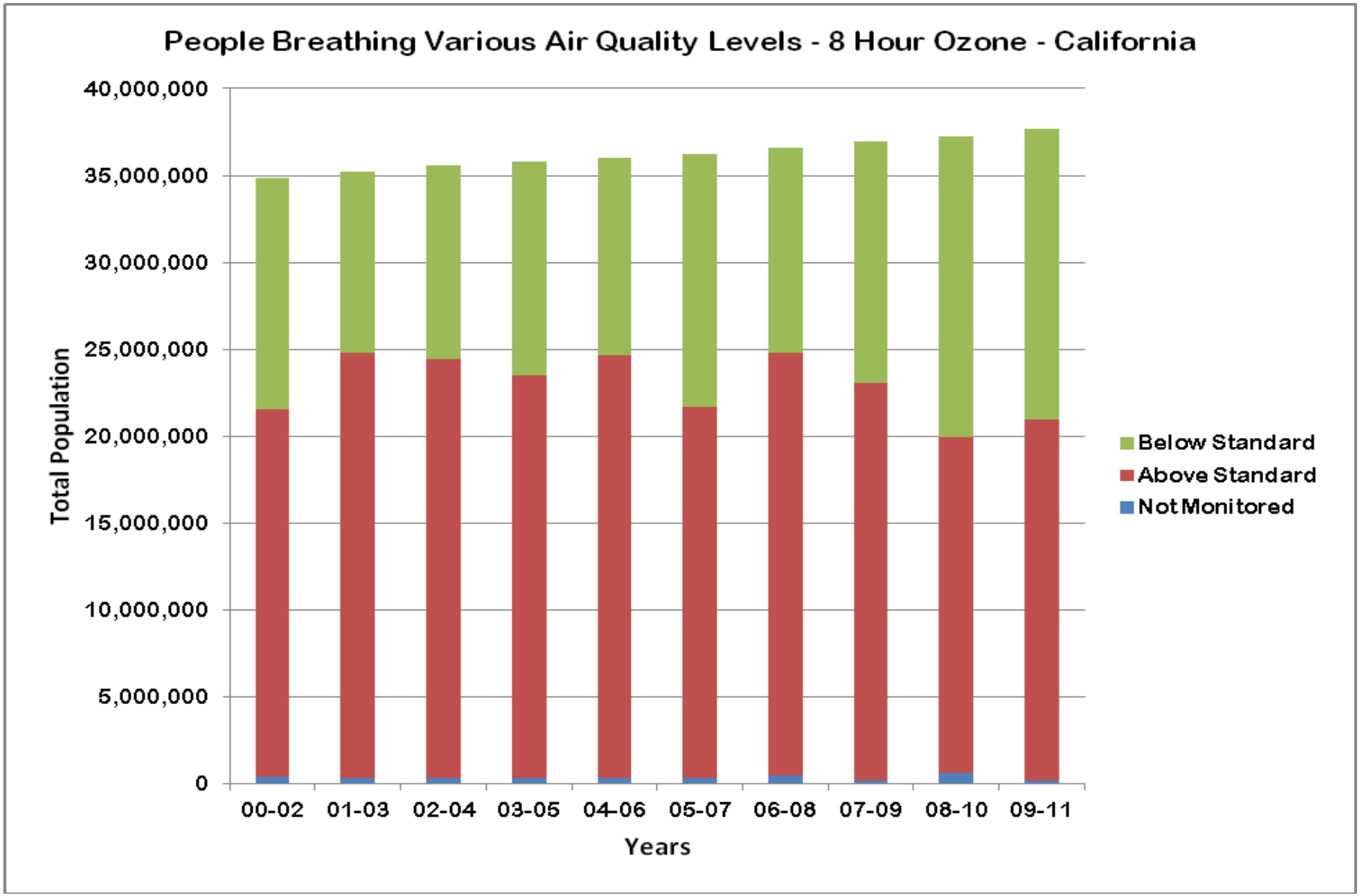

People Breathing Various Air Quality Levels - 8 Hour Ozone - California
40,000,000
35,000,000
30,000,000
25,000,000
20,000,000
15,000,000
10,000,000
5,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure CA-2

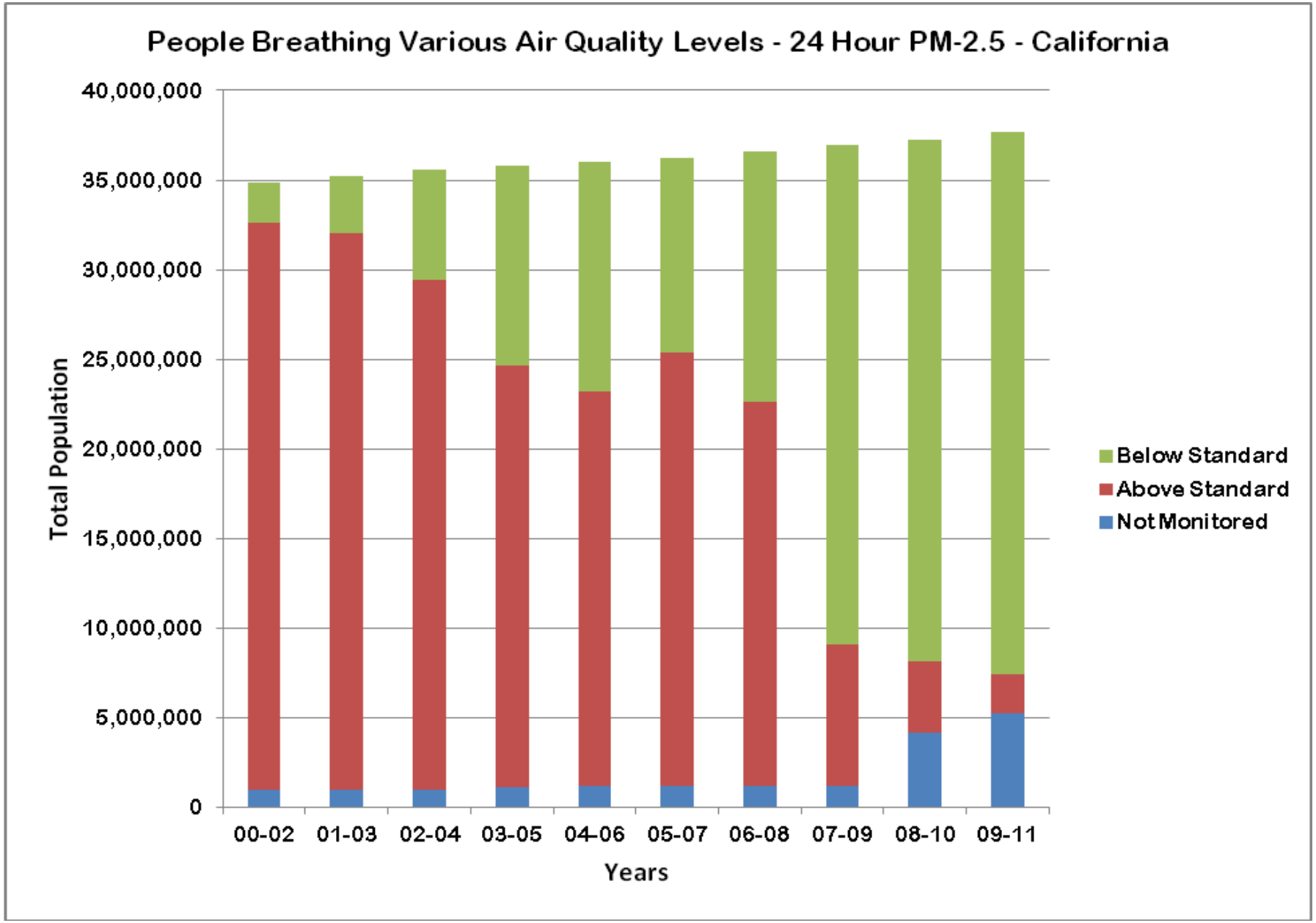
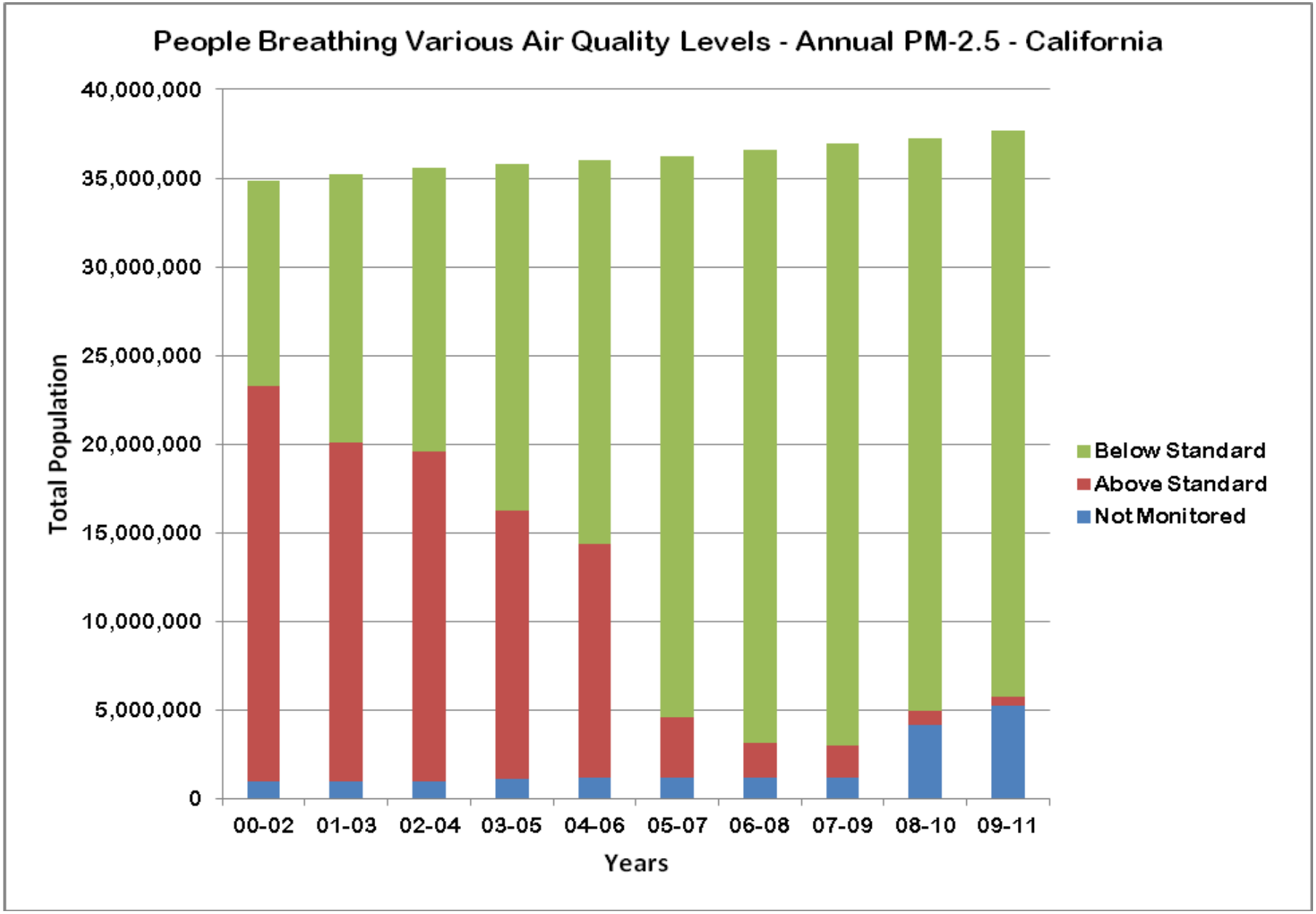

People Breathing Various Air Quality Levels - 24 Hour PM-2.5 - California
Total Population
40,000,000
35,000,000
30,000,000
25,000,000
20,000,000
15,000,000
10,000,000
5,000,000
0
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure CA-3


People Breathing Various Air Quality Levels - Annual PM-2.5 - California
40,000,000
35,000,000
30,000,000
25,000,000
20,000,000
15,000,000
10,000,000
5,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# COLORADO

## Ozone

**Significant progress has been made in ozone levels in Colorado. In the 2000 – 2002 time period, approximately 2.3 million people (51.0%) lived in counties that met the ozone standard. By 2009 – 2011 this had increased to approximately 3.5 million people (67.6%). Figure CO-1 shows the distribution of people by year.**

## 24-Hour PM-2.5

**Significant progress has been made in 24-hour PM-2.5 levels in Colorado. In the 2000 – 2002 time period, approximately 3.4 million people (75.3%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 -2011 this had increased to approximately 3.8 million people (74.4%). In this time period all of those living in areas that met the standard were at levels more than 20% better than the standard (grade A). The remainder of the population lived in areas where PM-2.5 is not measured. Figure CO-2 shows the distribution of people by year.**

## Annual PM-2.5

**Progress has been made in annual PM-2.5 levels in Colorado. In the 2000 – 2002 time period, approximately 3.4 million people (75.3%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this had increased to approximately 3.8 million people (74.4%). The remainder of the population lived in areas where PM-2.5 is not measured. Figure CO-3 shows the distribution of people by year.**

# COLORADO

Table CO-1

2009 – 2011

| | | OZONE | | PARTICLE POLLUTION (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg. 24-Hr DV | Grade | Avg. Ann DV | Grade |
| Adams | 451,443 | 0.070 | C | 21 | A | 8.0 | A |
| Arapahoe | 584,948 | 0.074 | C | 14 | A | 6.2 | A |
| Boulder | 299,378 | 0.074 | C | 18 | A | 6.5 | A |
| Denver | 619,968 | 0.067 | B | 18 | A | 7.4 | A |
| **Douglas** | **292,167** | **0.077** | **D** | 15 | A | 5.7 | A |
| El Paso | 636,963 | 0.067 | C | 14 | A | 5.9 | A |
| Elbert | 23,174 | ND | --- | 9 | A | 4.0 | A |
| Garfield | 56,270 | 0.064 | B | ND | --- | ND | --- |
| **Jefferson** | **539,884** | **0.076** | **D** | ND | --- | ND | --- |
| La Plata | 51,917 | 0.070 | C | ND | --- | ND | --- |
| Larimer | 305,525 | 0.073 | C | 18 | A | 6.3 | A |
| Mesa | 147,083 | 0.065 | B | 33 | C | 8.6 | A |
| Montezuma | 25,442 | 0.067 | B | 14 | A | 6.3 | A |
| Pitkin | 17,102 | 0.074 | C | ND | --- | ND | --- |
| Pueblo | 160,545 | ND | --- | 13 | A | 5.6 | A |
| Weld | 258,638 | 0.072 | C | 22 | A | 7.4 | A |
| | | | | | | | |
| Subtotal | 4,607,405 | | | | | | |
| Not Monitored | 509,391 | | | | | | |
| Total | 5,116,796 | | | | | | |

DV – Design Value ND - No Data

# COLORADO

## Table CO-2
## People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 45,869 | 46,121 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| B | 370,753 | 401,719 | 431,537 | 0 | 605,469 | 564,395 | 0 | 0 | 1,369,144 | 1,485,726 |
| C | 1,669,710 | 547,549 | 1,131,879 | 2,140,083 | 1,552,173 | 1,363,141, | 2,241,216 | 2,254,273 | 1,458,434 | 1,923,887 |
| D | 1,245,698 | 2,138,434 | 1,591,109 | 1,267,020 | 1,564,697 | 1,592,070 | 1,063,304 | 1,106,537 | 285,465 | 292,167 |
| F | 0 | 220,352 | 0 | 0 | 0 | 267,177 | 0 | 0 | 0 | 0 |
| Subtotal | 3,332,030 | 3,354,175 | 3,154,525 | 3,407,103 | 3,722,339 | 3,786,783 | 3,304,520 | 3,360,810 | 3,113,043 | 3,701,780 |
| NM | 1,158,376 | 1,174,557 | 1,420,488 | 1,224,785 | 998,084 | 1,017,085 | 1,585,210 | 1,611,385 | 1,916,153 | 1,415,016 |
| Total | 4,490,406 | 4,528,732 | 4,575,013 | 4,631,888 | 4,720,423 | 4,803,868 | 4,889,730 | 4,972,195 | 5,029,196 | 5,116,796 |

## People Breathing Short-term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 2,225,488 | 2,402,036 | 3,159,199 | 2,905,988 | 3,216,973 | 3,088,583 | 2,552,170 | 2,452,448 | 3,391,600 | 3,805,274 |
| B | 556,790 | 552,588 | 0 | 0 | 0 | 415,746 | 424,913 | 583,551 | 0 | 0 |
| C | 370,753 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 146,723 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 3,153,031 | 2,954,624 | 3,159,199 | 2,905,988 | 3,216,973 | 3,504,329 | 2,977,083 | 3,035,999 | 3,538,323 | 3,805,274 |
| NM | 1,337,375 | 1,574,108 | 1,415,814 | 1,725,900 | 1,503,450 | 1,299,539 | 1,912,647 | 1,936,196 | 1,490,873 | 1,311,522 |
| Total | 4,490,406 | 4,528,732 | 4,575,013 | 4,631,888 | 4,720,423 | 4,803,868 | 4,889,730 | 4,972,195 | 5,029,196 | 5,116,796 |

## People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 3,153,031 | 2,954,624 | 3,159,199 | 2,905,988 | 3,216,973 | 3,504,329 | 2,977,083 | 3,035,999 | 3,538,323 | 3,805,274 |
| B | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 3,153,031 | 2,954,624 | 3,159,199 | 2,905,988 | 3,216,973 | 3,504,329 | 2,977,083 | 3,035,999 | 3,538,323 | 3,805,274 |
| NM | 1,337,375 | 1,574,108 | 1,415,814 | 1,725,900 | 1,503,450 | 1,299,539 | 1,912,647 | 1,936,196 | 1,490,873 | 1,311,522 |
| Total | 4,490,406 | 4,528,732 | 4,575,013 | 4,631,888 | 4,720,423 | 4,803,868 | 4,889,730 | 4,972,195 | 5,029,196 | 5,116,796 |

NM – Not Monitored

Figure CO-1

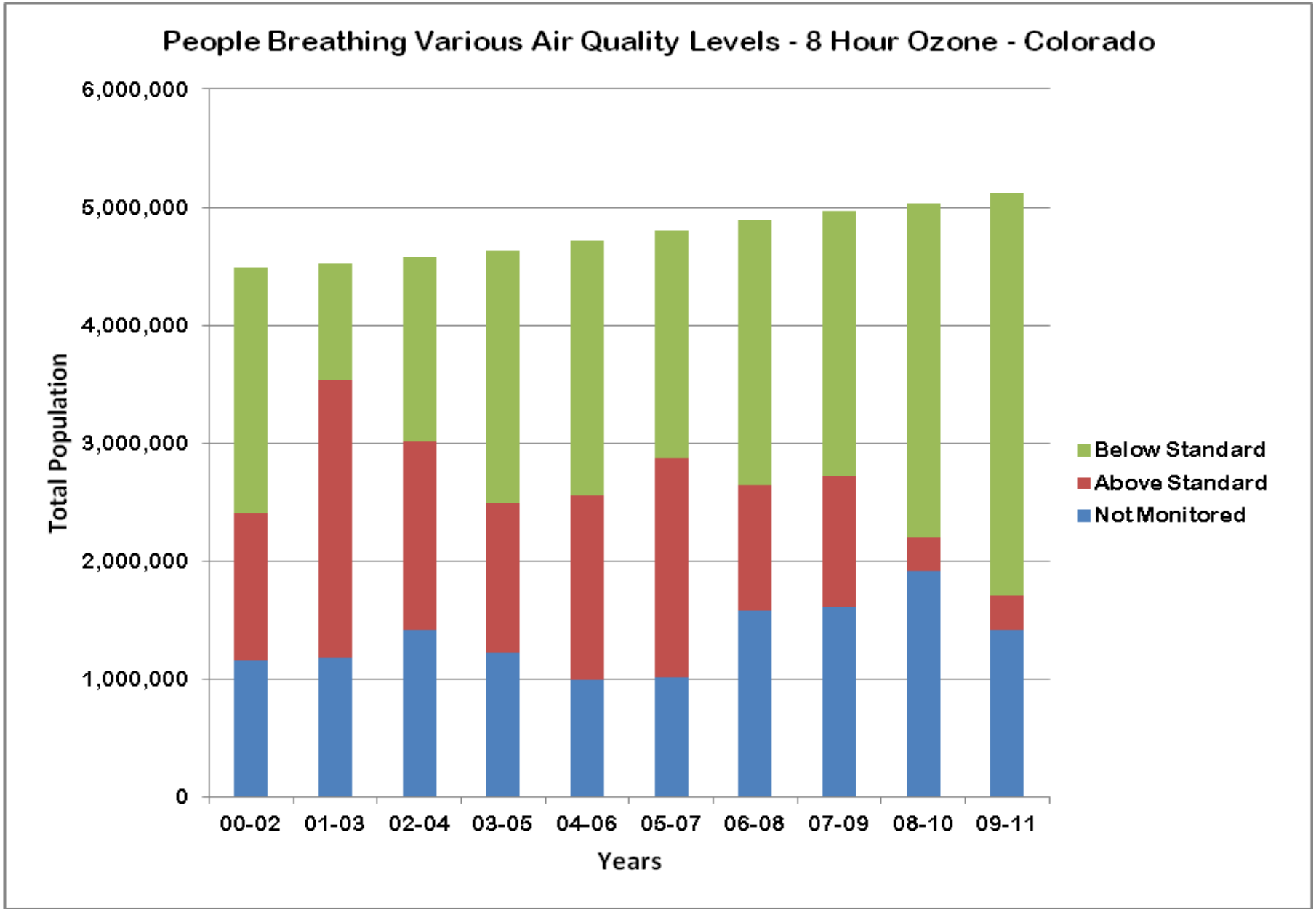

People Breathing Various Air Quality Levels - 8 Hour Ozone - Colorado
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure CO-2

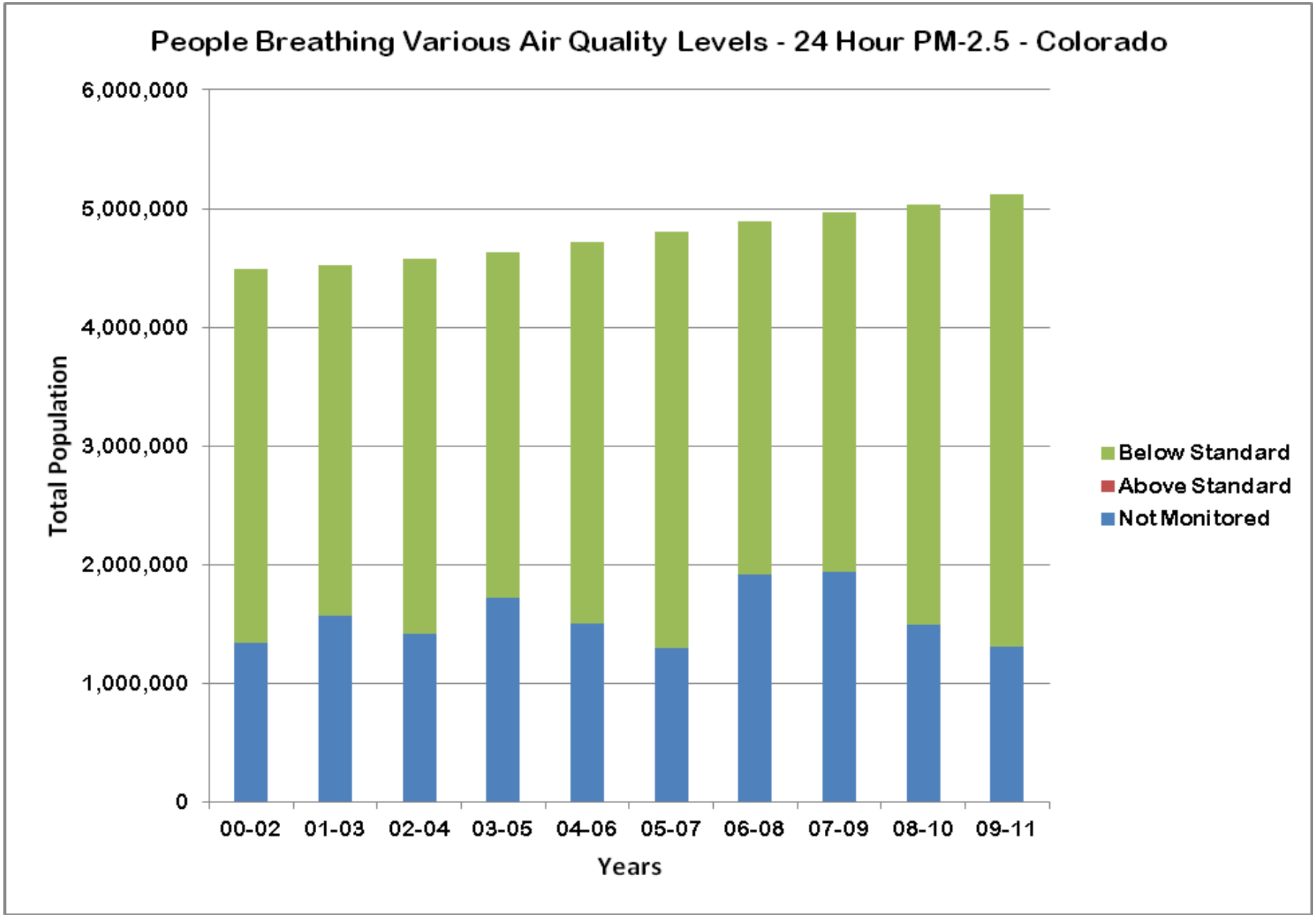
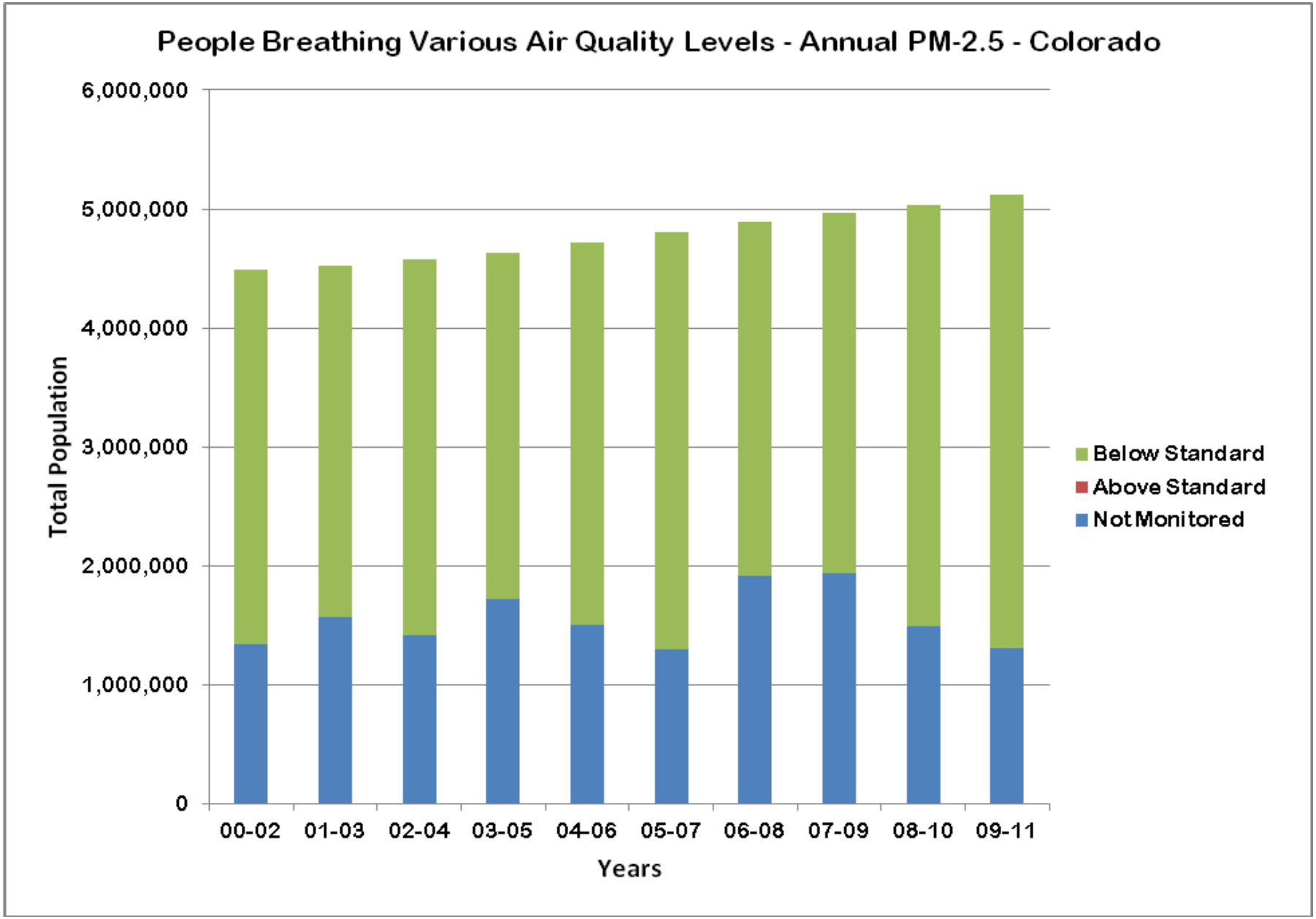

People Breathing Various Air Quality Levels - 24 Hour PM-2.5 - Colorado
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure CO-3


People Breathing Various Air Quality Levels - Annual PM-2.5 - Colorado
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# CONNECTICUT

## Ozone

**Significant progress has been made in ozone levels in Connecticut. In the 2000 – 2002 time period, no people lived in counties that met the ozone standard. By 2009 – 2011 this had increased to approximately 1.2 million people (34.5%). Figure CT-1 shows the distribution of people by year.**

## 24-Hour PM-2.5

**Significant progress has been made in 24-hour PM-2.5 levels in Connecticut. In the 2000 – 2002 time period, approximately 2.0 million people (58.5%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 - 2011 this had increased to approximately 3.1 million people (87.8%). In 2009 - 2011 the remainder of the population lived in areas where PM-2.5 is not measured. Figure CT-2 shows the distribution of people by year.**

## Annual PM-2.5

**Progress has been made in annual PM-2.5 levels in Connecticut. In the 2000 – 2002 time period, approximately 2.9 million people (82.7%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this had increased to approximately 3.1 million people (87.8%). The remainder of the population lived in areas where PM-2.5 is not measured. Figure CT-3 shows the distribution of people by year.**

Table CT-1

2009 – 2011

| | | OZONE | | PARTICLE POLLUTION (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg. 24-Hr DV | Grade | Avg. Ann DV | Grade |
| **Fairfield** | **925,899** | **0.079** | **D** | 26 | A | 9.3 | A |
| Hartford | 894,705 | 0.071 | C | 24 | A | 8.6 | A |
| Litchfield | 188,789 | 0.070 | C | 17 | A | 5.7 | A |
| **Middlesex** | **166,043** | **0.077** | **D** | ND | --- | ND | --- |
| **New Haven** | **861,113** | **0.076** | **D** | 27 | A | 9.6 | A |
| **New London** | **273,502** | **0.077** | **D** | 23 | A | 8.5 | A |
| Tolland | 152,507 | 0.074 | C | ND | --- | ND | --- |
| | | | | | | | |
| Subtotal | 3,462,558 | | | | | | |
| Not Monitored | 118,151 | | | | | | |
| Total | 3,580,709 | | | | | | |

DV – Design Value ND - No Data

# CONNECTICUT

## Table CT-2

### People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| B | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,946,418 | 1,236,001 |
| D | 0 | 0 | 0 | 878,081 | 0 | 0 | 0 | 3,443,695 | 1,509,251 | 2,226,557 |
| F | 2,480,220 | 3,184,259 | 3,381,778 | 2,324,327 | 3,400,682 | 3,410,026 | 3,155,057 | 0 | 0 | 0 |
| Subtotal | 2,480,220 | 3,184,259 | 3,381,778 | 3,202,408 | 3,400,682 | 3,410,026 | 3,155,057 | 3,443,695 | 3,455,669 | 3,462,558 |
| NM | 978,529 | 300,077 | 114,316 | 304,548 | 116,778 | 117,244 | 390,522 | 118,112 | 118,428 | 118,151 |
| Total | 3,458,749 | 3,484,336 | 3,496,094 | 3,506,956 | 3,517,460 | 3,527,270 | 3,545,579 | 3,561,807 | 3,574,097 | 3,580,709 |

### People Breathing Short-term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 189,866 | 462,809 | 1,355,312 | 3,137,302 | 3,144,008 |
| B | 264,698 | 0 | 268,595 | 0 | 1,152,112 | 1,155,217 | 1,791,715 | 1,770,446 | 0 | 0 |
| C | 1,760,351 | 1,139,919 | 1,771,921 | 1,147,745 | 1,746,461 | 1,751,096 | 856,622 | 0 | 0 | 0 |
| D | 835,099 | 1,738,281 | 844,505 | 1,744,815 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 2,860,148 | 2,878,200 | 2,855,021 | 2,892,560 | 2,898,573 | 3,096,179 | 3,111,146 | 3,125,758 | 3,137,302 | 3,144,008 |
| NM | 598,601 | 606,136 | 611,073 | 614,396 | 618,887 | 431,091 | 434,433 | 436,049 | 436,795 | 436,701 |
| Total | 3,458,749 | 3,484,336 | 3,496,094 | 3,506,956 | 3,517,460 | 3,527,270 | 3,545,579 | 3,561,807 | 3,574,097 | 3,580,709 |

### People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 264,698 | 266,584 | 1,143,044 | 1,147,745 | 1,152,112 | 1,345,083 | 3,111,146 | 3,125,758 | 3,137,302 | 3,144,008 |
| B | 1,760,351 | 2,611,616 | 897,472 | 1,744,815 | 1,746,461 | 1,751,096 | 0 | 0 | 0 | 0 |
| C | 835,099 | 0 | 844,505 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 2,860,148 | 2,878,200 | 2,885,021 | 2,892,560 | 2,898,573 | 3,096,179 | 3,111,146 | 3,125,758 | 3,137,302 | 3,144,008 |
| NM | 598,601 | 606,136 | 611,073 | 614,396 | 618,887 | 431,091 | 434,433 | 436,049 | 436,795 | 436,701 |
| Total | 3,458,749 | 3,484,336 | 3,496,094 | 3,506,956 | 3,517,460 | 3,527,270 | 3,545,579 | 3,561,807 | 3,574,097 | 3,580,709 |

NM – Not Monitored

Figure CT-1

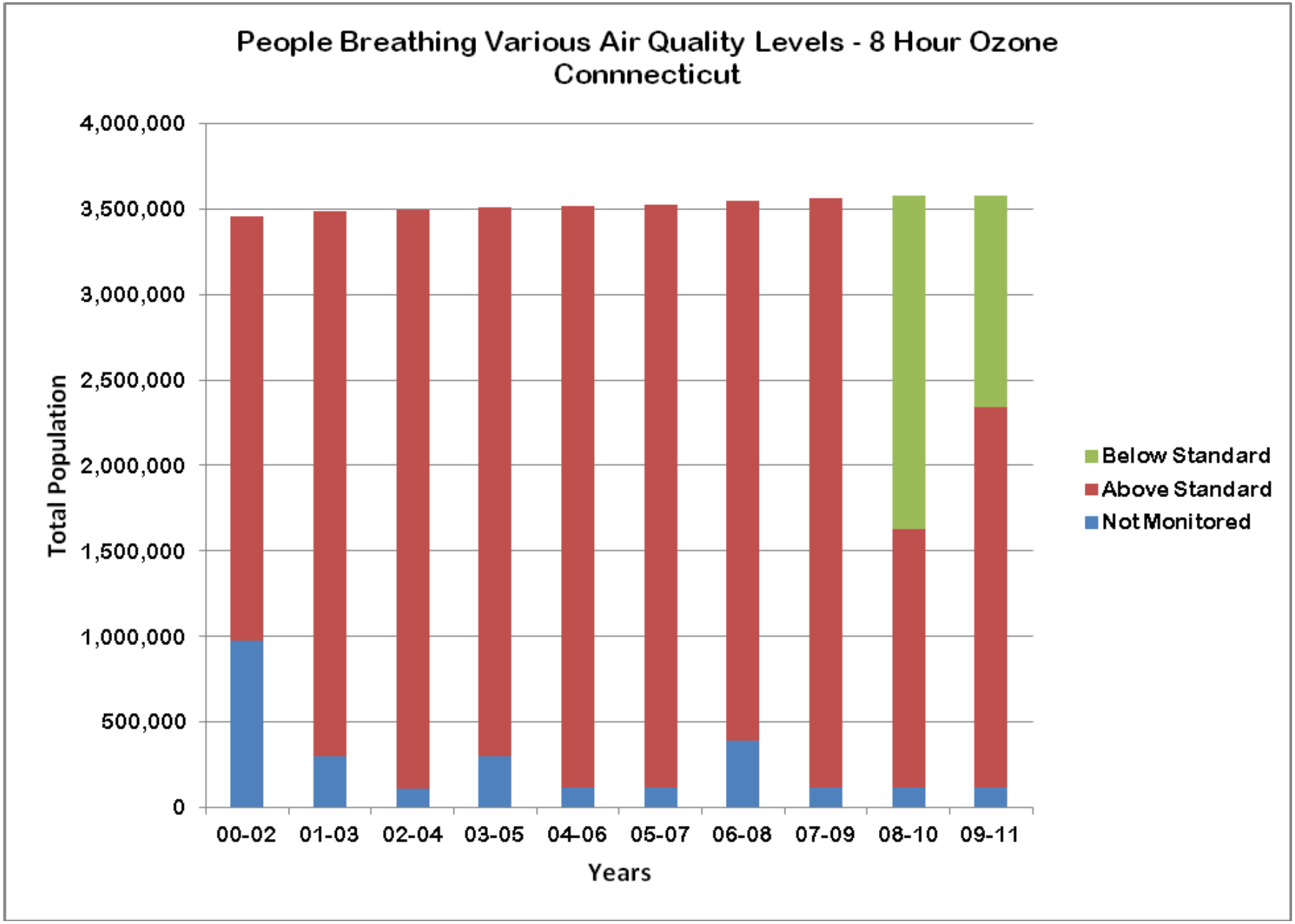

People Breathing Various Air Quality Levels - 8 Hour Ozone
Connnecticut
Total Population
4,000,000
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure CT-2

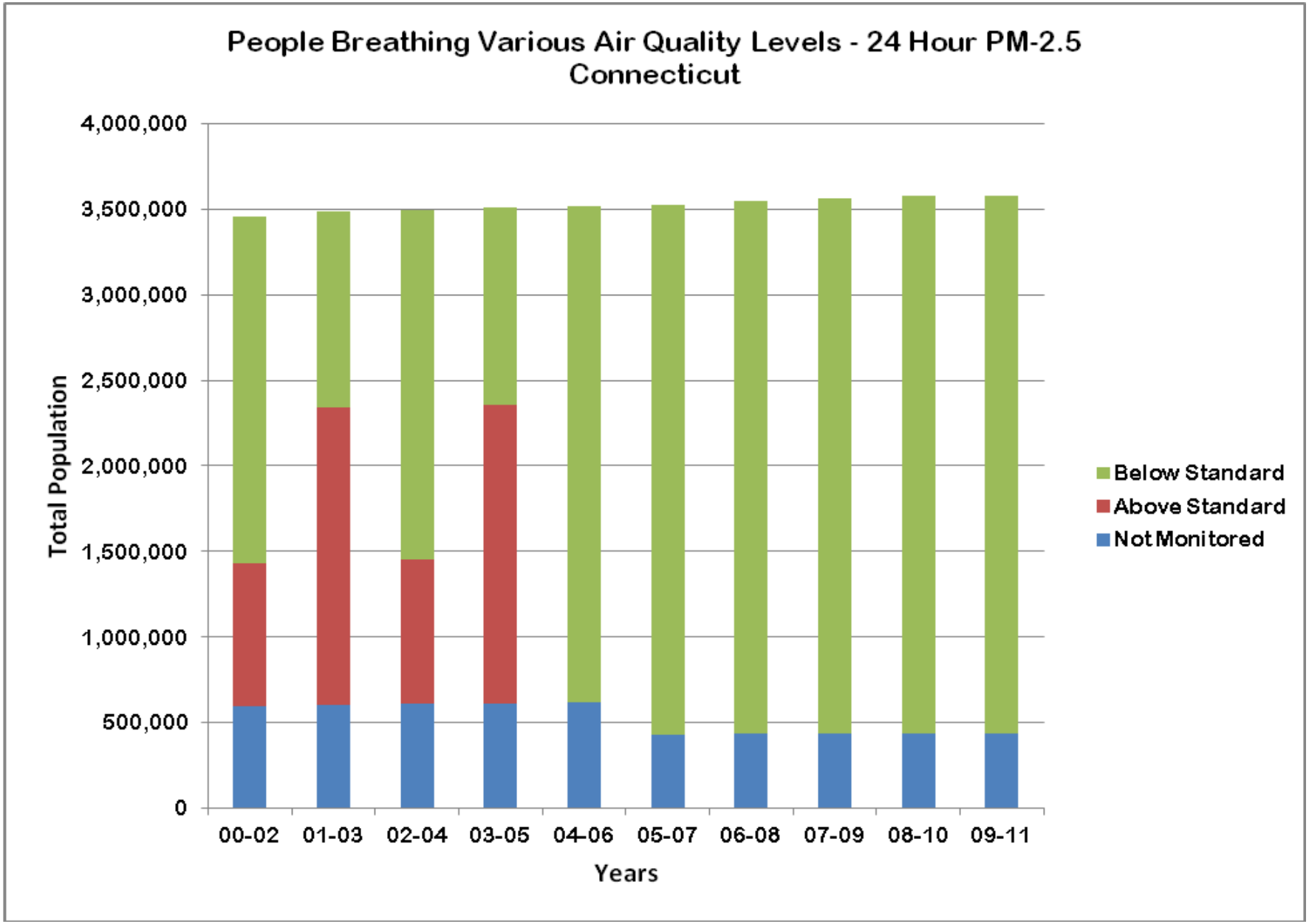
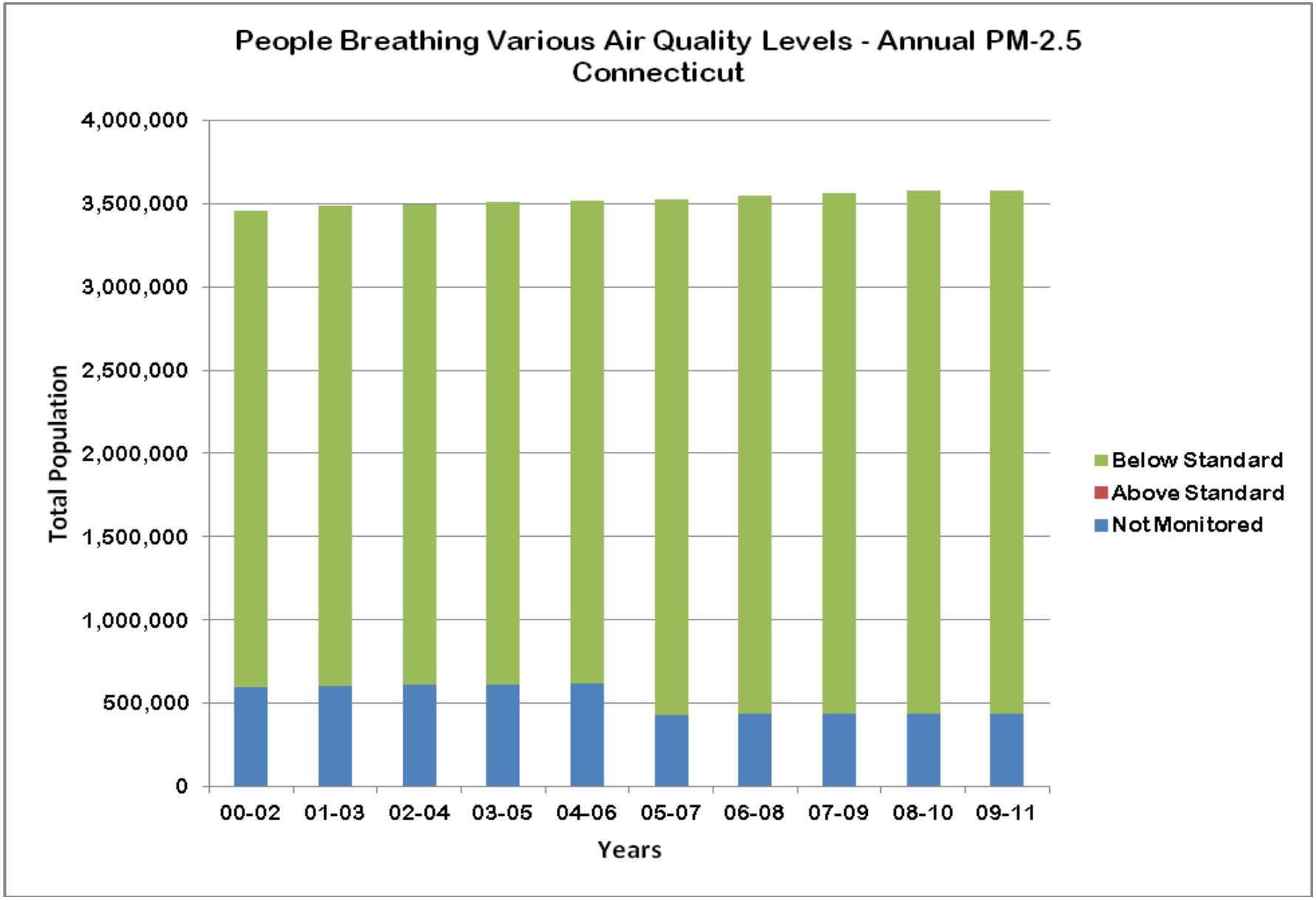

People Breathing Various Air Quality Levels - 24 Hour PM-2.5
Connecticut
Total Population
4,000,000
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure CT-3


People Breathing Various Air Quality Levels - Annual PM-2.5
Connecticut
Total Population
4,000,000
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# DELAWARE

## Ozone

**Progress has been made in ozone levels in Delaware. In the 2000 – 2002 time period, no people lived in counties that met the ozone standard. By 2009 – 2011 this had increased to approximately 160,000 people (18.2%). Figure DE-1 shows the distribution of people by year.**

## 24-Hour PM-2.5

**Significant progress has been made in 24-hour PM-2.5 levels in Delaware. In the 2000 – 2002 time period, approximately 0.1 million people (16.4%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 -2011 this was approximately 0.9 million people (100%). In this period all people lived in counties where the air quality was more than 20% better than the standard (grade A). Figure DE-2 shows the distribution of people by year.**

## Annual PM-2.5

**Significant progress has been made in annual PM-2.5 levels in Delaware. In the 2000 – 2002 time period, approximately 0.3 million people (36.7%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this had increased to approximately 0.9 million people (100%). In this period all people lived in counties where the air quality was more than 20% better than the standard (grade A). Figure DE-3 shows the distribution of people by year.**

Table DE-1

2009 – 2011

| | | OZONE | | PARTICLE POLLUTION (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg. 24-Hr DV | Grade | Avg. Ann DV | Grade |
| Kent | 164,834 | 0.072 | C | 23 | A | 9.3 | A |
| New Castle | 541,971 | 0.076 | D | 24 | A | 10.2 | A |
| Sussex | 200,330 | 0.076 | D | 24 | A | 9.4 | A |
| | | | | | | | |
| Subtotal | 907,135 | | | | | | |
| Not Monitored | 0 | | | | | | |
| Total | 907,135 | | | | | | |

DV – Design Value ND - No Data

# DELAWARE

## Table DE-2

### People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| B | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 696,979 | 700,789 | 164,834 |
| D | 0 | 0 | 0 | 667,928 | 859,268 | 871,749 | 883,874 | 194,751 | 197,145 | 742,301 |
| F | 806,169 | 818,003 | 830,803 | 177,222 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 806,169 | 818,003 | 830,803 | 845,150 | 859,268 | 871,749 | 883,874 | 891,730 | 897,934 | 907,135 |
| NM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 806,169 | 818,003 | 830,803 | 845,150 | 859,268 | 871,749 | 883,874 | 891,730 | 897,934 | 907,135 |

### People Breathing Short-term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 354,832 | 897,934 | 907,135 |
| B | 0 | 0 | 0 | 0 | 0 | 0 | 349,916 | 536,898 | 0 | 0 |
| C | 131,824 | 134,605 | 658,286 | 845,150 | 859,268 | 871,749 | 533,958 | 0 | 0 | 0 |
| D | 510,158 | 683,398 | 172,517 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 164,187 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 806,169 | 818,003 | 830,803 | 845,150 | 859,268 | 871,749 | 883,874 | 891,730 | 897,934 | 907,135 |
| NM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 806,169 | 818,003 | 830,803 | 845,150 | 859,268 | 871,749 | 883,874 | 891,730 | 897,934 | 907,135 |

### People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 157,925 | 354,832 | 897,934 | 907,135 |
| B | 131,824 | 303,234 | 311,859 | 321,807 | 149,704 | 341,194 | 725,949 | 536,898 | 0 | 0 |
| C | 164,187 | 514,769 | 518,944 | 523,343 | 709,564 | 530,555 | 0 | 0 | 0 | 0 |
| D | 510,158 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 806,169 | 818,003 | 830,803 | 845,150 | 859,268 | 871,749 | 883,874 | 891,730 | 897,934 | 907,135 |
| NM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 806,169 | 818,003 | 830,803 | 845,150 | 859,268 | 871,749 | 883,874 | 891,730 | 897,934 | 907,135 |

NM – Not Monitored

Figure DE-1

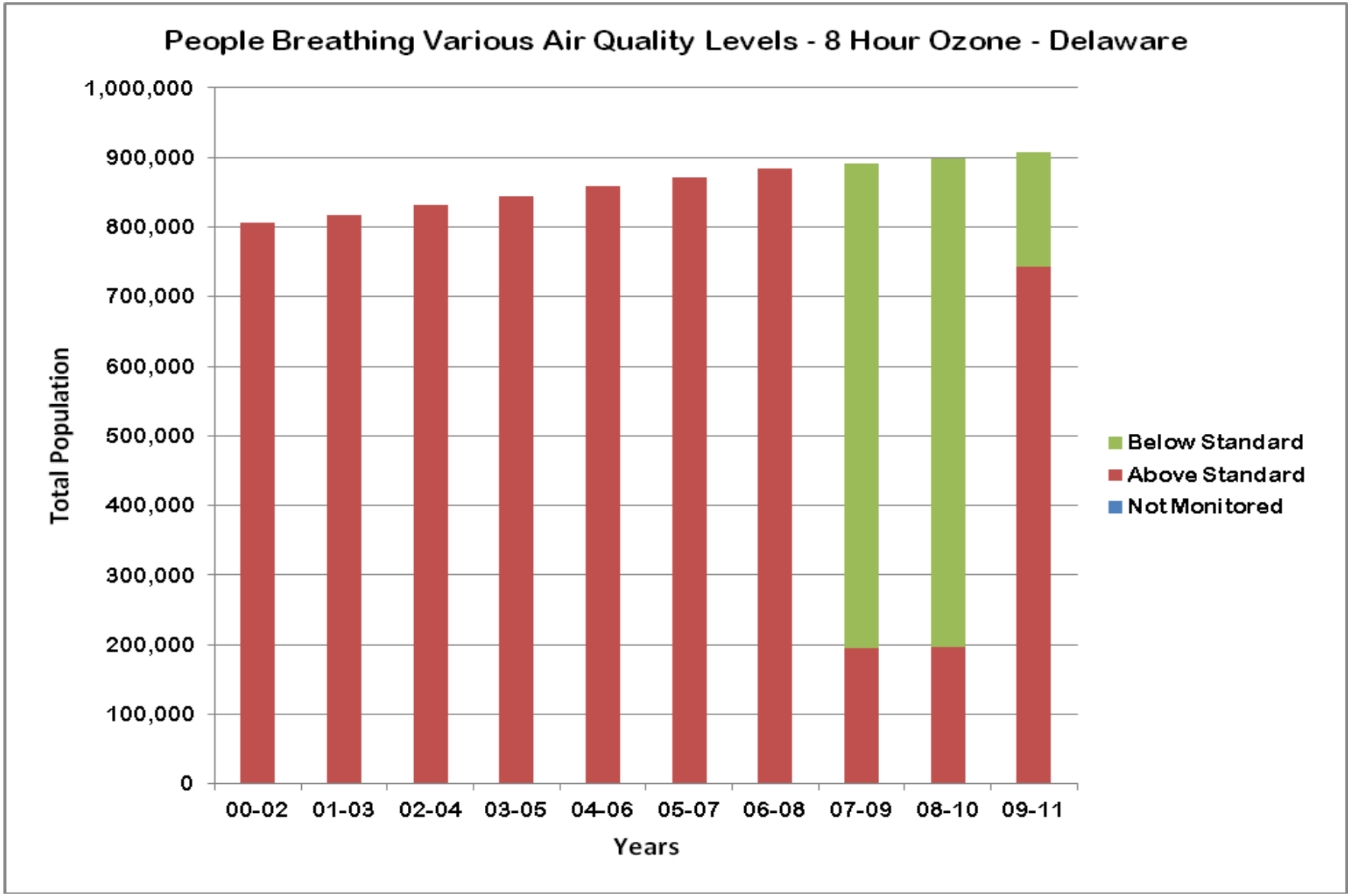

People Breathing Various Air Quality Levels - 8 Hour Ozone - Delaware
Total Population
1,000,000
900,000
800,000
700,000
600,000
500,000
400,000
300,000
200,000
100,000
0
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure DE-2

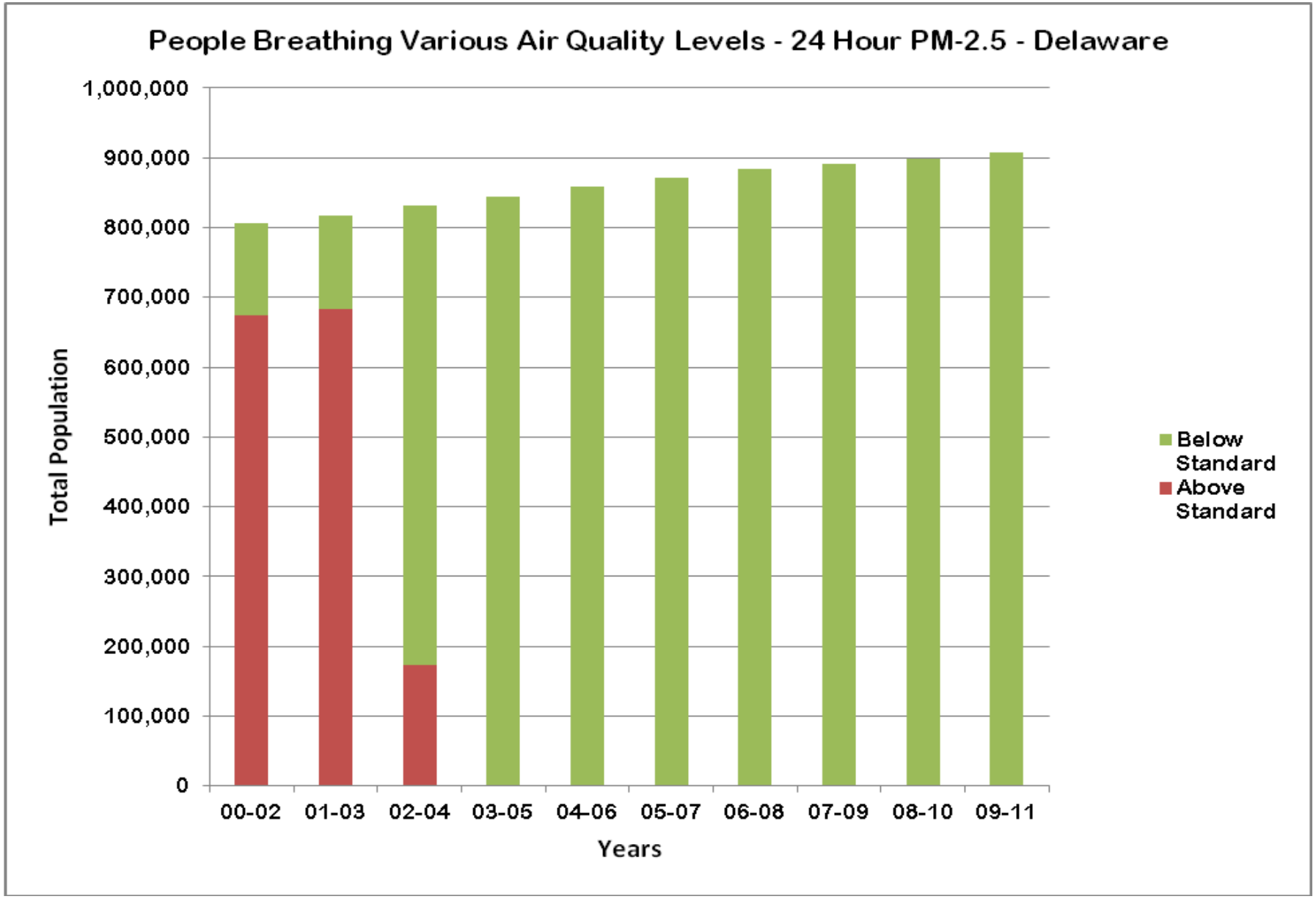
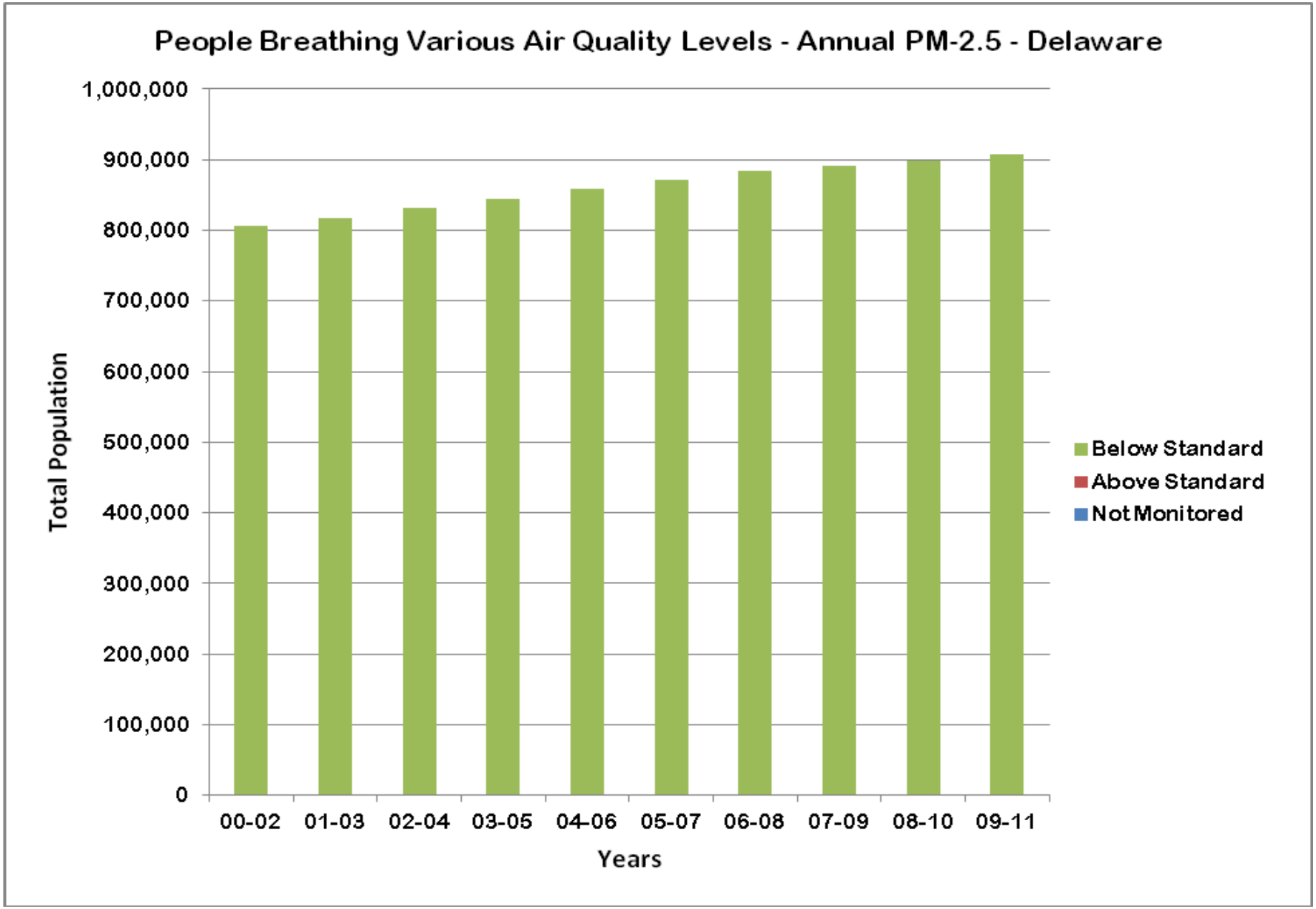

People Breathing Various Air Quality Levels - 24 Hour PM-2.5 - Delaware
1,000,000
900,000
800,000
700,000
600,000
500,000
400,000
300,000
200,000
100,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard

Figure DE-3


People Breathing Various Air Quality Levels - Annual PM-2.5 - Delaware
1,000,000
900,000
800,000
700,000
600,000
500,000
400,000
300,000
200,000
100,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# DISTRICT OF COLUMBIA

## Ozone

**Progress has been made in ozone levels in the District of Columbia. In the 2000 – 2002 time period, no people lived in counties that met the ozone standard. By 2009 – 2011 this was still the case. However, all people in the earlier time period lived in air graded as F, while the later period was graded as D. Figure DC-1 shows the distribution of people by year.**

## 24-Hour PM-2.5

**Significant progress has been made in 24-hour PM-2.5 levels in the District of Columbia. In the 2000 – 2002 time period, no people lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 - 2011 this was approximately 0.6 million people (100%). Figure DC-2 shows the distribution of people by year.**

## Annual PM-2.5

**Significant progress has been made in annual PM-2.5 levels in the District of Columbia. In the 2000 – 2002 time period, no people lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this was approximately 0.6 million people (100%). Figure DC-3 shows the distribution of people by year.**

Table DC-1

2009 – 2011

| | | OZONE | | PARTICLE POLLUTION (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg. 24-Hr DV | Grade | Avg. Ann DV | Grade |
| DC | 617,996 | 0.078 | D | 25 | A | 10.4 | A |
| | | | | | | | |
| Subtotal | 617,996 | | | | | | |
| Not Monitored | 0 | | | | | | |
| Total | 617,996 | | | | | | |

DV – Design Value

# DISTRICT OF COLUMBIA

Table DC-2

People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| B | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 567,136 | 570,681 | 574,404 | 580,236 | 592,228 | 601,723 | 617,996 |
| F | 573,158 | 568,502 | 567,754 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 573,158 | 568,502 | 567,754 | 567,136 | 570,681 | 574,404 | 580,236 | 592,228 | 601,723 | 617,996 |
| NM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 573,158 | 568,502 | 567,754 | 567,136 | 570,681 | 574,404 | 580,236 | 592,228 | 601,723 | 617,996 |

People Breathing Short-term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 601,723 | 617,996 |
| B | 0 | 0 | 0 | 0 | 0 | 0 | 580,236 | 592,228 | 0 | 0 |
| C | 0 | 0 | 0 | 0 | 570,681 | 574,404 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 567,754 | 567,136 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 573,158 | 568,502 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 573,158 | 568,502 | 567,754 | 567,136 | 570,681 | 574,404 | 580,236 | 592,228 | 601,723 | 617,996 |
| NM | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 573,158 | 568,502 | 567,754 | 567,136 | 570,681 | 574,404 | 580,236 | 592,228 | 601,723 | 617,996 |

People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 592,228 | 601,723 | 617,996 |
| B | 0 | 0 | 0 | 0 | 0 | 0 | 580,236 | 0 | 0 | 0 |
| C | 0 | 0 | 567,754 | 567,136 | 570,681 | 574,404 | 0 | 0 | 0 | 0 |
| D | 573,158 | 568,502 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 573,158 | 568,502 | 567,754 | 567,136 | 570,681 | 574,404 | 580,236 | 592,228 | 601,723 | 617,996 |
| NM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 573,158 | 568,502 | 567,754 | 567,136 | 570,681 | 574,404 | 580,236 | 592,228 | 601,723 | 617,996 |

NM - Not Monitored

Figure DC-1

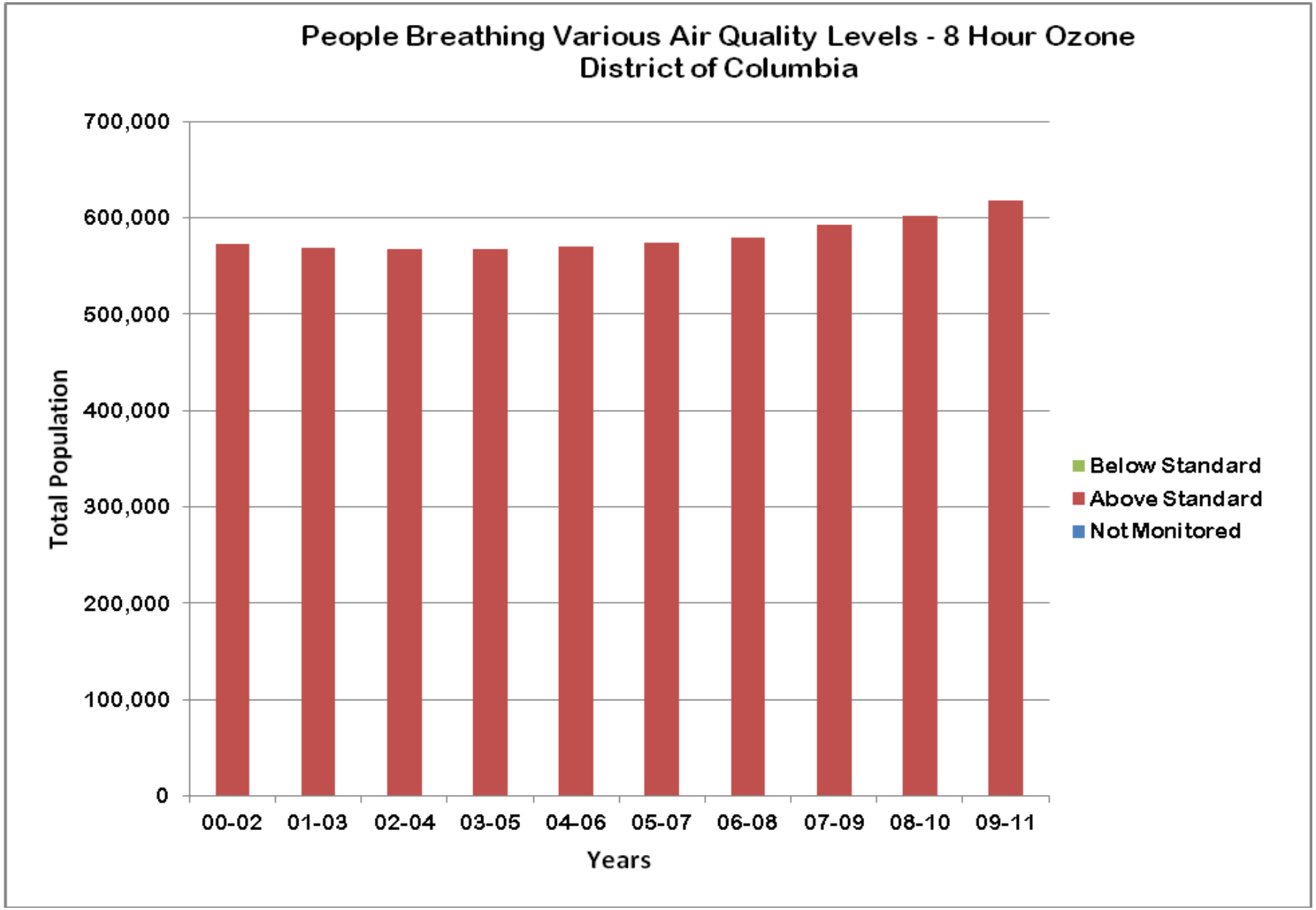

People Breathing Various Air Quality Levels - 8 Hour Ozone
District of Columbia
Total Population
700,000
600,000
500,000
400,000
300,000
200,000
100,000
0
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure DC-2

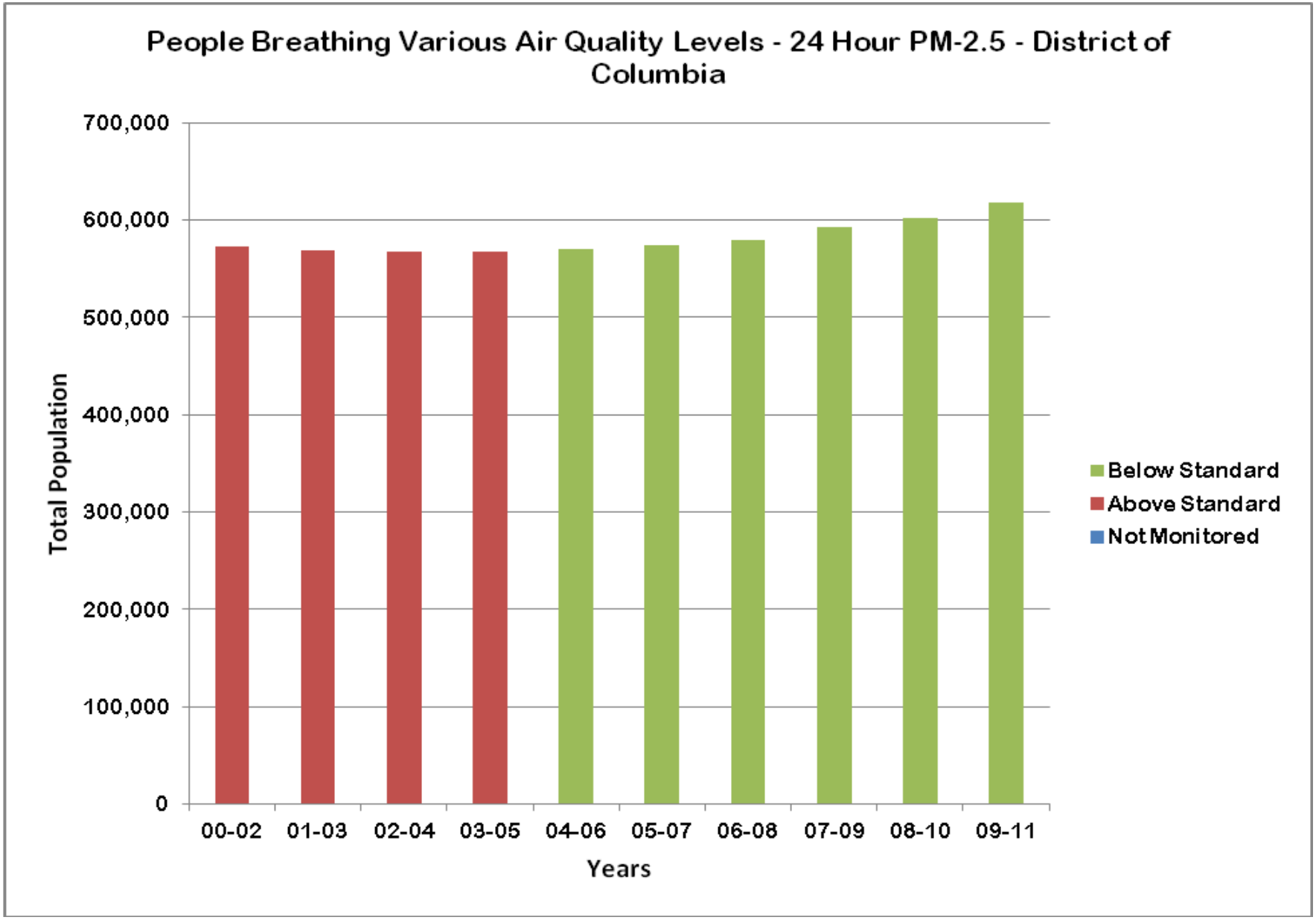
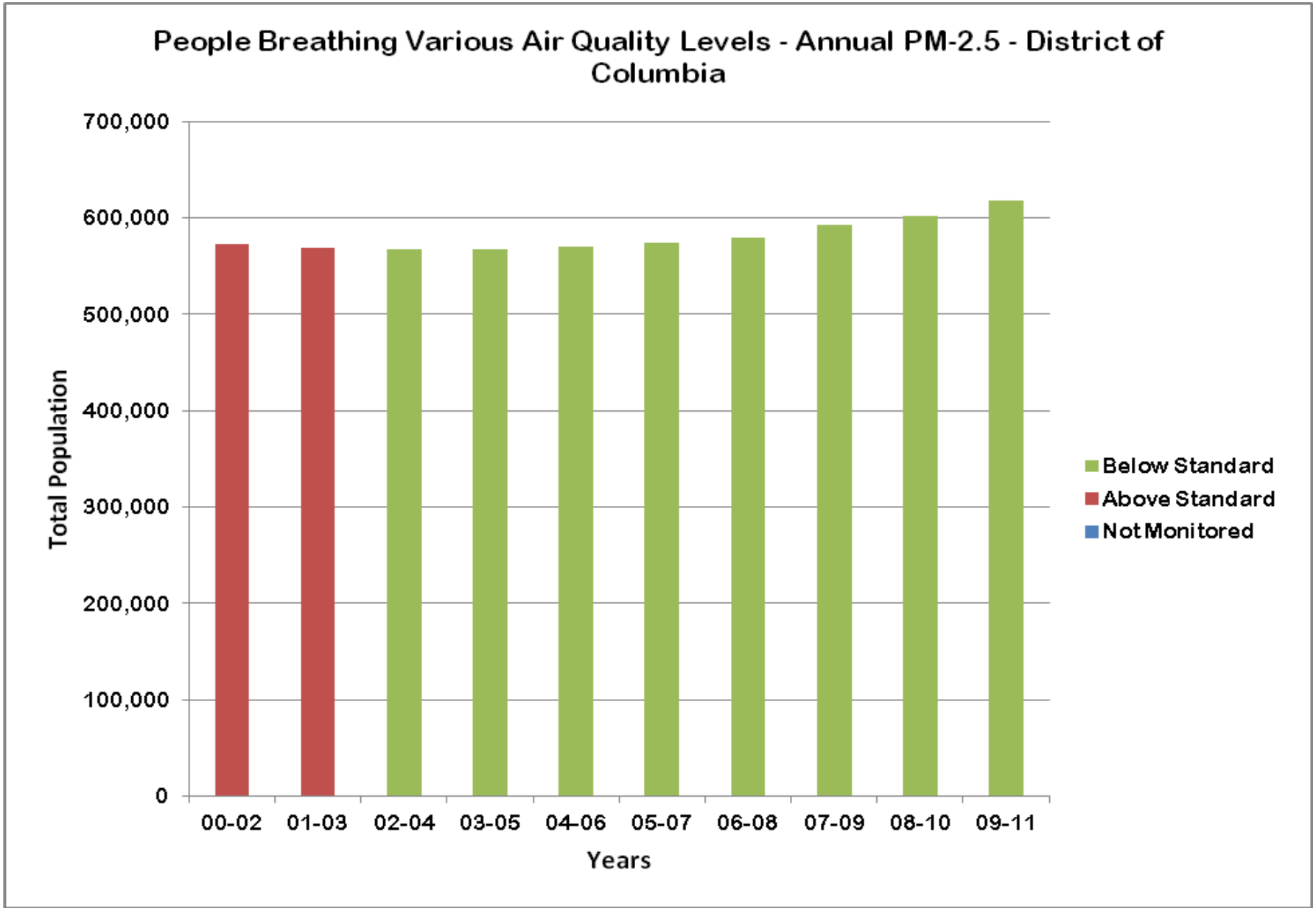

People Breathing Various Air Quality Levels - 24 Hour PM-2.5 - District of Columbia
700,000
600,000
500,000
400,000
300,000
200,000
100,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure DC-3


People Breathing Various Air Quality Levels - Annual PM-2.5 - District of Columbia
700,000
600,000
500,000
400,000
300,000
200,000
100,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# FLORIDA

## Ozone

**Significant progress has been made in ozone levels in Florida. In the 2000 – 2002 time period, approximately 9 million people (54.8%) lived in counties that met the ozone standard. By 2009 – 2011 this had increased to 15.9 million people (83.6%). In 2002 – 2011, the rest of the population lived in areas where ozone is not monitored. Figure FL-1 shows the distribution of people by year.**

## 24-Hour PM-2.5

**Measured air quality in Florida has always met the 24-hour PM-2.5 standard. In the 2000 – 2002 time period, approximately 13.2 million people (79.3%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 - 2011 this was approximately 13.9 million people (73.2%). The rest of the population lived in areas where PM-2.5 is not measured. Figure FL-2 shows the distribution of people by year.**

## Annual PM-2.5

**Measured annual PM-2.5 levels in Florida have always met the standard. In the 2000 – 2002 time period, approximately 13.2 million people (79.3%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this had increased to approximately 13.9 million people (73.2%). The rest of the population lived in areas where PM-2.5 is not measured. Figure FL-3 shows the distribution of people by year.**

# FLORIDA

Table FL-1

2009 – 2011

| | | OZONE | | PARTICLE POLLUTION (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg. 24-Hr DV | Grade | Avg. Ann DV | Grade |
| Alachua | 249,365 | 0.063 | B | 20 | A | 7.7 | A |
| Baker | 27,154 | 0.062 | B | ND | --- | ND | --- |
| Bay | 169,856 | 0.069 | C | ND | --- | ND | --- |
| Brevard | 543,566 | 0.065 | C | 15 | A | 6.6 | A |
| Broward | 1,780,172 | 0.058 | A | 13 | A | 6.5 | A |
| Citrus | 140,031 | ND | --- | 16 | A | 7.3 | A |
| Columbia | 67,485 | 0.063 | B | ND | --- | ND | --- |
| Duval | 870,709 | 0.068 | C | 20 | A | 8.4 | A |
| Escambia | 299,114 | 0.072 | C | 20 | A | 9.0 | A |
| Highlands | 98,630 | 0.064 | B | ND | --- | ND | --- |
| Hillsborough | 1,267,775 | 0.071 | C | 17 | A | 7.8 | A |
| Holmes | 19,873 | 0.062 | B | ND | --- | ND | --- |
| Lake | 301,019 | 0.067 | B | ND | --- | ND | --- |
| Lee | 631,330 | 0.062 | B | 14 | A | 6.9 | A |
| Leon | 277,971 | 0.063 | B | 23 | A | 9.7 | A |
| Marion | 332,529 | 0.064 | B | ND | --- | ND | --- |
| Miami-Dade | 2,554,766 | 0.064 | B | 13 | A | 6.8 | A |
| Okaloosa | 183,482 | 0.067 | B | ND | --- | ND | --- |
| Orange | 1,169,107 | 0.071 | C | 16 | A | 7.3 | A |
| Osceola | 276,163 | 0.066 | B | ND | --- | ND | --- |
| Palm Beach | 1,335,187 | 0.063 | B | 14 | A | 6.1 | A |
| Pasco | 466,457 | 0.066 | B | ND | --- | ND | --- |
| Pinellas | 917,398 | 0.065 | B | 16 | A | 7.6 | A |
| Polk | 609,492 | 0.067 | B | 15 | A | 7.5 | A |
| Santa Rosa | 154,104 | 0.074 | C | ND | --- | ND | --- |
| Sarasota | 382,213 | 0.069 | C | 15 | A | 6.9 | A |
| Seminole | 425,071 | 0.067 | B | 15 | A | 7.5 | A |
| Volusia | 494,804 | 0.061 | B | 19 | A | 7.4 | A |
| Wakulla | 30,978 | 0.063 | B | ND | --- | ND | --- |
| | | | | | | | |
| Subtotal | 16,601,051 | | | | | | |
| Not Monitored | 2,256,491 | | | | | | |
| Total | 19,057,542 | | | | | | |

DV – Design Value ND - No Data

# FLORIDA

## Table FL-2
## People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,733,310 | 0 | 0 |
| B | 4,484,754 | 5,759,375 | 5,336,368 | 5,411,148 | 3,023,837 | 3,274,271 | 3,789,088 | 4,369,423 | 9,057,136 | 9,842,720 |
| C | 4,661,949 | 5,192,779 | 8,122,752 | 4,850,656 | 7,576,707 | 7,525,614 | 9,171,676 | 9,127,335 | 6,471,003 | 6,093,050 |
| D | 4,126,748 | 3,617,291 | 1,435,194 | 4,992,059 | 4,672,836 | 5,034,740 | 3,242,723 | 446,559 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 13,273,451 | 14,569,445 | 14,894,314 | 15,253,863 | 15,273,380 | 15,834,625 | 16,203,487 | 15,676,627 | 15,528,139 | 15,935,770 |
| NM | 3,415,919 | 2,434,640 | 2,521,004 | 2,588,175 | 2,893,610 | 2,533,217 | 2,323,818 | 2,976,017 | 3,273,171 | 3,121,772 |
| Total | 16,689,370 | 17,004,085 | 17,415,318 | 17,842,038 | 18,166,990 | 18,367,842 | 18,527,305 | 18,652,644 | 18,801,310 | 19,057,542 |

## People Breathing Short-term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 12,993,437 | 13,609,517 | 13,099,068 | 13,479,330 | 13,979,809 | 14,520,061 | 13,972,509 | 14,060,101 | 14,021,073 | 13,948,071 |
| B | 245,404 | 0 | 0 | 719,339 | 428,720 | 0 | 0 | 0 | 0 | 0 |
| C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 13,238,841 | 13,609,517 | 13,099,068 | 14,198,669 | 14,408,529 | 14,520,061 | 13,972,509 | 14,060,101 | 14,021,073 | 13,948,071 |
| NM | 3,450,529 | 3,394,568 | 4,316,250 | 3,643,369 | 3,758,461 | 3,847,781 | 4,554,796 | 4,592,543 | 4,780,237 | 5,109,471 |
| Total | 16,689,370 | 17,004,085 | 17,415,318 | 17,842,038 | 18,166,990 | 18,367,842 | 18,527,305 | 18,652,644 | 18,801,310 | 19,057,542 |

## People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 12,695,869 | 13,358,844 | 12,844,880 | 13,940,586 | 14,145,453 | 14,520,061 | 13,972,509 | 14,060,101 | 14,021,073 | 13,948,071 |
| B | 542,972 | 250,673 | 254,188 | 258,083 | 263,076 | 0 | 0 | 0 | 0 | 0 |
| C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 13,238,841 | 13,609,517 | 13,099,068 | 14,198,669 | 14,408,529 | 14,520,061 | 13,972,509 | 14,060,101 | 14,021,073 | 13,948,071 |
| NM | 3,450,529 | 3,394,568 | 4,316,250 | 3,643,369 | 3,758,461 | 3,847,781 | 4,554,796 | 4,592,543 | 4,780,237 | 5,109,471 |
| Total | 16,689,370 | 17,004,085 | 17,415,318 | 17,842,038 | 18,166,990 | 18,367,842 | 18,527,305 | 18,652,644 | 18,801,310 | 19,057,542 |

NM – Not Monitored

Figure FL-1

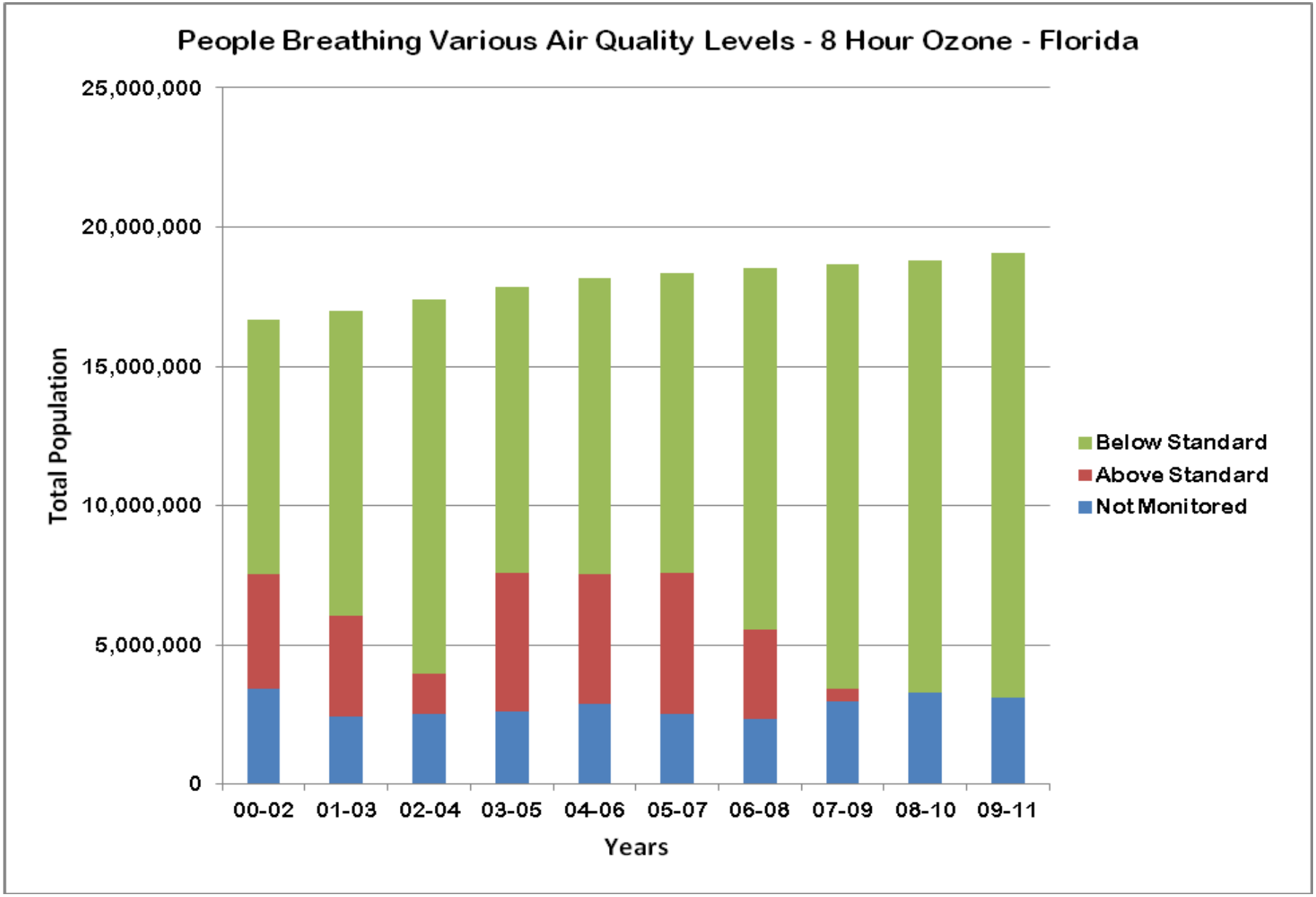

People Breathing Various Air Quality Levels - 8 Hour Ozone - Florida
25,000,000
20,000,000
15,000,000
10,000,000
5,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure FL-2

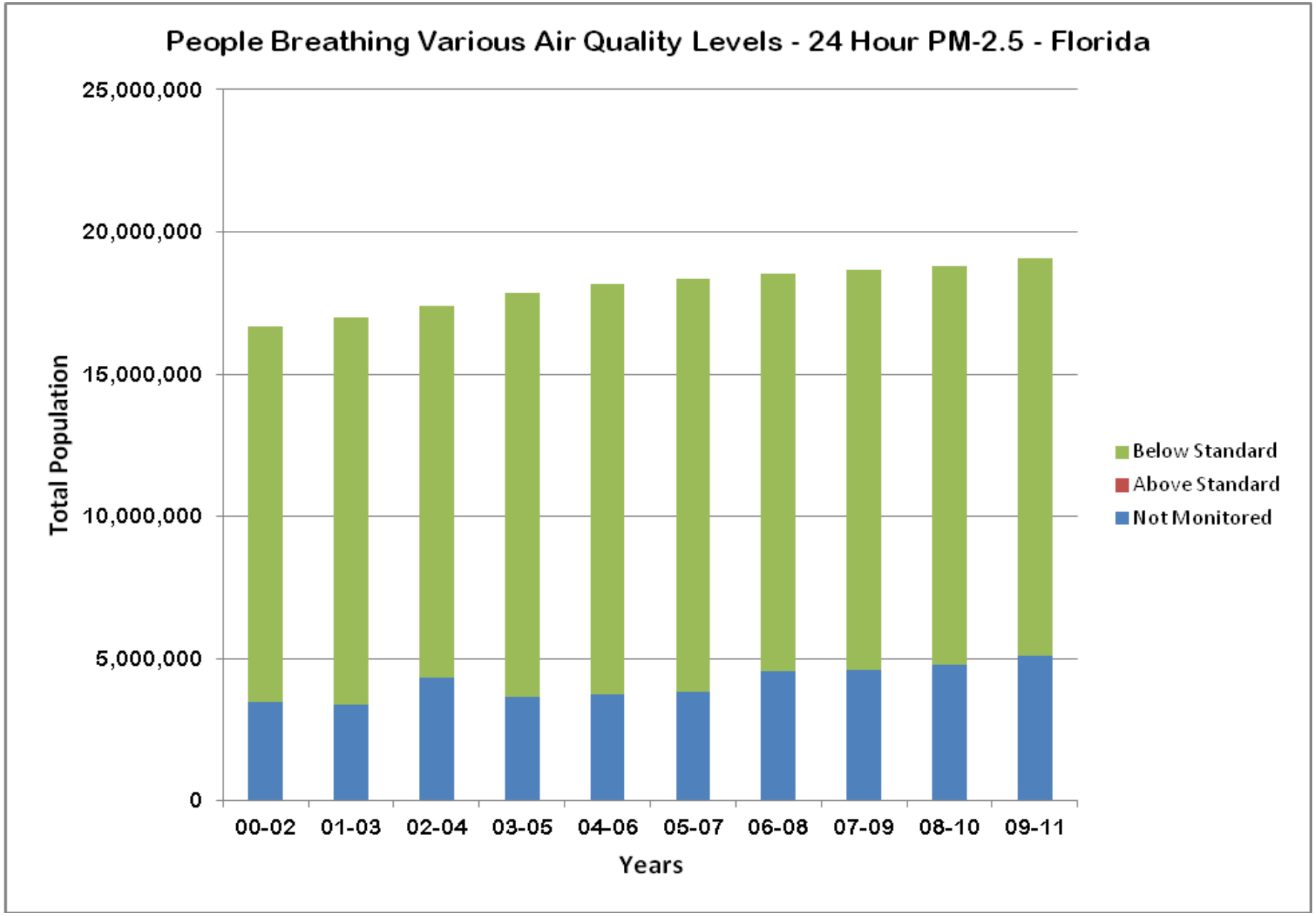
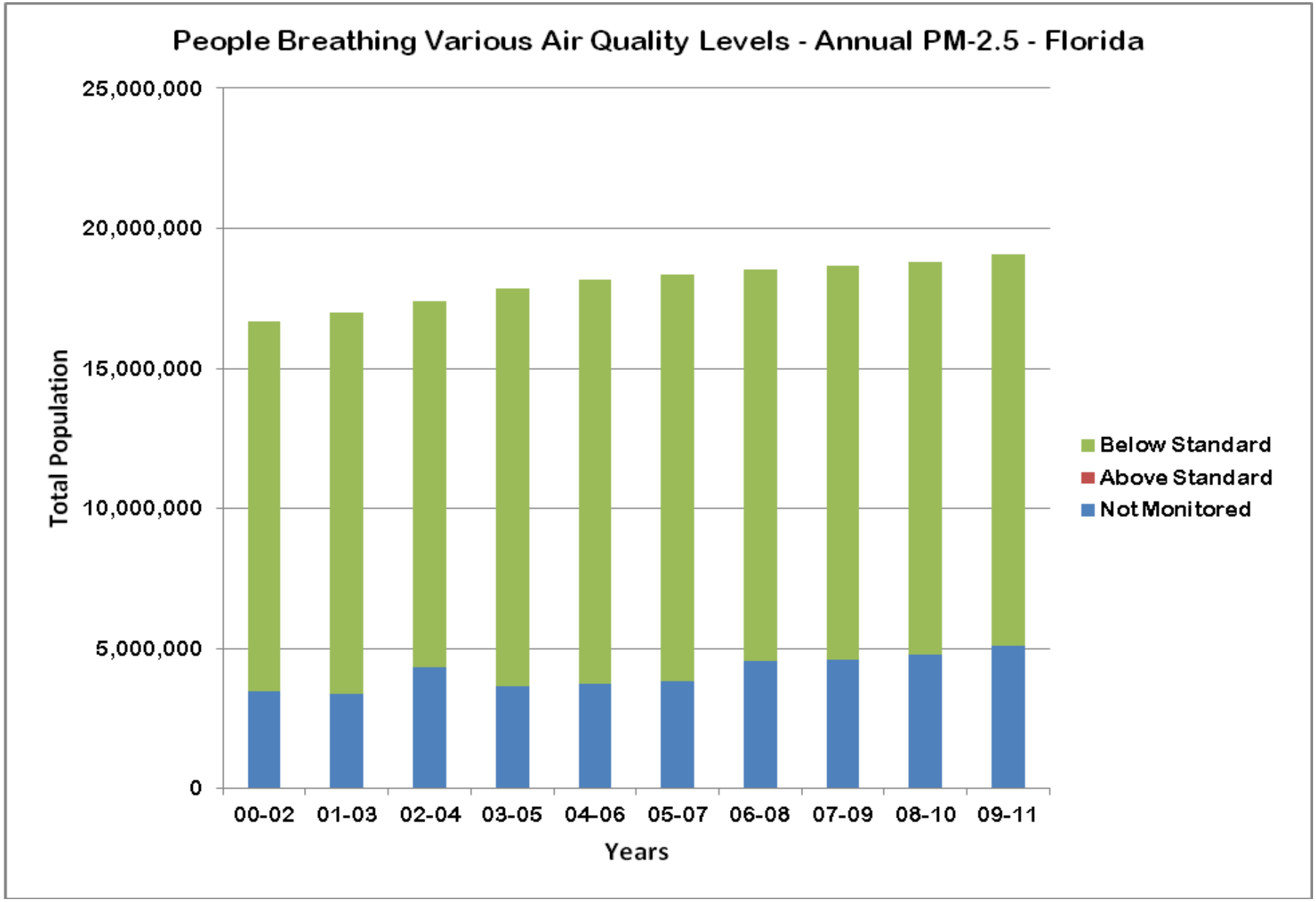

People Breathing Various Air Quality Levels - 24 Hour PM-2.5 - Florida
25,000,000
20,000,000
15,000,000
10,000,000
5,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure FL-3


People Breathing Various Air Quality Levels - Annual PM-2.5 - Florida
25,000,000
20,000,000
15,000,000
10,000,000
5,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# GEORGIA

## Ozone

**Progress has been made in ozone levels in Georgia. In the 2000 – 2002 time period, approximately 0.3 million people (3.6%) lived in counties that met the ozone standard. By 2009 – 2011 this had increased to 1.7 million people (17.1%). Figure GA-1 shows the distribution of people by year.**

### 24-Hour PM-2.5

**Significant progress has been made in 24-hour PM-2.5 levels in Georgia. In the 2000 – 2002 time period, approximately 1.0 million people (11.7%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 -2011 this was approximately 5.3 million people (54.3%) and the remainder of the population lived in areas where PM-2.5 is not measured. Figure GA-2 shows the distribution of people by year.**

### Annual PM-2.5

**Significant progress has been made in annual PM-2.5 levels in Georgia. In the 2000 – 2002 time period, approximately 0.5 million people (6.1%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this had increased to approximately 5.3 million people (54.3%) and the remainder of the population lived in areas where PM-2.5 is not measured. Figure GA-3 shows the distribution of people by year.**

# GEORGIA

Table GA-1

2009 – 2011

| | | OZONE | | PARTICLE POLLUTION (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg. 24-Hr DV | Grade | Avg. Ann DV | Grade |
| Bibb | 156,433 | 0.073 | C | 26 | A | 12.2 | B |
| Chatham | 271,544 | 0.064 | B | 24 | A | 10.4 | A |
| Chattooga | 25,736 | 0.067 | B | ND | --- | ND | --- |
| Clarke | 117,344 | 0.072 | C | 22 | A | 10.8 | A |
| Clayton | 261,532 | ND | --- | 25 | A | 12.5 | B |
| **Cobb** | **697,553** | **0.078** | **D** | 23 | A | 11.5 | A |
| Columbia | 128,112 | 0.068 | C | ND | --- | ND | --- |
| Coweta | 129,629 | 0.067 | B | ND | --- | ND | --- |
| Dawson | 22,459 | 0.069 | C | ND | --- | ND | --- |
| **DeKalb** | **699,893** | **0.077** | **D** | 24 | A | 11.8 | A |
| Dougherty | 94,788 | ND | --- | 26 | A | 11.8 | A |
| Douglas | 133,355 | 0.075 | C | ND | --- | ND | --- |
| Floyd | 95,989 | ND | --- | 24 | A | 12.1 | B |
| **Fulton** | **949,599** | **0.080** | **D** | 25 | A | 12.5 | B |
| Glynn | 80,386 | 0.062 | B | 23 | A | 9.4 | A |
| **Gwinnett** | **824,941** | **0.076** | **D** | 23 | A | 11.6 | A |
| Hall | 183,052 | ND | --- | 23 | A | 10.8 | A |
| **Henry** | **207,360** | **0.078** | **D** | ND | --- | ND | --- |
| Houston | 143,925 | ND | --- | 24 | A | 11.3 | A |
| Lowndes | 111,885 | ND | --- | 25 | A | 10.0 | A |
| Murray | 39,557 | 0.072 | C | ND | --- | ND | --- |
| Muscogee | 194,107 | 0.067 | B | 25 | A | 11.8 | A |
| Paulding | 143,542 | 0.071 | C | 22 | A | 10.6 | A |
| Richmond | 201,217 | 0.070 | C | 24 | A | 11.7 | A |
| **Rockdale** | **85,765** | **0.076** | **D** | ND | --- | ND | --- |
| Sumter | 32,511 | 0.065 | B | ND | --- | ND | --- |
| Walker | 68,848 | ND | --- | 23 | A | 10.1 | A |
| Washington | 21,111 | ND | --- | 24 | A | 11.2 | A |
| Wilkinson | 9,444 | ND | --- | 24 | A | 12.0 | B |
| Subtotal | 6,131,617 | | | | | | |
| Not Monitored | 3,687,593 | | | | | | |
| Total | 9,815,210 | | | | | | |

DV – Design Value ND - No Data

# GEORGIA

## Table GA-2

### People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| B | 0 | 237,348 | 0 | 0 | 0 | 328,494 | 333,282 | 341,068 | 593,473 | 733,913 |
| C | 305,918 | 284,407 | 530,252 | 553,607 | 569,655 | 148,061 | 180,208 | 730,039 | 1,866,186 | 942,019 |
| D | 377,183 | 18,406 | 172,990 | 1,469,317 | 1,422,163 | 469,064 | 852,224 | 2,049,730 | 2,589,689 | 3,465,111 |
| F | 3,124,264 | 3,131,185 | 3,693,654 | 2,559,760 | 2,746,367 | 4,003,898 | 3,670,080 | 1,880,416 | 0 | 0 |
| Subtotal | 3,807,365 | 3,671,346 | 4,396,896 | 4,582,684 | 4,738,185 | 4,949,517 | 5,035,794 | 5,001,253 | 5,049,348 | 5,141,043 |
| NM | 4,700,891 | 4,951,447 | 4,372,356 | 4,343,238 | 4,417,628 | 4,400,471 | 4,469,049 | 4,619,593 | 4,638,305 | 4,674,167 |
| Total | 8,508,256 | 8,622,793 | 8,769,252 | 8,925,922 | 9,155,813 | 9,349,988 | 9,504,843 | 9,620,846 | 9,687,653 | 9,815,210 |

### People Breathing Short-term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 69,408 | 0 | 71,475 | 170,862 | 175,462 | 178,265 | 438,200 | 1,821,580 | 5,139,710 | 5,327,133 |
| B | 236,510 | 911,094 | 907,100 | 453,758 | 442,217 | 1,904,671 | 2,930,065 | 3,370,896 | 94,565 | 0 |
| C | 692,160 | 564,175 | 2,740,449 | 2,294,961 | 3,807,287 | 2,966,208 | 1,758,801 | 0 | 0 | 0 |
| D | 445,264 | 3,231,202 | 1,064,803 | 1,816,115 | 258,552 | 0 | 0 | 0 | 0 | 0 |
| F | 3,132,644 | 21,110 | 0 | 0 | 166,524 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 4,575,986 | 4,727,581 | 4,783,827 | 4,735,696 | 4,850,042 | 5,049,144 | 5,127,066 | 5,192,476 | 5,234,275 | 5,327,133 |
| NM | 3,932,270 | 3,895,212 | 3,985,425 | 4,190,226 | 4,305,771 | 4,300,844 | 4,377,777 | 4,428,370 | 4,453,378 | 4,488,077 |
| Total | 8,508,256 | 8,622,793 | 8,769,252 | 8,925,922 | 9,155,813 | 9,349,988 | 9,504,843 | 9,620,846 | 9,687,653 | 9,815,210 |

### People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 164,598 | 71,475 | 0 | 0 | 0 | 182,931 | 627,154 | 2,043,133 | 3,854,136 |
| B | 163,311 | 119,396 | 461,051 | 170,862 | 175,462 | 178,265 | 569,612 | 4,305,255 | 3,191,142 | 1,472,997 |
| C | 352,939 | 1,212,385 | 652,298 | 1,172,906 | 825,794 | 1,169,753 | 4,112,424 | 260,067 | 0 | 0 |
| D | 948,092 | 2,418,634 | 2,789,522 | 2,573,191 | 3,590,234 | 3,701,126 | 262,099 | 0 | 0 | 0 |
| F | 3,111,644 | 812,568 | 809,481 | 818,737 | 258,552 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 4,575,986 | 4,727,581 | 4,783,827 | 4,735,696 | 4,850,042 | 5,049,144 | 5,127,066 | 5,192,476 | 5,234,275 | 5,327,133 |
| NM | 3,932,270 | 3,895,212 | 3,985,425 | 4,190,226 | 4,305,771 | 4,300,844 | 4,377,777 | 4,428,370 | 4,453,378 | 4,488,077 |
| Total | 8,508,256 | 8,622,793 | 8,769,252 | 8,925,922 | 9,155,813 | 9,349,988 | 9,504,843 | 9,620,846 | 9,687,653 | 9,815,210 |

NM – Not Monitored

Figure GA-1

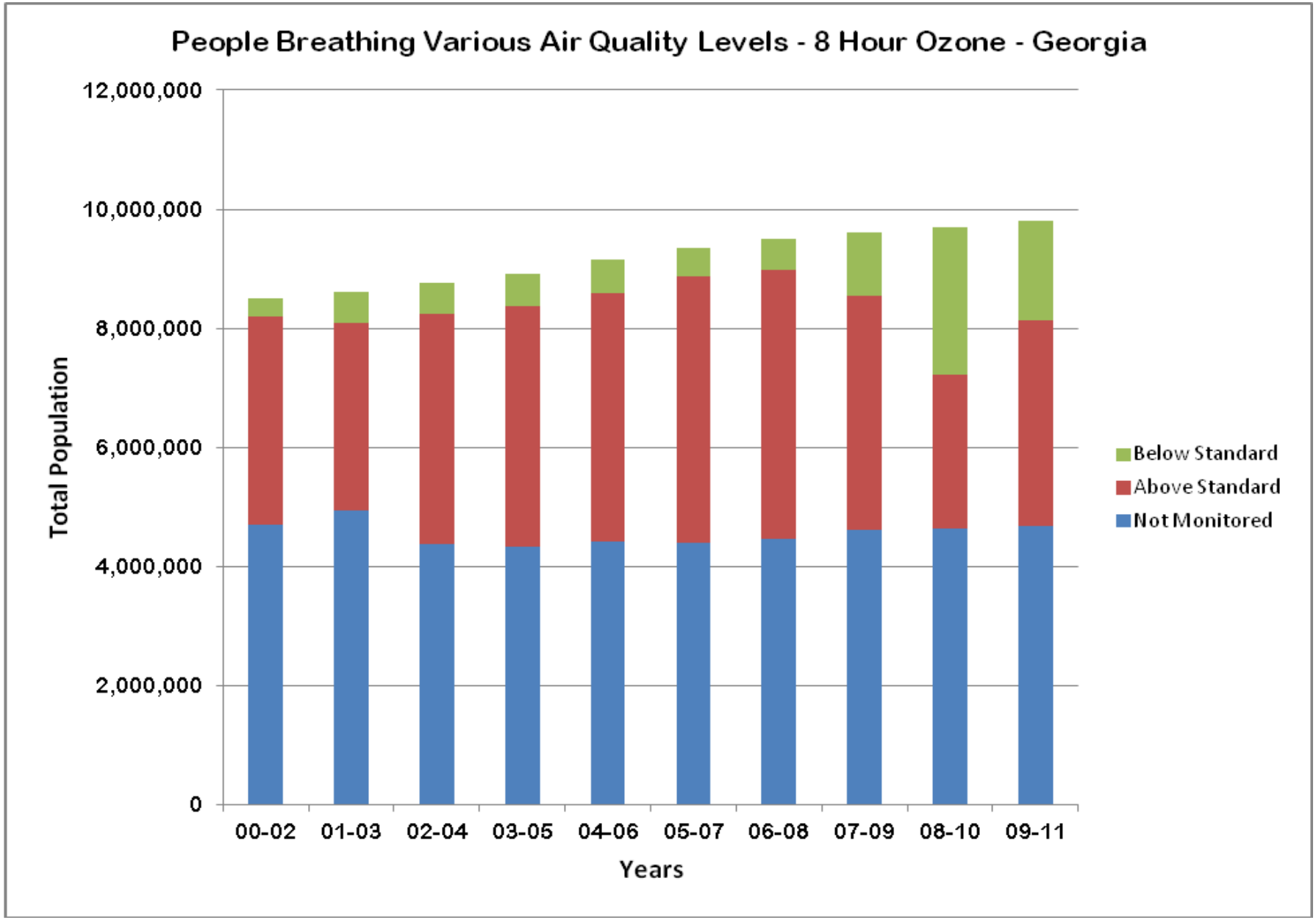

People Breathing Various Air Quality Levels - 8 Hour Ozone - Georgia
12,000,000
10,000,000
8,000,000
6,000,000
4,000,000
2,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure GA-2

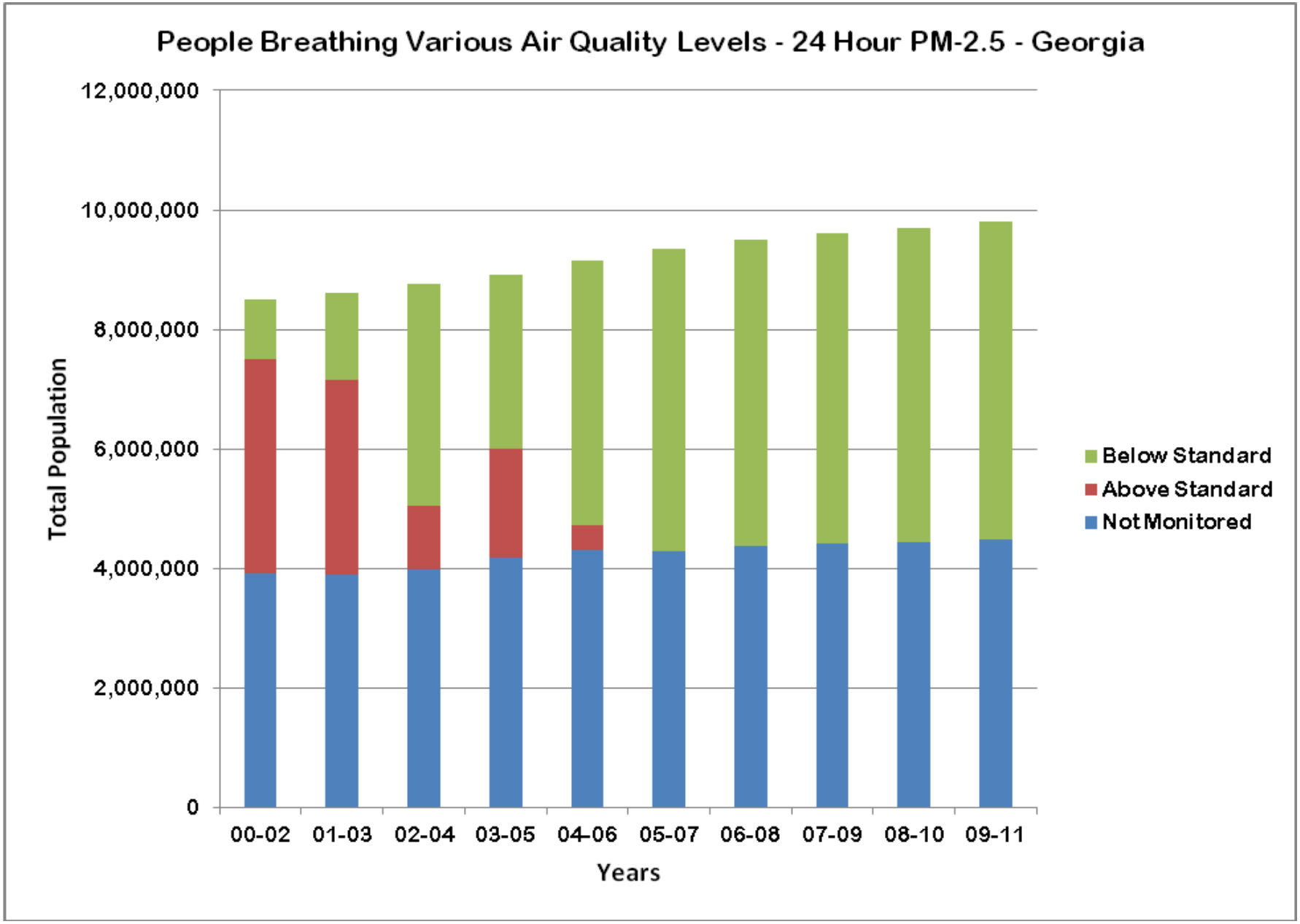
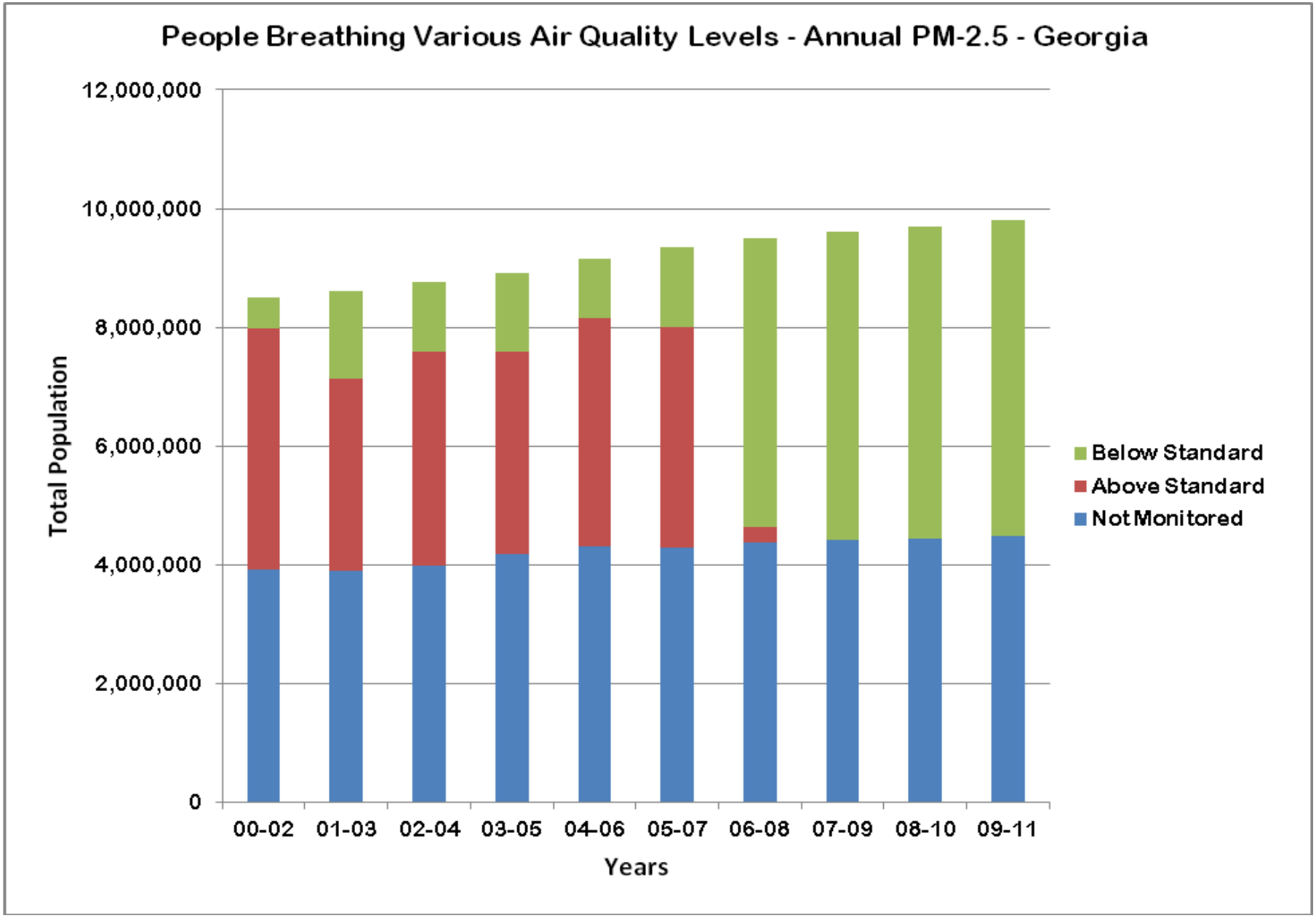

People Breathing Various Air Quality Levels - 24 Hour PM-2.5 - Georgia
12,000,000
10,000,000
8,000,000
6,000,000
4,000,000
2,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure GA-3


People Breathing Various Air Quality Levels - Annual PM-2.5 - Georgia
12,000,000
10,000,000
8,000,000
6,000,000
4,000,000
2,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# HAWAII

## Ozone

**Ozone levels in Hawaii have historically been better than the standard. In the 2000 – 2002 time period, approximately 1.0 million people (84.3%) lived in counties that met the ozone standard. By 2009 – 2011 this had decreased to a little under 1.0 million people (70.1%). All people in both years either lived in counties with air quality rated as A or lived in counties where ozone was not measured. Figure HI-1 shows the distribution of people by year.**

## 24-Hour PM-2.5

**24-hour PM-2.5 levels in Hawaii have historically been better than the standard. In the 2000 – 2002 time period, approximately 1.0 million people (82.7%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 -2011 this was approximately 1.3 million people (95.1%). All people in both years either lived in counties with air quality rated as A or lived in counties where PM-2.5 was not measured. Figure HI-2 shows the distribution of people by year.**

## Annual PM-2.5

**Annual PM-2.5 levels in Hawaii have historically been better than the standard. In the 2000 – 2002 time period, approximately 1.0 million people (82.7%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this had increased to approximately 1.3 million people (95.1%). All people in both years either lived in counties with air quality rated as A or lived in counties where PM-2.5 was not measured. Figure HI-3 shows the distribution of people by year.**

Table HI-1

2009 – 2011

| | | OZONE | | PARTICLE POLLUTION (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg. 24-Hr DV | Grade | Avg. Ann DV | Grade |
| Hawaii | 186,738 | ND | --- | 13 | A | 6.1 | A |
| Honolulu | 963,607 | 0.047 | A | 12 | A | 7.0 | A |
| Maui | 156,674 | ND | --- | 14 | A | 4.8 | A |
| | | | | | | | |
| Subtotal | 1,307,019 | | | | | | |
| Not Monitored | 67,741 | | | | | | |
| Total | 1,374,810 | | | | | | |

DV – Design Value ND - No Data

# HAWAII

## Table HI-2

### People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 1,045,049 | 1,052,753 | 907,997 | 918,181 | 926,954 | 925,335 | 933,680 | 943,177 | 953,207 | 963,607 |
| B | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 1,045,049 | 1,052,753 | 907,997 | 918,181 | 926,954 | 925,335 | 933,680 | 943,177 | 953,207 | 963,607 |
| NM | 194,564 | 198,401 | 365,572 | 374,548 | 382,777 | 390,340 | 398,533 | 403,540 | 407,094 | 411,203 |
| Total | 1,239,613 | 1,251,154 | 1,273,569 | 1,292,729 | 1,309,731 | 1,315,675 | 1,332,213 | 1,346,717 | 1,360,301 | 1,374,810 |

### People Breathing Short-term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 1,024,923 | 1,031,780 | 1,048,505 | 1,061,515 | 1,072,621 | 1,073,347 | 1,085,005 | 943,177 | 1,293,120 | 1,307,019 |
| B | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 1,024,923 | 1,031,780 | 1,048,505 | 1,061,515 | 1,072,621 | 1,073,347 | 1,085,005 | 943,177 | 1,293,120 | 1,307,019 |
| NM | 214,690 | 219,374 | 225,064 | 231,214 | 237,110 | 242,328 | 247,208 | 403,540 | 67,181 | 67,791 |
| Total | 1,239,613 | 1,251,154 | 1,273,569 | 1,292,729 | 1,309,731 | 1,315,675 | 1,332,213 | 1,346,717 | 1,360,301 | 1,374,810 |

### People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 1,024,923 | 1,031,780 | 1,048,505 | 1,061,515, | 1,072,621 | 1,073,347 | 1,085,005 | 943,177 | 1,293,120 | 1,307,019 |
| B | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 1,024,923 | 1,031,780 | 1,048,505 | 1,061,515 | 1,072,621 | 1,073,347 | 1,085,005 | 943,177 | 1,293,120 | 1,307,019 |
| NM | 214,690 | 219,374 | 225,064 | 231,214 | 237,110 | 242,328 | 247,208 | 403,540 | 67,181 | 67,791 |
| Total | 1,239,613 | 1,251,154 | 1,273,569 | 1,292,729 | 1,309,731 | 1,315,675 | 1,332,213 | 1,346,717 | 1,360,301 | 1,374,810 |

NM – Not Monitored

Figure HI-1

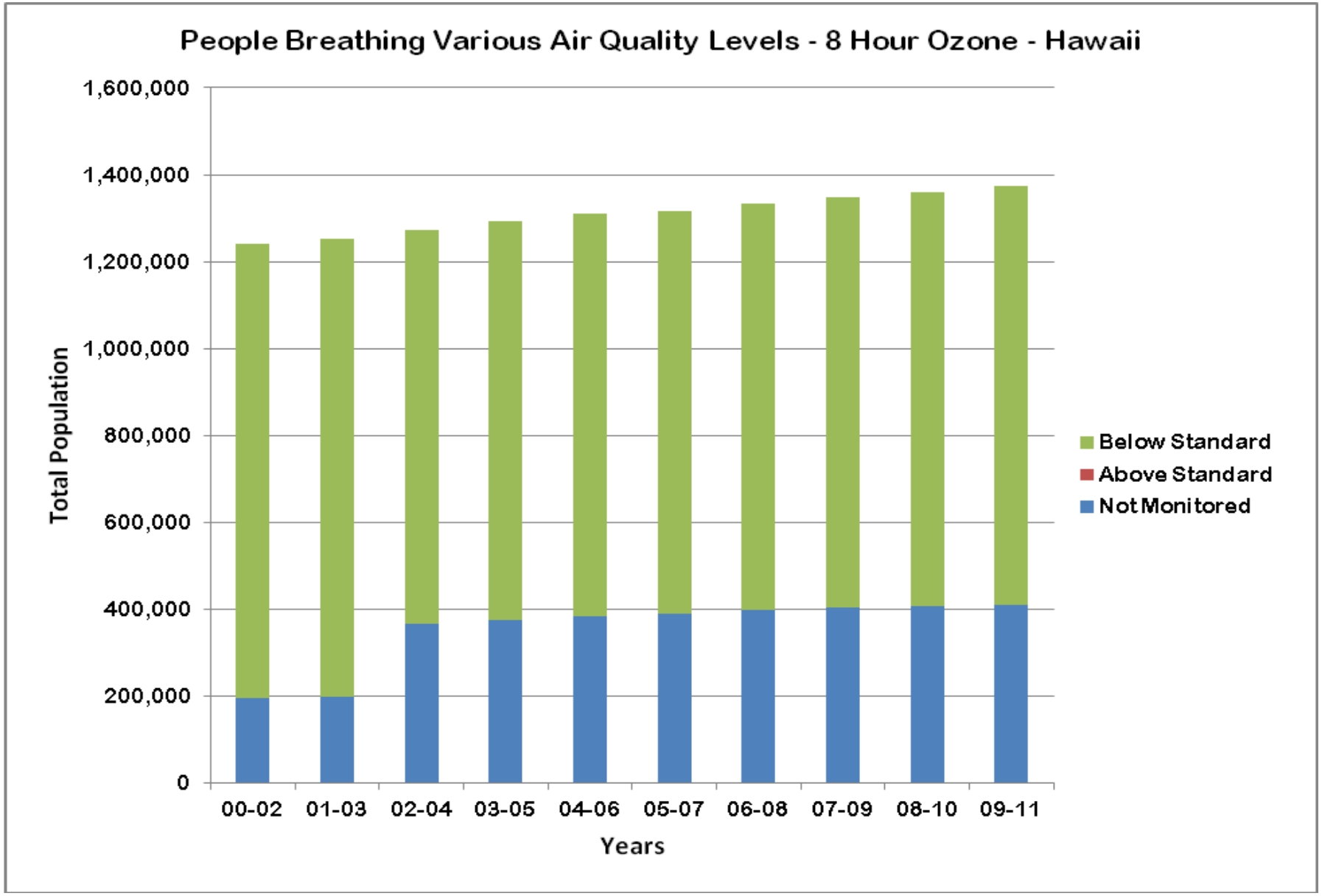

People Breathing Various Air Quality Levels - 8 Hour Ozone - Hawaii
Total Population
1,600,000
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure HI-2

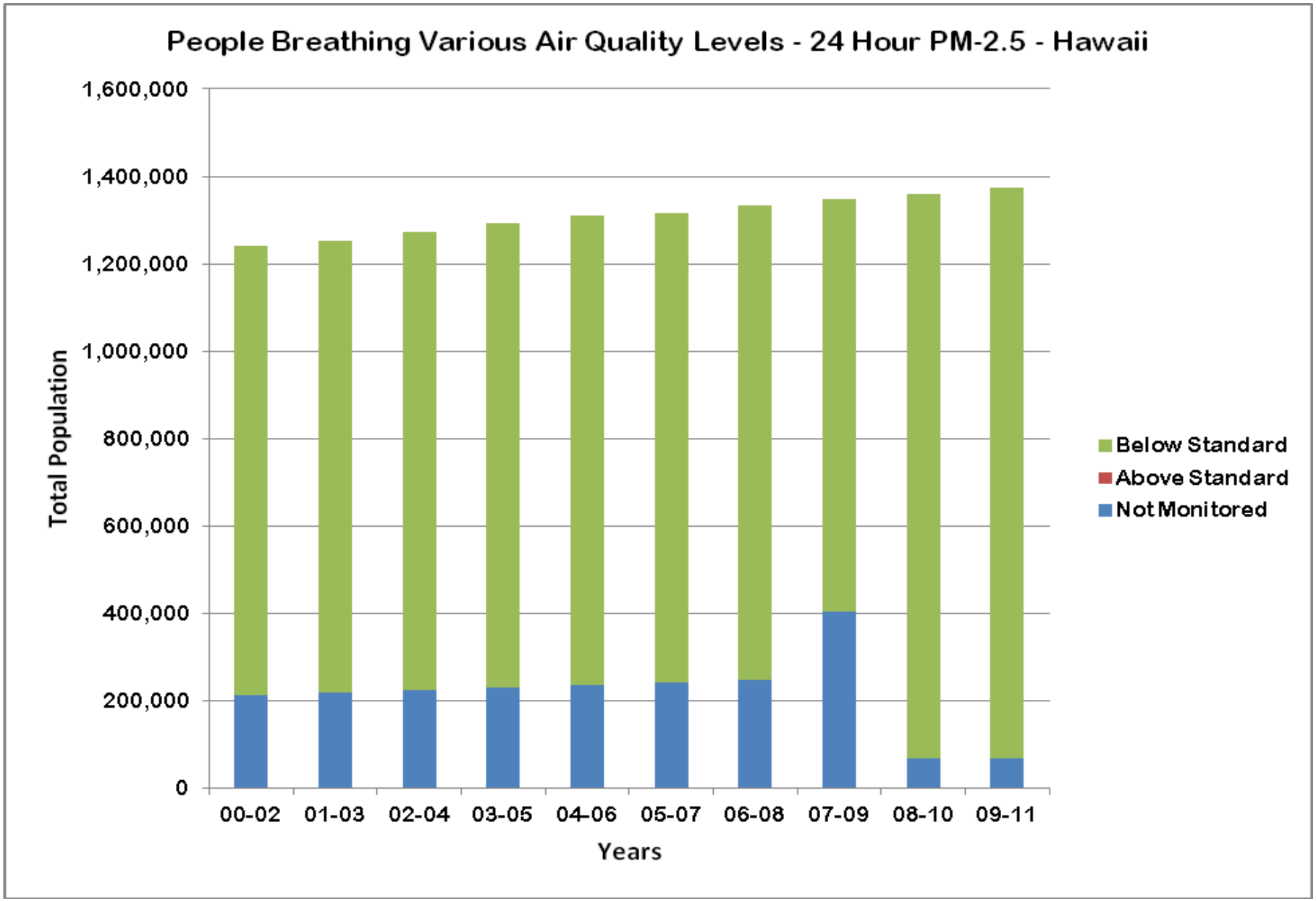
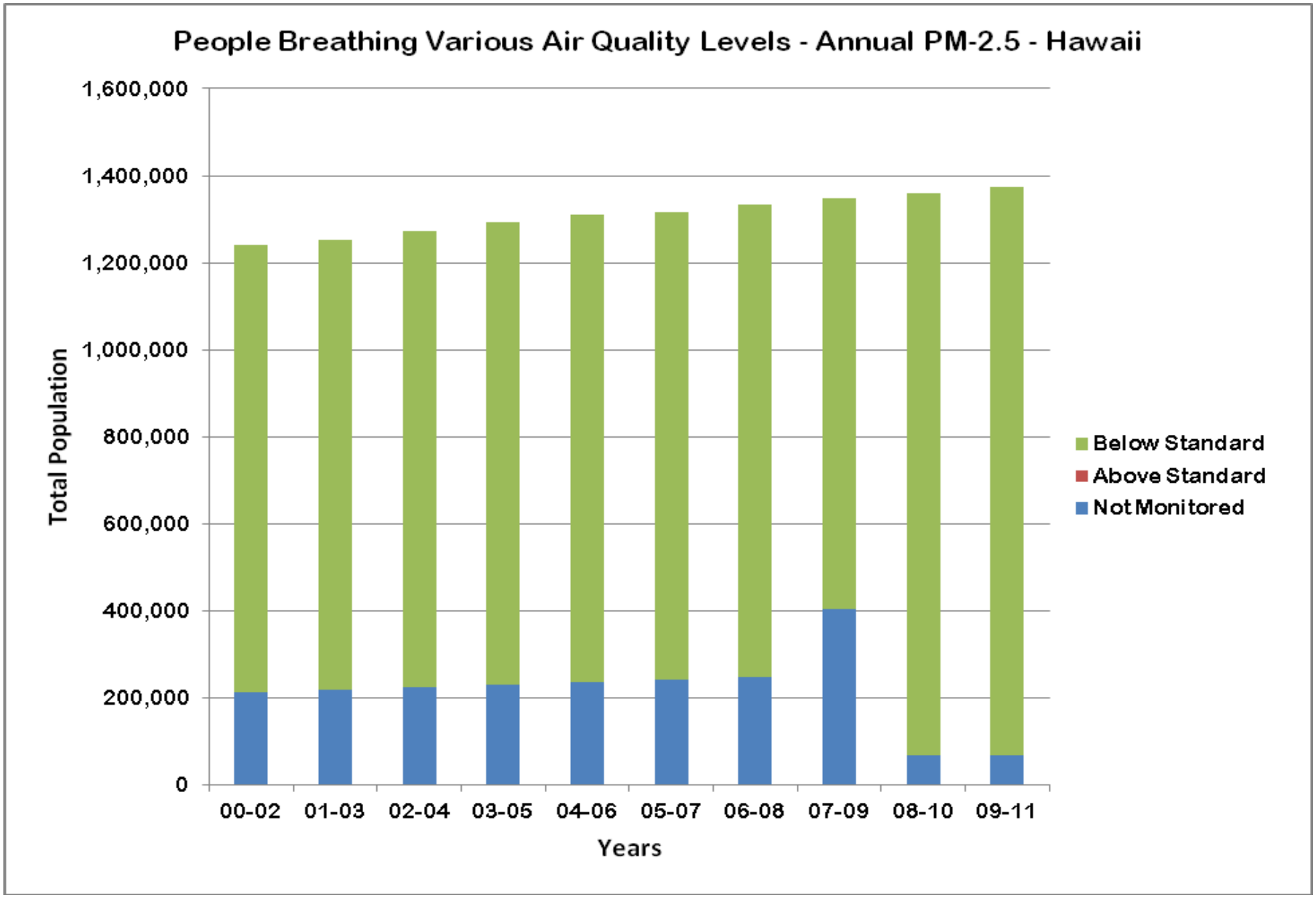

People Breathing Various Air Quality Levels - 24 Hour PM-2.5 - Hawaii
Total Population
1,600,000
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure HI-3


People Breathing Various Air Quality Levels - Annual PM-2.5 - Hawaii
Total Population
1,600,000
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# IDAHO

## Ozone

**Progress has been made in ozone levels in Idaho. In the 2000 – 2002 time period, approximately 27 thousand people (2.0%) lived in counties that met the ozone standard. By 2009 – 2011 this had increased to a little over 0.5 million people (34.4%) and the rest of the population lived in areas where ozone is not monitored. Figure ID-1 shows the distribution of people by year.**

## 24-Hour PM-2.5

**Progress has been made in 24-hour PM-2.5 levels in Idaho. In the 2000 – 2002 time period, approximately 0.6 million people (49.3%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 -2011 this was approximately 0.6 million people (38.0%). The latter years had fewer counties monitored which resulted in the lower estimate of people living in areas that met the standard. Figure ID-2 shows the distribution of people by year.**

## Annual PM-2.5

**Annual PM-2.5 levels in Idaho have historically been below the standard. In the 2000 – 2002 time period, approximately 0.9 million people (67.3%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this had decreased to approximately 0.6 million people (39.3%). The latter years had fewer counties monitored which resulted in the lower estimate of people living in areas that met the standard. Figure ID-3 shows the distribution of people by year.**

Table ID-1

2009 – 2011

| | | Ozone | | Particle Pollution (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg. 24-Hr DV | Grade | Avg. Ann DV | Grade |
| Ada | 400,842 | 0.066 | B | 19 | A | 6.1 | A |
| Benewah | 9,209 | ND | --- | 28 | B | 9.0 | A |
| Butte | 2,822 | 0.061 | B | ND | --- | ND | --- |
| Canyon | 191,694 | ND | --- | 19 | A | 7.4 | A |
| Kootenai | 141,132 | 0.057 | A | ND | --- | ND | --- |
| **Lemhi** | **7,967** | ND | --- | **38** | **D** | 11.8 | A |
| **Shoshone** | **12,672** | ND | --- | **37** | **D** | 12.0 | A |
| | | | | | | | |
| Subtotal | 766,338 | | | | | | |
| Not Monitored | 818,647 | | | | | | |
| Total | 1,584,985 | | | | | | |

DV – Design Value ND - No Data

# IDAHO

## Table ID-2

### People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 138,494 | 141,132 |
| B | 0 | 0 | 0 | 25,919 | 25,927 | 132,811 | 135,627 | 140,242 | 2,891 | 403,664 |
| C | 27,047 | 25,972 | 186,297 | 163,947 | 0 | 0 | 0 | 0 | 392,365 | 0 |
| D | 0 | 327,393 | 334,926 | 348,755 | 363,498 | 375,368 | 382,618 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 27,047 | 353,365 | 521,223 | 538,621 | 389,425 | 508,179 | 518,245 | 140,242 | 533,750 | 544,796 |
| NM | 1,313,325 | 1,010,015 | 870,579 | 889,620 | 1,079,244 | 996,926 | 1,016,075 | 1,414,197 | 1,033,832 | 1,040,189 |
| Total | 1,340,372 | 1,363,380 | 1,391,802 | 1,428,241 | 1,468,669 | 1,505,105 | 1,534,320 | 1,554,439 | 1,567,582 | 1,584,985 |

### People Breathing Short-term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 225,278 | 153,938 | 411,760 | 436,477 | 0 | 0 | 580,184 | 397,863 | 673,412 | 592,536 |
| B | 435,283 | 410,998 | 0 | 0 | 451,249 | 570,783 | 9,385 | 12,757 | 0 | 9,209 |
| C | 0 | 151,395 | 164,562 | 163,947 | 172,188 | 9,296 | 13,031 | 20,732 | 7,936 | 0 |
| D | 13,044 | 0 | 0 | 9,053 | 13,014 | 25,226 | 0 | 0 | 12,765 | 20,639 |
| F | 229,018 | 12,897 | 12,781 | 12,912 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 902,623 | 729,228 | 589,103 | 622,389 | 636,451 | 605,305 | 602,600 | 431,352 | 694,113 | 622,384 |
| NM | 437,749 | 634,152 | 802,699 | 805,852 | 832,218 | 899,800 | 931,720 | 1,123,087 | 873,469 | 962,601 |
| Total | 1,340,372 | 1,363,380 | 1,391,802 | 1,428,241 | 1,468,669 | 1,505,105 | 1,534,320 | 1,554,439 | 1,567,582 | 1,584,985 |

### People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 882,208 | 716,331 | 576,322 | 609,477 | 623,437 | 592,356 | 602,600 | 431,352 | 694,113 | 609,712 |
| B | 13,044 | 12,897 | 12,781 | 12,912 | 13,014 | 12,949 | 0 | 0 | 0 | 12,672 |
| C | 7,371 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 902,623 | 729,228 | 589,103 | 622,389 | 636,451 | 605,305 | 602,600 | 431,352 | 694,113 | 622,384 |
| NM | 437,749 | 634,152 | 802,699 | 805,852 | 832,218 | 899,800 | 931,720 | 1,123,087 | 873,469 | 962,601 |
| Total | 1,340,372 | 1,363,380 | 1,391,802 | 1,428,241 | 1,468,669 | 1,505,105 | 1,534,320 | 1,554,439 | 1,567,582 | 1,584,985 |

NM – Not Monitored

Figure ID-1

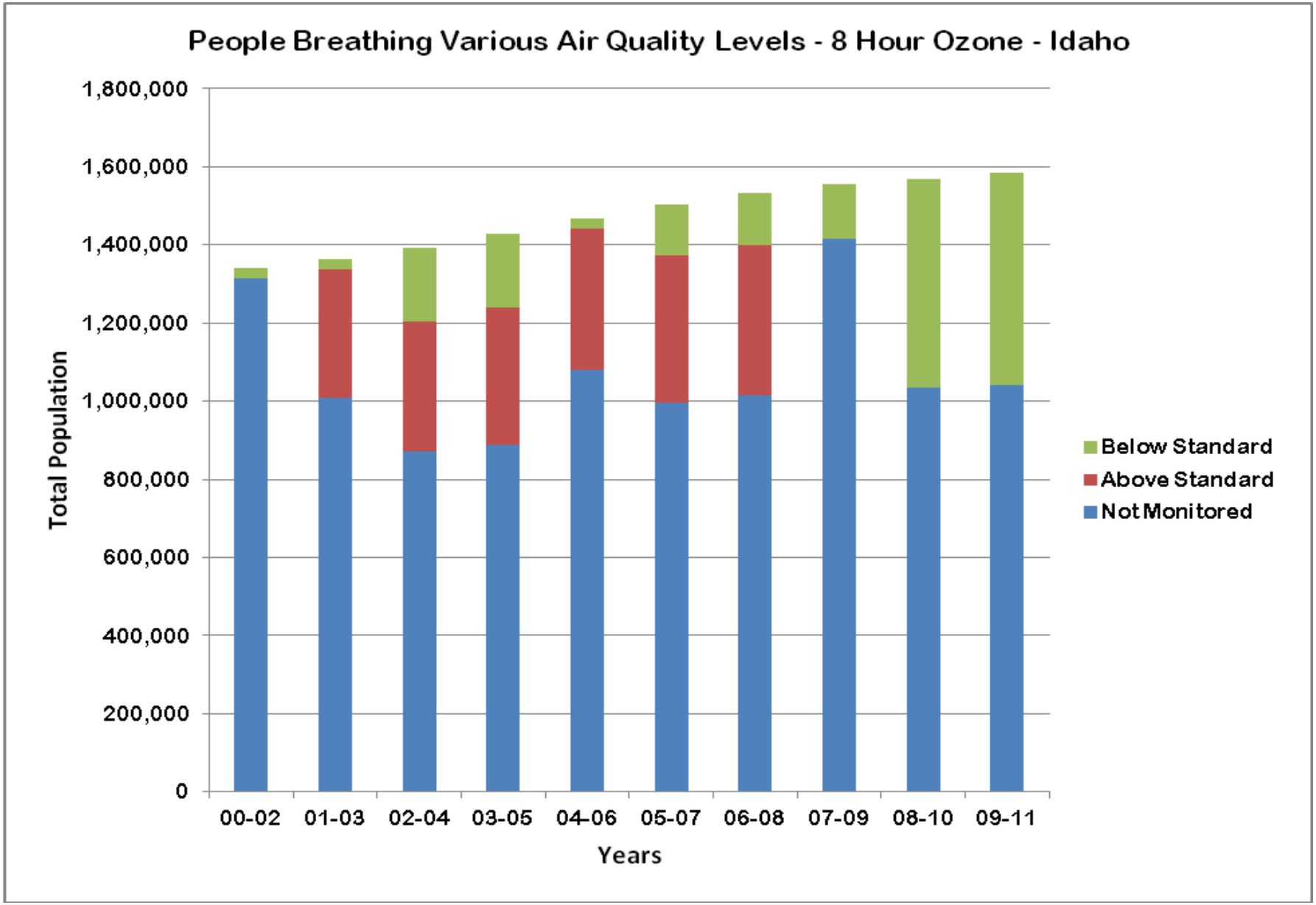

People Breathing Various Air Quality Levels - 8 Hour Ozone - Idaho
Total Population
1,800,000
1,600,000
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure ID-2

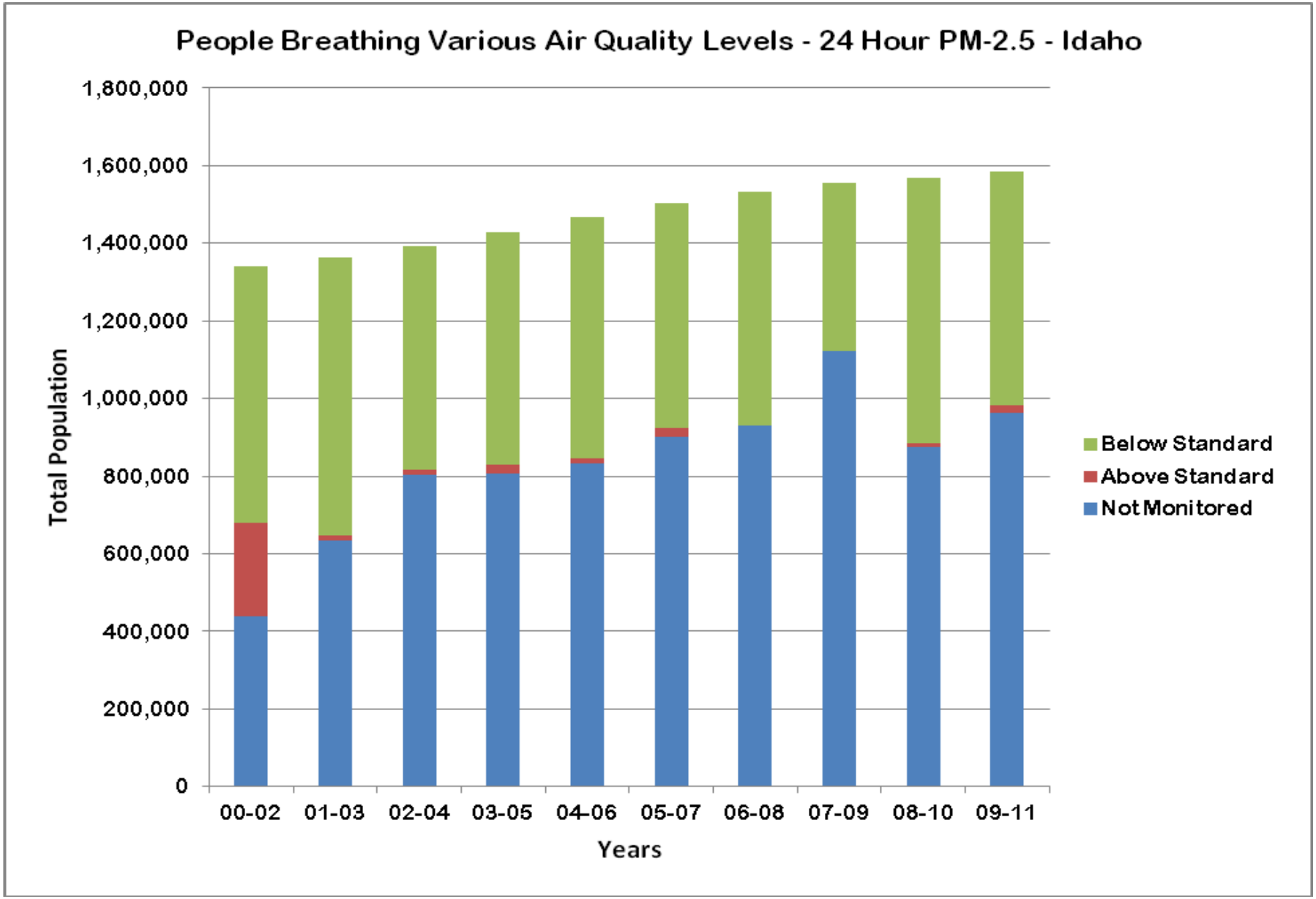
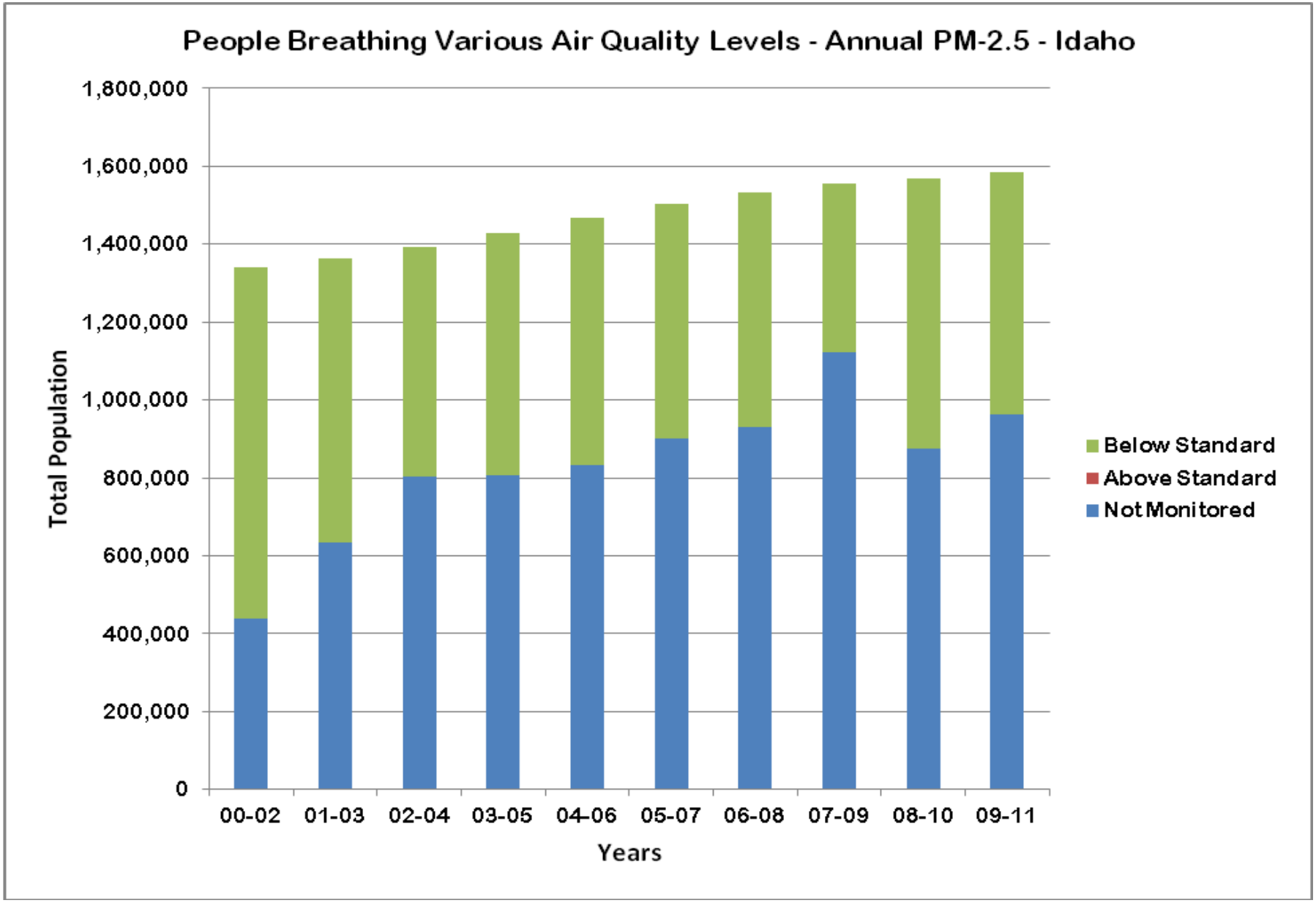

People Breathing Various Air Quality Levels - 24 Hour PM-2.5 - Idaho
Total Population
1,800,000
1,600,000
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure ID-3


People Breathing Various Air Quality Levels - Annual PM-2.5 - Idaho
Total Population
1,800,000
1,600,000
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# ILLINOIS

## Ozone

**Significant progress has been made in ozone levels in Illinois. In the 2000 – 2002 time period, approximately 1.3 million people (10.7%) lived in counties that met the ozone standard. By 2009 – 2011 this had increased to a little under 9.5 million people (74.0%). Figure IL-1 shows the distribution of people by year.**

## 24-Hour PM-2.5

**Significant progress has been made in 24-hour PM-2.5 levels in Illinois. In the 2000 – 2002 time period, approximately 4.0 million people (32.2%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 -2011 this was approximately 9.6 million people (74.8%) and the rest of the population lived in areas where PM-2.5 is not measured. Figure IL-2 shows the distribution of people by year.**

## Annual PM-2.5

**Significant progress has been made in annual PM-2.5 levels in Illinois. In the 2000 – 2002 time period, approximately 3.4 million people (27.2%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this had increased to approximately 9.6 million people (74.8%) and the rest of the population lived in areas where PM-2.5 is not measured. Figure IL-3 shows the distribution of people by year.**

# ILLINOIS

Table IL-1

2009 – 2011

| | | OZONE | | PARTICLE POLLUTION (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg. 24-Hr DV | Grade | Avg. Ann DV | Grade |
| Adams | 67,159 | 0.065 | B | 22 | A | 9.7 | A |
| Champaign | 201,685 | ND | --- | 22 | A | 10.4 | A |
| Clark | 16,161 | 0.067 | B | ND | --- | ND | --- |
| Cook | 5,217,080 | 0.069 | C | 29 | B | 11.7 | A |
| Dupage | 923,222 | 0.064 | B | 25 | A | 10.7 | A |
| Effingham | 34,280 | 0.068 | C | ND | --- | ND | --- |
| Hamilton | 8,425 | 0.071 | C | 23 | A | 10.5 | A |
| Jersey | 22,916 | 0.072 | C | 20 | A | 10.5 | A |
| Kane | 520,271 | 0.069 | C | 28 | B | 10.5 | A |
| **Lake** | **706,222** | **0.076** | **D** | ND | --- | ND | --- |
| McHenry | 308,944 | 0.067 | B | 26 | A | 10.0 | A |
| McLean | 170,556 | 0.068 | C | 24 | A | 10.5 | A |
| Macon | 110,730 | 0.070 | C | 23 | A | 11.6 | A |
| Macoupin | 47,687 | 0.070 | C | ND | --- | ND | --- |
| Madison | 268,459 | 0.074 | C | 26 | A | 12.5 | B |
| Peoria | 186,834 | 0.064 | B | 26 | A | 11.3 | A |
| Randolph | 33,361 | 0.063 | B | 20 | A | 9.8 | A |
| Rock Island | 147,556 | 0.057 | A | 23 | A | 9.8 | A |
| Saint Clair | 270,259 | 0.072 | C | 23 | A | 12.5 | B |
| Sangamon | 198,844 | 0.070 | C | 25 | A | 10.9 | A |
| Will | 681,545 | 0.063 | B | 24 | A | 10.3 | A |
| Winnebago | 293,993 | 0.066 | B | 24 | A | 9.9 | A |
| | | | | | | | |
| Subtotal | 10,436,189 | | | | | | |
| Not Monitored | 2,433,068 | | | | | | |
| Total | 12,869,257 | | | | | | |

DV – Design Value ND - No Data

# ILLINOIS

## Table IL-2

### People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 147,546 | 147,556 |
| B | 0 | 0 | 147,291 | 163,795 | 647,049 | 0 | 3,245,398 | 2,697,414 | 8,602,102 | 2,511,219 |
| C | 1,343,776 | 948,486 | 7,276,341 | 8,061,884 | 8,353,020 | 3,872,945 | 6,802,264 | 7,665,977 | 1,443,814 | 6,869,507 |
| D | 8,270,059 | 7,162,121 | 2,514,997 | 1,737,838 | 1,242,236 | 5,870,068 | 268,232 | 0 | 0 | 706,222 |
| F | 552,982 | 1,947,572 | 286,096 | 264,759 | 0 | 532,146 | 0 | 0 | 0 | 0 |
| Subtotal | 10,166,817 | 10,058,179 | 10,224,725 | 10,228,276 | 10,242,305 | 10,275,159 | 10,315,894 | 10,363,391 | 10,193,462 | 10,234,504 |
| NM | 2,358,739 | 2,497,827 | 2,365,048 | 2,381,627 | 2,401,650 | 2,420,707 | 2,431,144 | 2,433,387 | 2,637,170 | 2,634,753 |
| Total | 12,525,556 | 12,556,006 | 12,589,773 | 12,609,903 | 12,643,955 | 12,695,866 | 12,747,038 | 12,796,778 | 12,830,632 | 12,869,207 |

### People Breathing Short-term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 184,198 | 0 | 825,026 | 0 | 146,827 | 0 | 1,190,988 | 1,967,610 | 3,763,257 | 3,894,488 |
| B | 405,456 | 1,372,578 | 1,738,648 | 977,639 | 1,188,626 | 600,427 | 2,733,374 | 3,229,716 | 6,626,868 | 5,737,351 |
| C | 3,448,403 | 1,901,360 | 2,126,717 | 2,871,468 | 3,746,865 | 4,192,482 | 6,339,861 | 5,181,728 | 0 | 0 |
| D | 6,129,019 | 6,912,169 | 5,515,743 | 1,176,137 | 5,165,495 | 5,421,617 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 5,207,615 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 10,167,076 | 10,186,107 | 10,206,134 | 10,232,859 | 10,247,813 | 10,214,526 | 10,264,223 | 10,379,054 | 10,390,125 | 9,631,839 |
| NM | 2,358,480 | 2,369,899 | 2,383,639 | 2,377,044 | 2,396,142 | 2,481,340 | 2,482,815 | 2,417,724 | 2,440,507 | 3,237,418 |
| Total | 12,525,556 | 12,556,006 | 12,589,773 | 12,609,903 | 12,643,955 | 12,695,866 | 12,747,038 | 12,796,778 | 12,830,632 | 12,869,257 |

### People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 1,301,640 | 684,419 | 837,022 | 0 | 2,815,978 | 4,540,679 | 10,120,843 | 9,093,121 |
| B | 1,292,550 | 1,576,916 | 2,031,984 | 2,245,181 | 2,321,823 | 2,686,627 | 1,751,664 | 5,838,375 | 269,282 | 538,718 |
| C | 2,112,789 | 2,793,438 | 6,608,788 | 1,830,885 | 6,822,804 | 7,260,517 | 5,696,581 | 0 | 0 | 0 |
| D | 6,500,607 | 5,815,753 | 263,722 | 5,472,374 | 266,164 | 267,382 | 0 | 0 | 0 | 0 |
| F | 261,130 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 10,167,076 | 10,186,107 | 10,206,134 | 10,232,859 | 10,247,813 | 10,214,526 | 10,264,223 | 10,379,054 | 10,390,125 | 9,631,839 |
| NM | 2,358,480 | 2,369,899 | 2,383,639 | 2,377,044 | 2,396,142 | 2,481,340 | 2,482,815 | 2,417,724 | 2,440,507 | 3,237,418 |
| Total | 12,525,556 | 12,556,006 | 12,589,773 | 12,609,903 | 12,643,955 | 12,695,866 | 12,747,038 | 12,796,778 | 12,830,632 | 12,869,257 |

NM – Not Monitored

Figure IL-1

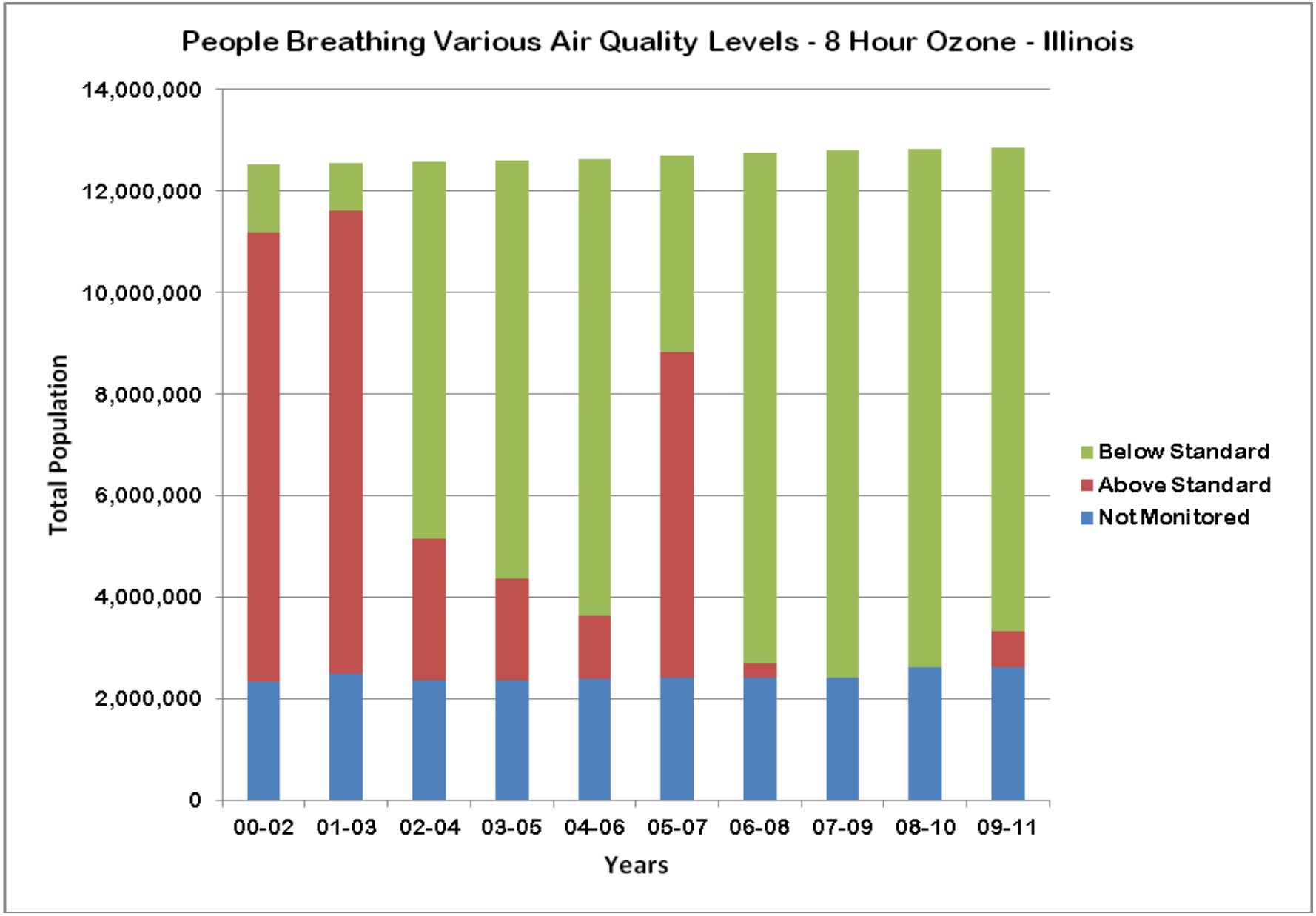

People Breathing Various Air Quality Levels - 8 Hour Ozone - Illinois
14,000,000
12,000,000
10,000,000
8,000,000
6,000,000
4,000,000
2,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure IL-2

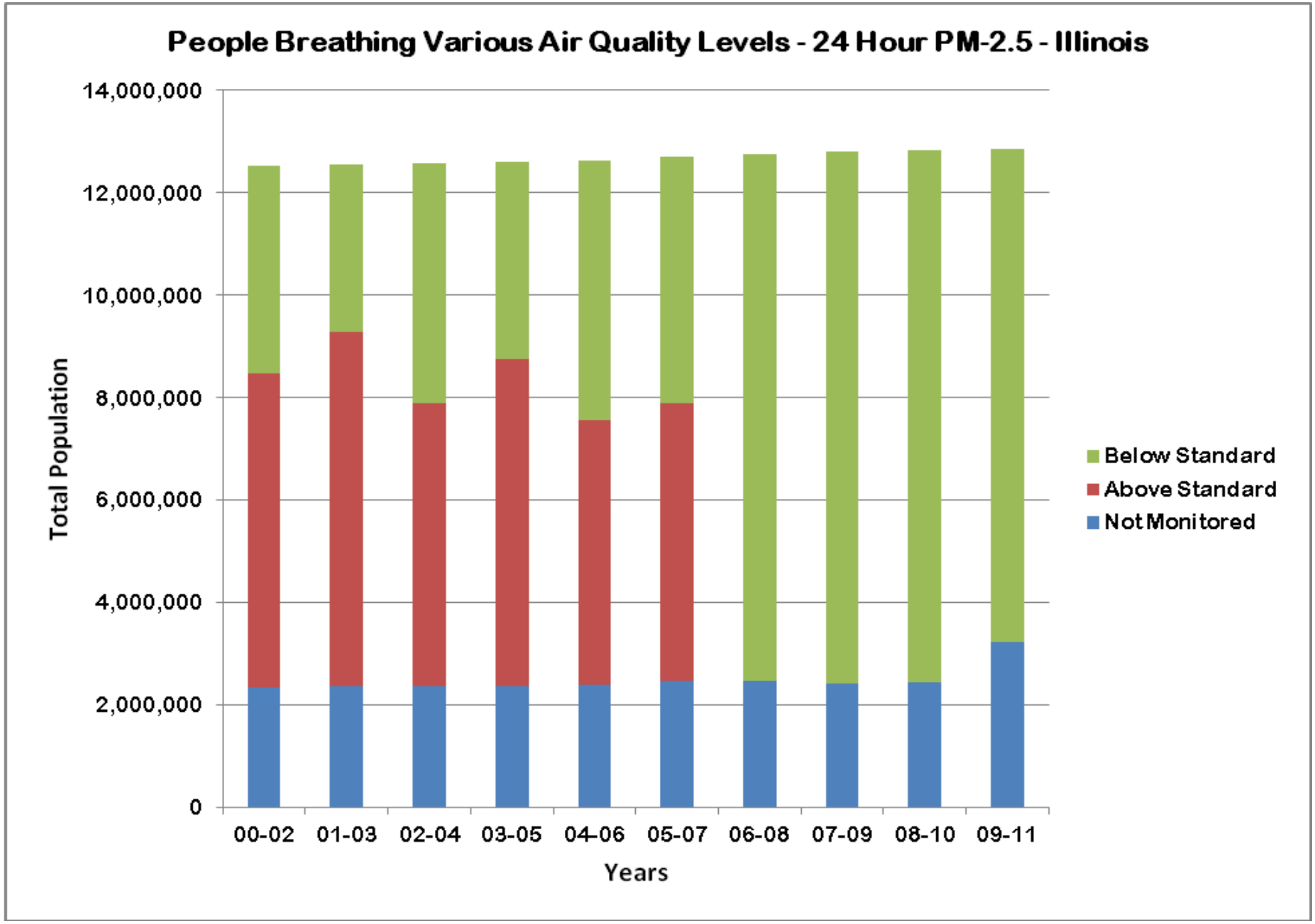
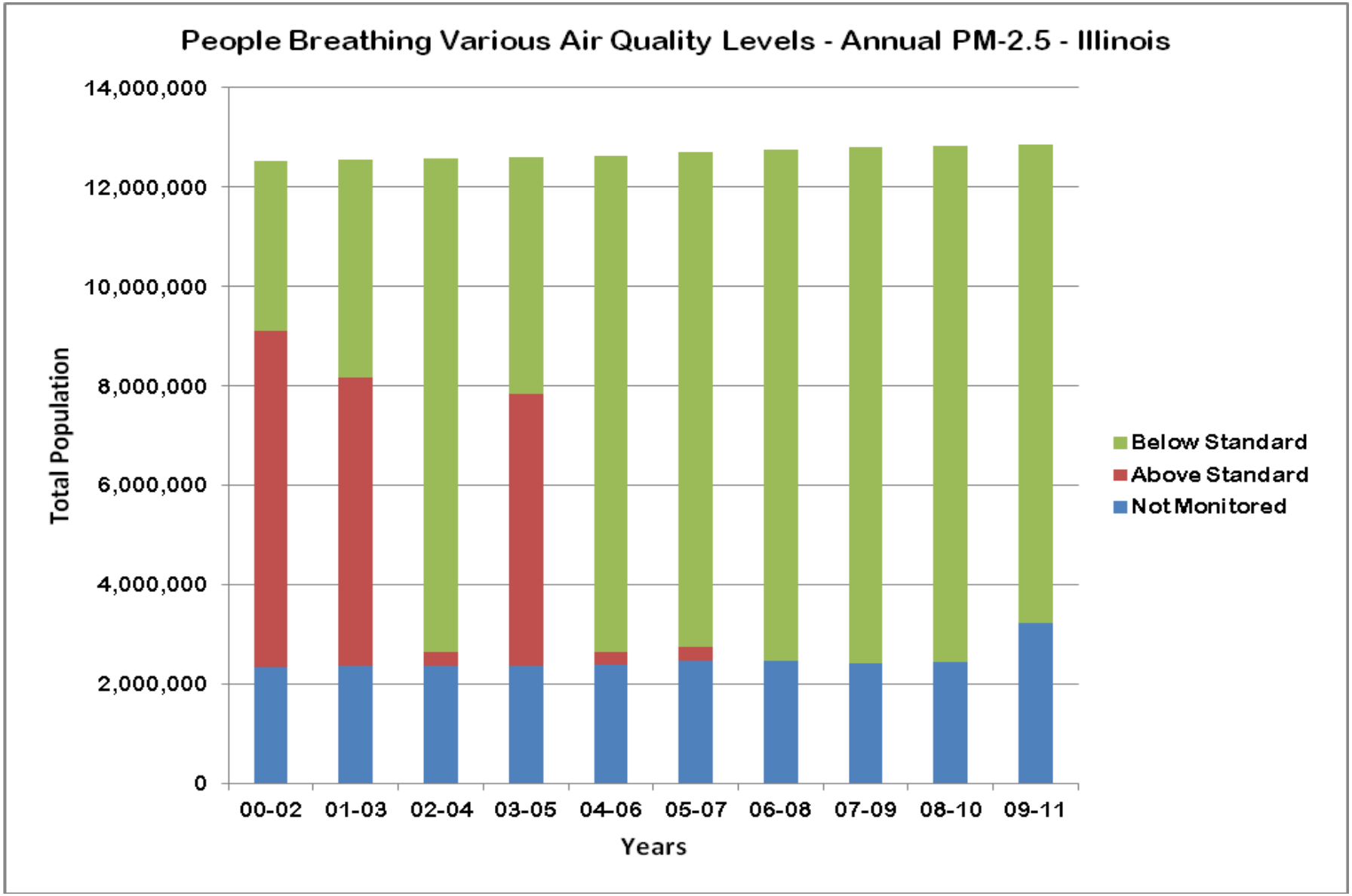

People Breathing Various Air Quality Levels - 24 Hour PM-2.5 - Illinois
14,000,000
12,000,000
10,000,000
8,000,000
6,000,000
4,000,000
2,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure IL-3


People Breathing Various Air Quality Levels - Annual PM-2.5 - Illinois
14,000,000
12,000,000
10,000,000
8,000,000
6,000,000
4,000,000
2,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# INDIANA

## Ozone

**Significant progress has been made in ozone levels in Indiana. In the 2000 – 2002 time period, approximately 0.2 million people (3.5%) lived in counties that met the ozone standard. By 2009 – 2011 this had increased to approximately 4.0 million people (61.4%) and the rest of the population lived in areas where ozone was not measured. Figure IN-1 shows the distribution of people by year.**

## 24-Hour PM-2.5

**Significant progress has been made in 24-hour PM-2.5 levels in Indiana. In the 2000 – 2002 time period, approximately 1.4 million people (22.6%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 -2011 this was approximately 3.7 million people (56.5%) and the rest of the population lived in areas where PM-2.5 was not measured. Figure IN-2 shows the distribution of people by year.**

## Annual PM-2.5

**Significant progress has been made in annual PM-2.5 levels in Indiana. In the 2000 – 2002 time period, approximately 1.2 million people (19.6%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this had increased to approximately 3.7 million people (56.5%) and the rest of the population lived in areas where PM-2.5 was not measured. Figure IN-3 shows the distribution of people by year.**

# INDIANA

Table IN-1

2009 – 2011

| | | OZONE | | PARTICLE POLLUTION (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg. 24-Hr DV | Grade | Avg. Ann DV | Grade |
| Allen | 358,327 | 0.068 | C | 26 | A | 11.0 | A |
| Boone | 57,481 | 0.071 | C | ND | --- | ND | --- |
| Carroll | 20,031 | 0.068 | C | ND | --- | ND | --- |
| Clark | 111,570 | 0.075 | C | 26 | A | 12.5 | B |
| Delaware | 117,660 | 0.068 | C | 27 | A | 11.7 | A |
| Dubois | 42,199 | ND | --- | 27 | A | 12.9 | B |
| Elkhart | 198,941 | 0.066 | C | 31 | B | 11.7 | A |
| Floyd | 74,989 | 0.072 | C | 26 | A | 12.1 | B |
| Gibson | 33,505 | ND | --- | 26 | A | 11.5 | A |
| Greene | 32,895 | 0.074 | C | ND | --- | ND | --- |
| Hamilton | 282,810 | 0.071 | C | ND | --- | ND | --- |
| Hancock | 70,529 | 0.069 | C | ND | --- | ND | --- |
| Hendricks | 147,979 | 0.068 | C | ND | --- | ND | --- |
| Henry | 49,264 | ND | --- | 26 | A | 11.0 | A |
| Howard | 82,800 | ND | --- | 26 | A | 11.6 | A |
| Huntington | 37,211 | 0.064 | B | ND | --- | ND | --- |
| Jackson | 42,966 | 0.066 | B | ND | --- | ND | --- |
| Johnson | 141,656 | 0.070 | C | ND | --- | ND | --- |
| Knox | 38,500 | ND | --- | 26 | A | 11.7 | A |
| Lake | 495,558 | 0.066 | B | 29 | B | 12.3 | B |
| La Porte | 111,374 | 0.070 | C | 25 | A | 10.2 | A |
| Madison | 131,235 | 0.067 | B | ND | --- | ND | --- |
| Marion | 911,296 | 0.070 | C | 29 | B | 13.1 | B |
| Monroe | 139,799 | ND | --- | 24 | A | 10.8 | A |
| Morgan | 69,464 | 0.068 | C | ND | --- | ND | --- |
| Perry | 19,354 | 0.070 | C | ND | --- | ND | --- |
| Porter | 165,537 | 0.065 | B | 27 | A | 11.2 | A |
| Posey | 25,720 | 0.071 | C | ND | --- | ND | --- |
| St. Joseph | 266,700 | 0.063 | B | 28 | B | 11.2 | A |
| Shelby | 44,337 | 0.072 | C | ND | --- | ND | --- |
| Spencer | 20,961 | ND | --- | 27 | A | 12.4 | B |
| Tippecanoe | 174,724 | ND | --- | 24 | A | 10.7 | A |
| Vanderburgh | 180,305 | 0.067 | B | 29 | B | 12.8 | B |
| Vigo | 108,182 | 0.064 | B | 27 | A | 12.4 | B |
| Wabash | 32,608 | 0.074 | C | ND | --- | ND | --- |
| Warrick | 60,275 | 0.068 | C | ND | --- | ND | --- |
| | | | | | | | |
| Subtotal | 4,898,742 | | | | | | |
| Not Monitored | 1,618,180 | | | | | | |
| Total | 6,516,922 | | | | | | |

DV – Design Value ND - No Data

# INDIANA

## Table IN-2

### People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| B | 0 | 0 | 0 | 0 | 106,509 | 0 | 0 | 411,461 | 2,177,027 | 1,626,635 |
| C | 217,227 | 32,934 | 0 | 383,842 | 2,277,214 | 419,277 | 3,199,245 | 3,398,369 | 2,077,068 | 2,374,937 |
| D | 331,605 | 279,595 | 1,173,456 | 3,434,804 | 1,742,616 | 2,894,033 | 632,797 | 423,012 | 0 | 0 |
| F | 3,311,064 | 3,532,138 | 2,887,396 | 235,039 | 0 | 493,403 | 0 | 0 | 0 | 0 |
| Subtotal | 3,859,896 | 3,844,667 | 4,060,852 | 4,053,685 | 4,126,339 | 3,806,713 | 3,832,042 | 4,232,842 | 4,254,095 | 4,001,572 |
| NM | 2,296,071 | 2,351,971 | 2,172,155 | 2,224,931 | 2,206,330 | 2,572,866 | 2,592,764 | 2,226,483 | 2,229,707 | 2,515,350 |
| Total | 6,155,967 | 6,196,638 | 6,233,007 | 6,278,616 | 6,332,669 | 6,379,599 | 6,424,806 | 6,459,325 | 6,483,802 | 6,516,922 |

### People Breathing Short-term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 48,258 | 0 | 0 | 0 | 0 | 0 | 20,978 | 512,710 | 1,120,325 | 1,629,391 |
| B | 0 | 68,674 | 801,305 | 0 | 1,150,667 | 266,045 | 2,575,319 | 2,296,369 | 2,338,589 | 1,853,859 |
| C | 1,344,264 | 1,069,562 | 1,941,429 | 1,523,723 | 1,378,007 | 2,069,709 | 889,504 | 802,370 | 197,559 | 198,941 |
| D | 1,818,189 | 1,928,763 | 622,518 | 2,000,750 | 1,021,062 | 1,129,870 | 107,406 | 0 | 0 | 0 |
| F | 271,002 | 273,588 | 0 | 0 | 0 | 105,672 | 0 | 0 | 0 | 0 |
| Subtotal | 3,481,713 | 3,340,587 | 3,405,252 | 3,524,473 | 3,549,736 | 3,571,296 | 3,593,207 | 3,611,449 | 3,656,473 | 3,682,191 |
| NM | 2,674,254 | 2,856,051 | 2,827,755 | 2,754,143 | 2,782,933 | 2,808,303 | 2,831,599 | 2,847,876 | 2,827,329 | 2,834,731 |
| Total | 6,155,967 | 6,196,638 | 6,233,007 | 6,278,616 | 6,332,669 | 6,379,599 | 6,424,806 | 6,459,325 | 6,483,802 | 6,516,922 |

### People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 160,687 | 953,227 | 1,392,678 | 1,737,131 |
| B | 48,258 | 0 | 575,303 | 265,565 | 1,197,940 | 585,756 | 2,141,827 | 1,608,864 | 1,360,402 | 1,033,764 |
| C | 1,158,669 | 1,485,131 | 1,918,621 | 1,753,022 | 1,369,133 | 1,996,277 | 1,183,287 | 1,049,358 | 903,393 | 911,296 |
| D | 1,270,397 | 1,855,456 | 911,328 | 1,505,886 | 982,663 | 883,591 | 107,406 | 0 | 0 | 0 |
| F | 1,004,389 | 0 | 0 | 0 | 0 | 105,672 | 0 | 0 | 0 | 0 |
| Subtotal | 3,481,713 | 3,340,587 | 3,405,252 | 3,524,473 | 3,549,736 | 3,571,296 | 3,593,207 | 3,611,449 | 3,656,473 | 3,682,191 |
| NM | 2,674,254 | 2,856,051 | 2,927,755 | 2,754,143 | 2,782,933 | 2,808,303 | 2,831,599 | 2,847,876 | 2,830,329 | 2,834,731 |
| Total | 6,155,967 | 6,196,638 | 6,233,007 | 6,278,616 | 6,332,669 | 6,379,599 | 6,424,806 | 6,459,325 | 6,486,802 | 6,516,922 |

NM – Not Monitored

Figure IN-1

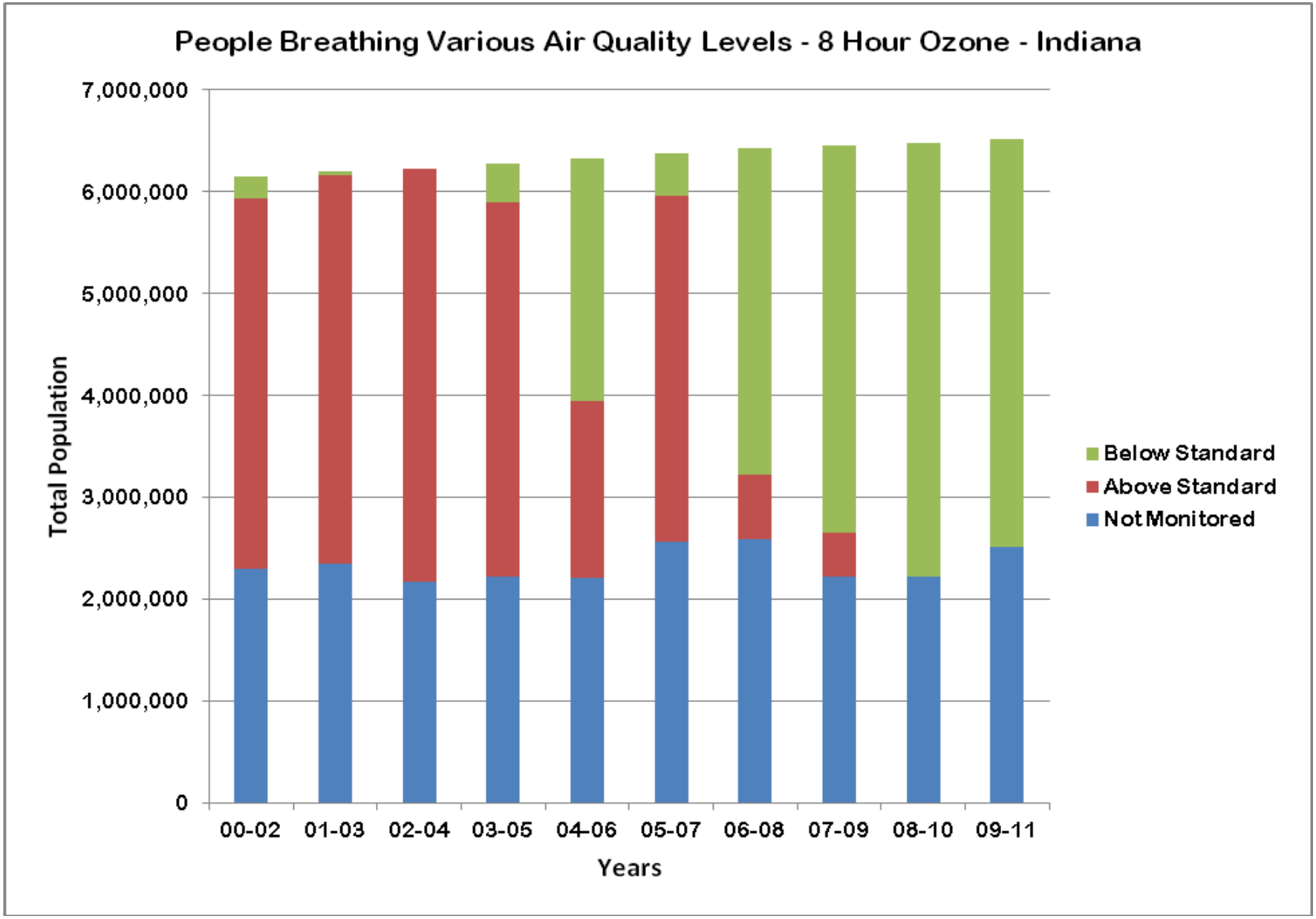

People Breathing Various Air Quality Levels - 8 Hour Ozone - Indiana
7,000,000
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure IN-2

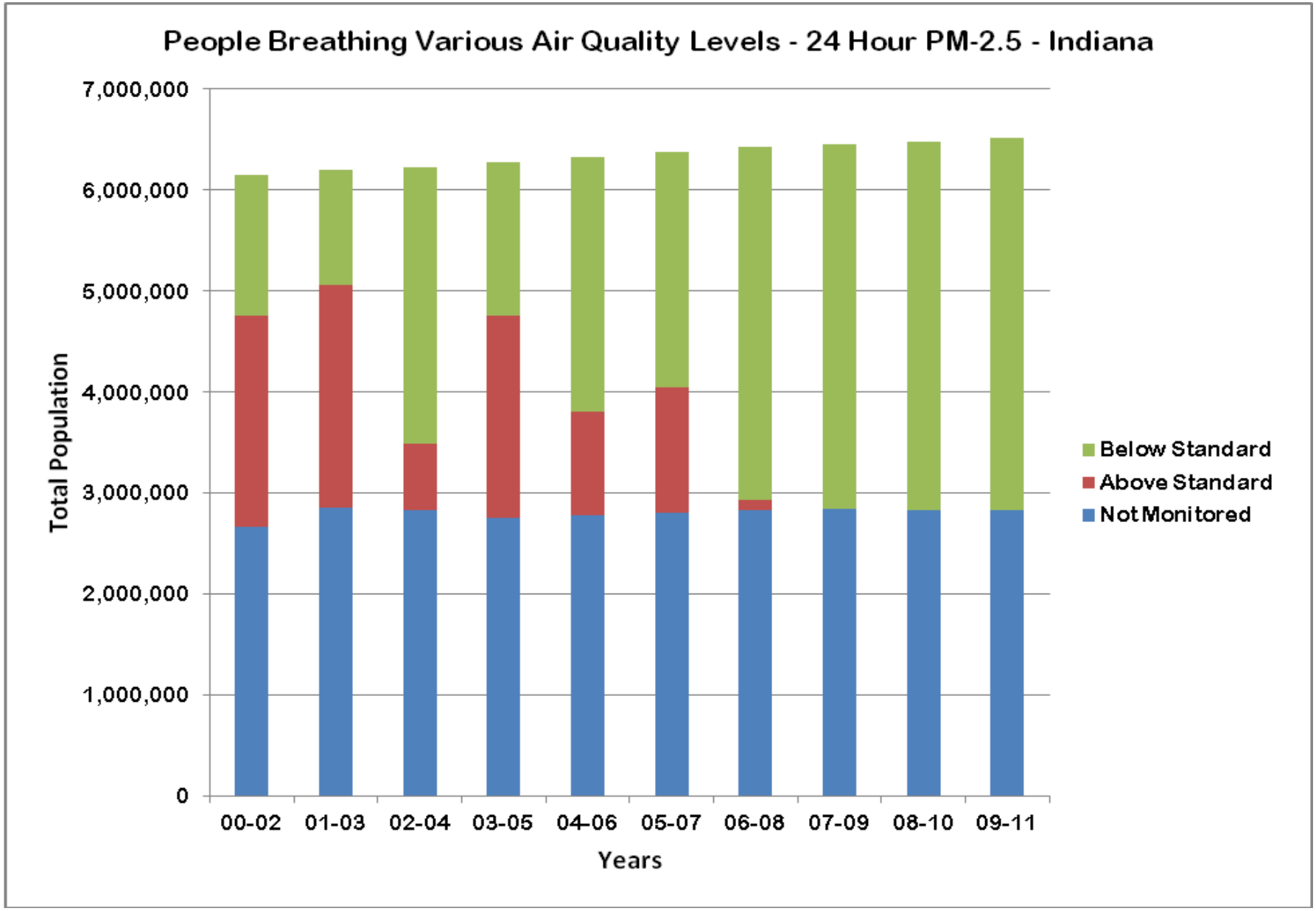
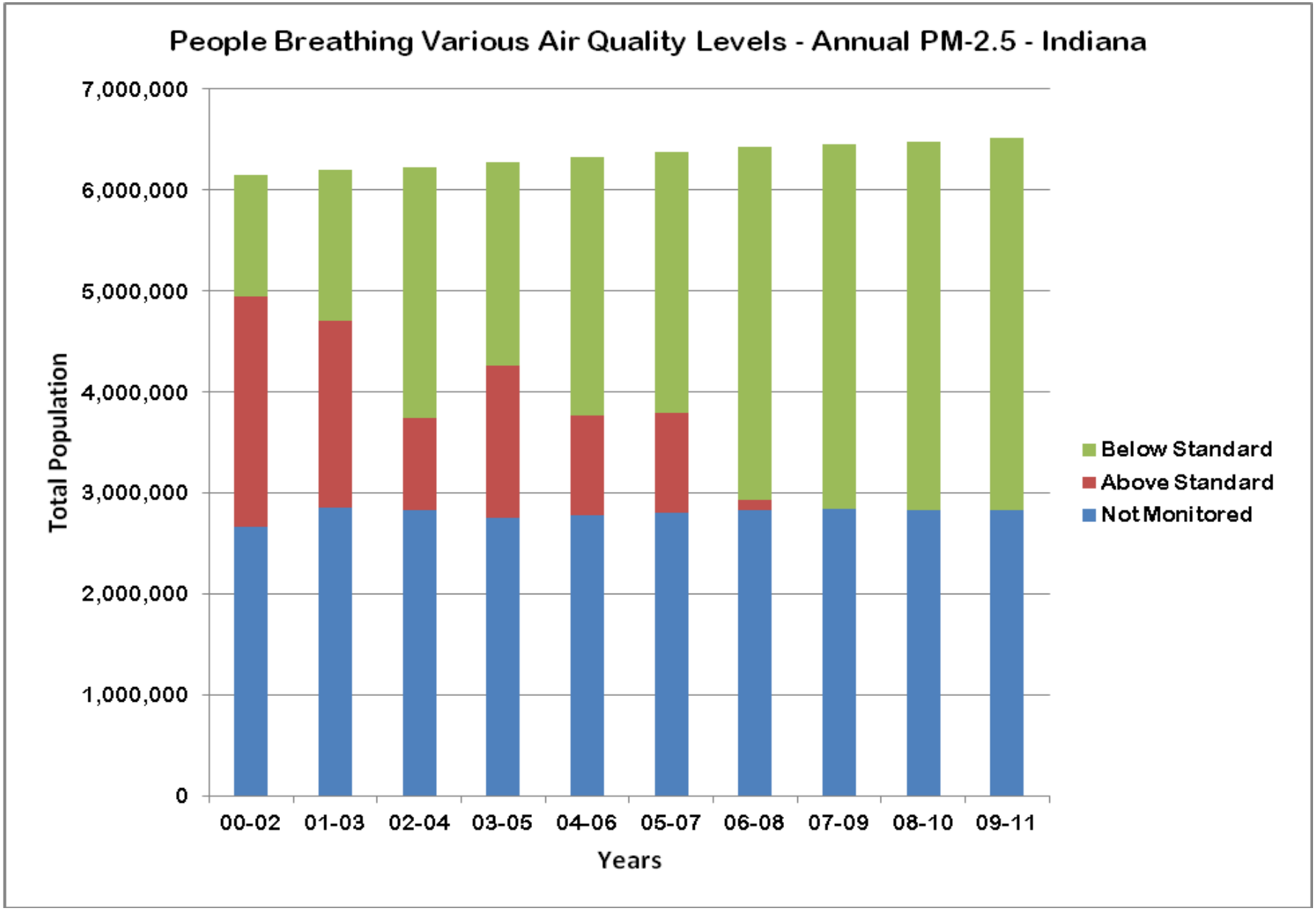

People Breathing Various Air Quality Levels - 24 Hour PM-2.5 - Indiana
7,000,000
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure IN-3


People Breathing Various Air Quality Levels - Annual PM-2.5 - Indiana
7,000,000
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# IOWA

## Ozone

**Progress has been made in ozone levels in Iowa. In the 2000 – 2002 time period, approximately 0.7 million people (25.4%) lived in counties that met the ozone standard. By 2009 – 2011 this had increased to approximately 1.1 million people (35.0%). The remainder of the population lived in counties where ozone was not measured. Figure IA-1 shows the distribution of people by year.**

## 24-Hour PM-2.5

**Progress has been made in 24-hour PM-2.5 levels in Iowa. In the 2000 – 2002 time period, approximately 1.4 million people (48.0%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 -2011 this was approximately 1.4 million people (46.8%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure IA-2 shows the distribution of people by year.**

## Annual PM-2.5

**Annual PM-2.5 levels in Iowa have historically been better than the standard. In the 2000 – 2002 time period, approximately 1.4 million people (48.0%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this had increased to approximately 1.4 million people (46.8%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure IA-3 shows the distribution of people by year.**

Table IO-1

2009 – 2011

| | | OZONE | | PARTICLE POLLUTION (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg. 24-Hr DV | Grade | Avg. Ann DV | Grade |
| Black Hawk | 131,549 | ND | --- | 29 | B | 10.7 | A |
| Bremer | 24,281 | 0.063 | B | ND | --- | ND | --- |
| Clinton | 49,015 | 0.065 | B | 30 | B | 11.4 | A |
| Harrison | 14,828 | 0.066 | B | ND | --- | ND | --- |
| Johnson | 133,038 | ND | --- | 28 | B | 10.8 | A |
| Lee | 35,621 | ND | --- | 26 | A | 11.1 | A |
| Linn | 213,875 | 0.062 | B | 31 | B | 10.3 | A |
| Montgomery | 10,640 | 0.064 | B | 22 | A | 9.4 | A |
| Muscatine | 42,815 | ND | --- | 32 | B | 12.1 | B |
| Palo Alto | 9,419 | 0.065 | B | 23 | A | 9.0 | A |
| Polk | 437,399 | 0.057 | A | 27 | A | 9.7 | A |
| Pottawattamie | 93,518 | ND | --- | 25 | A | 10.9 | A |
| Scott | 167,095 | 0.065 | B | 30 | B | 11.7 | A |
| Story | 89,663 | 0.060 | A | ND | --- | ND | --- |
| Van Buren | 7,510 | 0.063 | B | 25 | A | 9.6 | A |
| Warren | 46,732 | 0.063 | B | ND | --- | ND | --- |
| Woodbury | 102,509 | ND | --- | 27 | A | 9.7 | A |
| | | | | | | | |
| Subtotal | 1,609,507 | | | | | | |
| Not Monitored | 1,452,802 | | | | | | |
| Total | 3,062,309 | | | | | | |

DV – Design Value ND - No Data

# IOWA

## Table IA-2

### People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 388,277 | 517,502 | 82,884 | 0 | 0 | 9,486 | 9,510 | 520,182 | 437,399 |
| B | 517,558 | 134,003 | 231,795 | 463,285 | 790,095 | 165,222 | 387,092 | 1,041,480 | 538,726 | 633,058 |
| C | 227,095 | 228,141 | 230,720 | 455,246 | 224,430 | 449,107 | 223,504 | 0 | 0 | 0 |
| D | 223,166 | 223,077 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 967,819 | 973,498 | 980,017 | 1,001,415 | 1,014,525 | 614,329 | 620,082 | 1,050,990 | 1,058,908 | 1,070,457 |
| NM | 1,966,415 | 1,968,501 | 1,973,618 | 1,963,039 | 1,968,119 | 2,384,883 | 2,396,652 | 1,981,880 | 1,987,447 | 1,991,852 |
| Total | 2,934,234 | 2,941,999 | 2,953,635 | 2,964,454 | 2,982,644 | 2,999,212 | 3,016,734 | 3,032,870 | 3,046,355 | 3,062,309 |

### People Breathing Short-term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 668,168 | 201,584 | 220,987 | 111,803 | 100,693 | 422,601 | 747,842 | 581,929 | 587,391 | 696,616 |
| B | 698,708 | 842,573 | 1,039,189 | 547,686 | 851,819 | 557,490 | 532,425 | 696,667 | 687,538 | 694,572 |
| C | 41,757 | 288,159 | 91,256 | 606,259 | 373,455 | 333,960 | 91,818 | 0 | 0 | 42,815 |
| D | 0 | 0 | 0 | 91,369 | 0 | 42,325 | 0 | 42,783 | 42,745 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 1,408,633 | 1,332,316 | 1,351,432 | 1,357,117 | 1,325,967 | 1,356,376 | 1,372,085 | 1,321,379 | 1,317,674 | 1,434,003 |
| NM | 1,525,601 | 1,609,683 | 1,602,203 | 1,607,337 | 1,656,677 | 1,642,836 | 1,644,649 | 1,711,491 | 1,728,681 | 1,628,306 |
| Total | 2,934,234 | 2,941,999 | 2,953,635 | 2,964,454 | 2,982,644 | 2,999,212 | 3,016,734 | 3,032,870 | 3,046,355 | 3,062,309 |

### People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 1,159,131 | 1,083,029 | 1,309,674 | 1,145,448 | 1,234,335 | 980,091 | 1,280,267 | 1,065,867 | 1,274,929 | 1,391,188 |
| B | 249,502 | 249,287 | 41,758 | 211,669 | 91,632 | 376,285 | 91,818 | 255,512 | 42,745 | 42,815 |
| C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 1,408,633 | 1,332,316 | 1,351,432 | 1,357,117 | 1,422,235 | 1,434,724 | 1,372,085 | 1,321,379 | 1,317,674 | 1,434,003 |
| NM | 1,525,601 | 1,609,683 | 1,602,203 | 1,607,337 | 1,560,409 | 1,564,488 | 1,644,649 | 1,711,491 | 1,728,681 | 1,628,306 |
| Total | 2,934,234 | 2,941,999 | 2,953,635 | 2,964,454 | 2,982,644 | 2,999,212 | 3,016,734 | 3,032,870 | 3,046,355 | 3,062,309 |

NM – Not Monitored

Figure IA-1

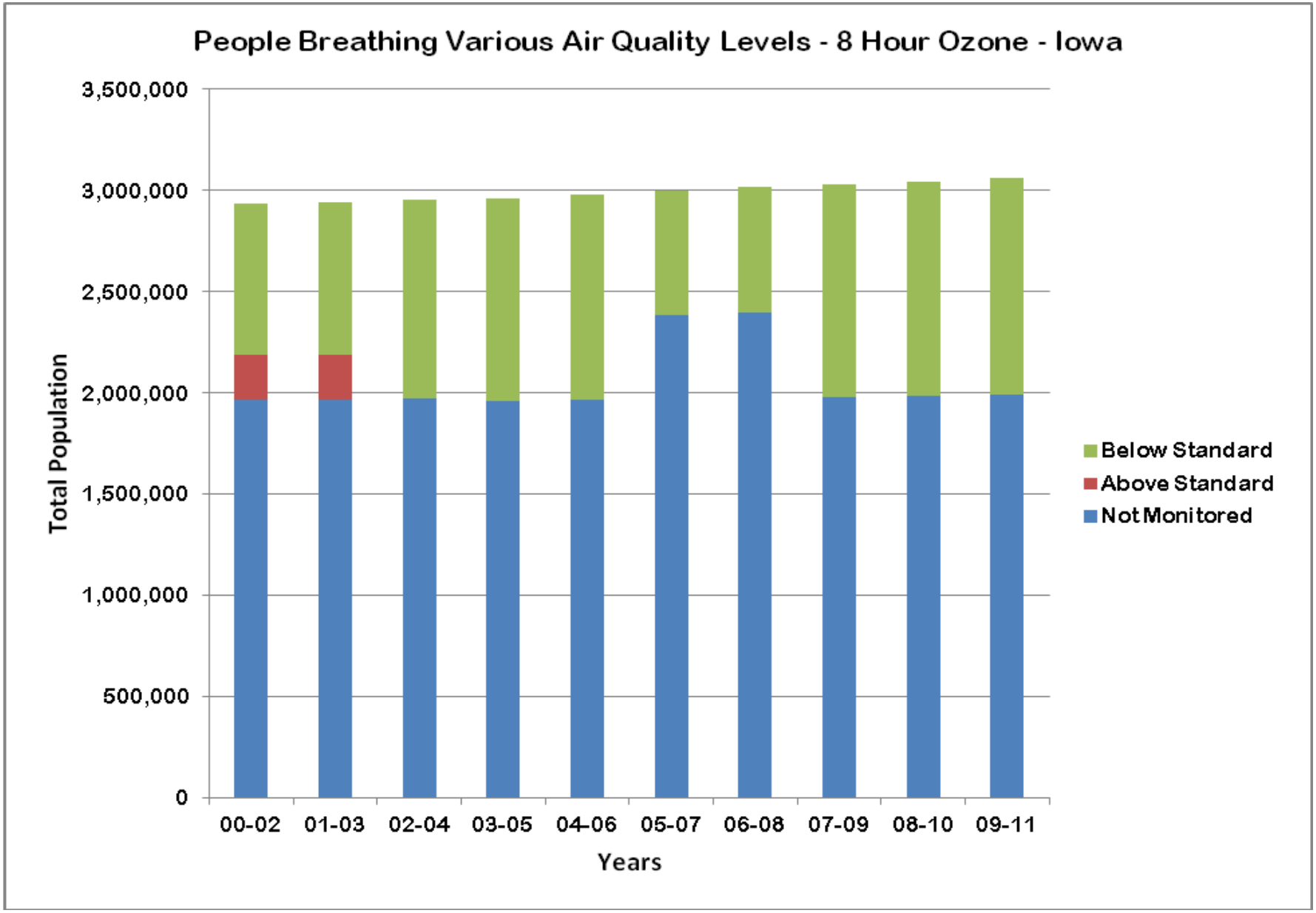

People Breathing Various Air Quality Levels - 8 Hour Ozone - Iowa
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure IA-2

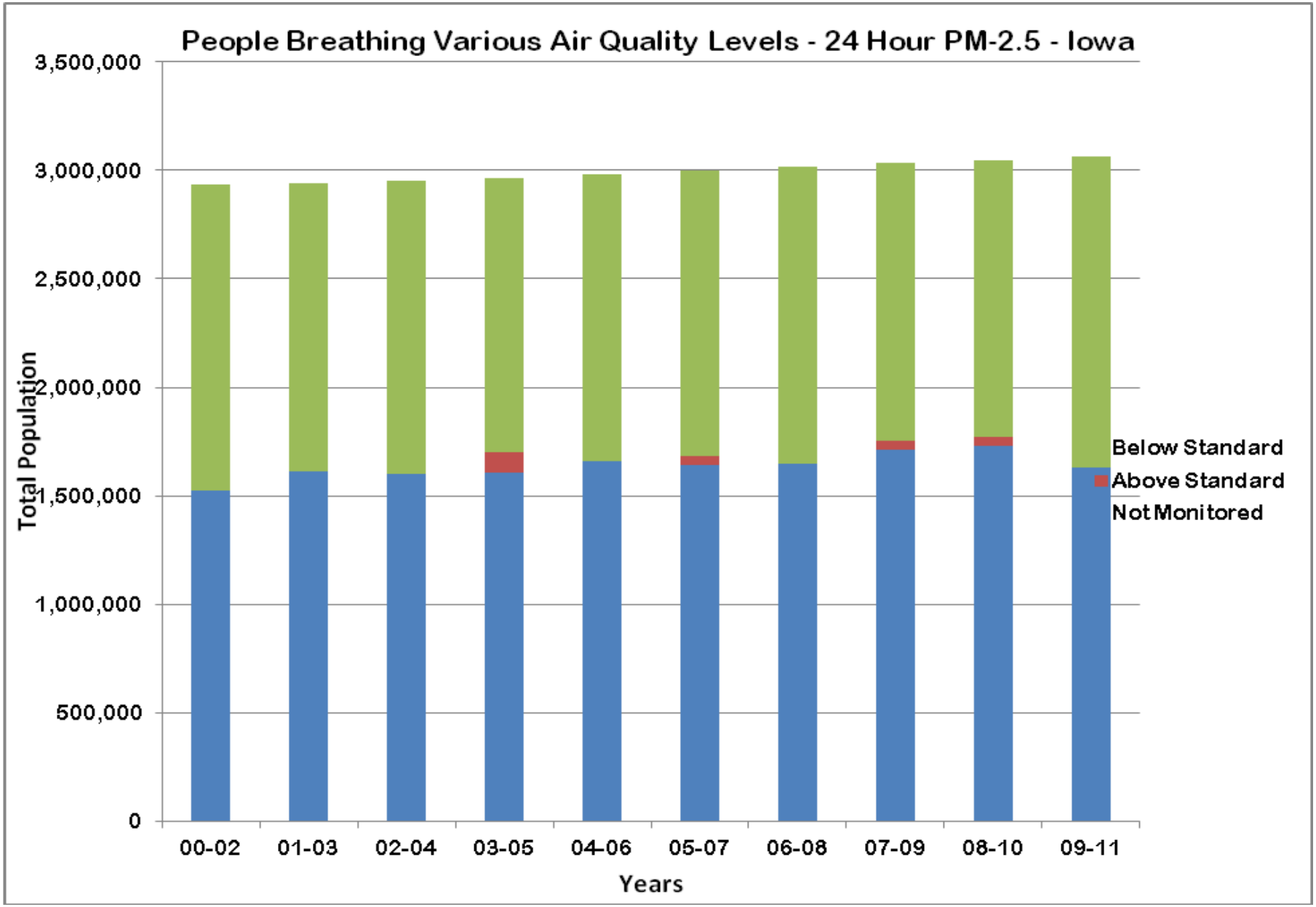
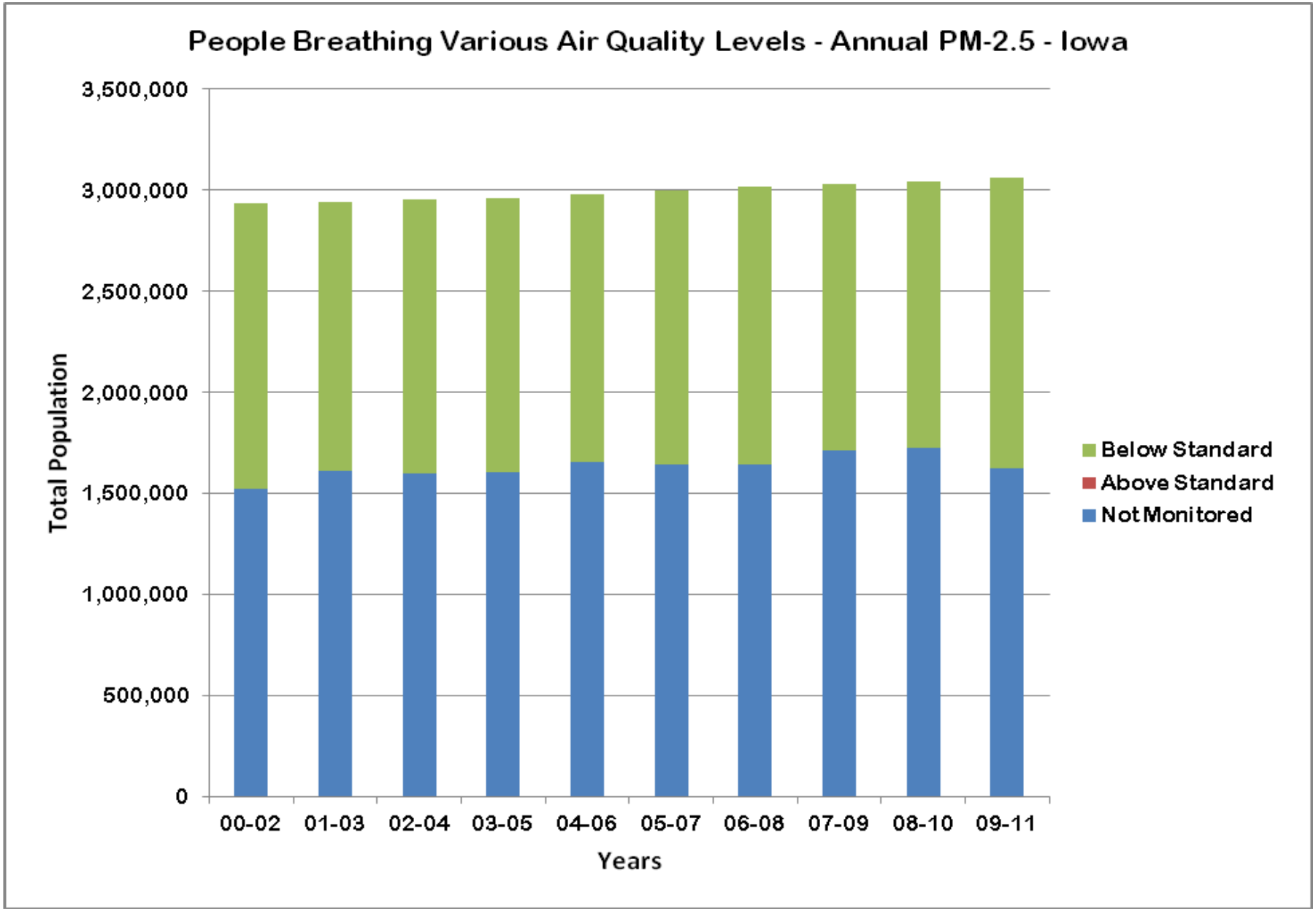

People Breathing Various Air Quality Levels - 24 Hour PM-2.5 - Iowa
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure IA-3


People Breathing Various Air Quality Levels - Annual PM-2.5 - Iowa
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# KANSAS

## Ozone

**Significant progress has been made in ozone levels in Kansas. In the 2000 – 2002 time period, approximately 3 thousand people (0.1%) lived in counties that met the ozone standard. By 2009 – 2011 this had increased to approximately 1.5 million people (52.4%). The remainder of the population lived in counties where ozone was not measured. Figure KS-1 shows the distribution of people by year.**

## 24-Hour PM-2.5

**24-hour PM-2.5 levels in Kansas have historically been better than the standard. In the 2000 – 2002 time period, approximately 1.3 million people (47.9%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 -2011 this was approximately 1.4 million people (48.8%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure KS-2 shows the distribution of people by year.**

## Annual PM-2.5

**Annual PM-2.5 levels in Kansas have historically been better than the standard. In the 2000 – 2002 time period, approximately 1.3 million people (47.9%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this had increased to approximately 1.4 million people (48.8%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure KS-3 shows the distribution of people by year.**

Table KS-1

2009 – 2011

| | | OZONE | | PARTICLE POLLUTION (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg. 24-Hr DV | Grade | Avg. Ann DV | Grade |
| Johnson | 552,991 | 0.069 | C | 20 | A | 8.8 | A |
| Leavenworth | 77,176 | 0.069 | C | ND | --- | ND | --- |
| Linn | 9,612 | 0.067 | B | 21 | A | 9.3 | A |
| Sedgwick | 501,076 | 0.072 | C | 21 | A | 8.9 | A |
| Shawnee | 178,941 | 0.068 | C | 20 | A | 9.1 | A |
| Sumner | 23,787 | 0.074 | C | ND | --- | ND | --- |
| Trego | 2,930 | 0.071 | C | ND | --- | ND | --- |
| Wyandotte | 158,224 | 0.061 | B | 23 | A | 9.3 | A |
| | | | | | | | |
| Subtotal | 1,577,734 | | | | | | |
| Not Monitored | 1,293,504 | | | | | | |
| Total | 2,871,238 | | | | | | |

DV – Design Value ND - No Data

# KANSAS

## Table KS-2

### People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| B | 3,137 | 3,097 | 3,120 | 0 | 0 | 478,479 | 486,077 | 1,380,258 | 1,466,869 | 167,836 |
| C | 0 | 0 | 498,997 | 765,002 | 1,357,586 | 12,829 | 798,739 | 99,621 | 24,132 | 1,336,901 |
| D | 653,742 | 653,741 | 154,874 | 504,441 | 0 | 776,227 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 656,879 | 656,838 | 656,991 | 1,269,443 | 1,357,586 | 1,267,535 | 1,284,816 | 1,479,879 | 1,490,999 | 1,504,737 |
| NM | 2,056,656 | 2,066,166 | 2,077,382 | 1,475,856 | 1,405,345 | 1,516,250 | 1,523,260 | 1,352,825 | 1,362,119 | 1,366,501 |
| Total | 2,713,535 | 2,723,004 | 2,734,373 | 2,745,299 | 2,762,931 | 2,783,785 | 2,808,076 | 2,832,704 | 2,853,118 | 2,871,238 |

### People Breathing Short-term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 1,141,832 | 497,465 | 498,997 | 501,940 | 1,193,964 | 1,190,773 | 1,382,762 | 1,401,433 | 1,411,771 | 1,424,631 |
| B | 157,498 | 812,819 | 821,648 | 830,690 | 153,689 | 0 | 0 | 0 | 0 | 0 |
| C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 1,299,330 | 1,310,284 | 1,320,645 | 1,332,630 | 1,347,653 | 1,190,773 | 1,382,762 | 1,401,433 | 1,411,771 | 1,424,631 |
| NM | 1,414,205 | 1,412,720 | 1,413,728 | 1,412,669 | 1,415,278 | 1,593,012 | 1,425,314 | 1,431,271 | 1,441,347 | 1,446,607 |
| Total | 2,713,535 | 2,723,004 | 2,734,373 | 2,745,299 | 2,762,931 | 2,783,785 | 2,808,076 | 2,832,704 | 2,853,118 | 2,871,238 |

### People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 1,141,832 | 1,154,008 | 1,165,771 | 1,178,274 | 1,347,653 | 1,190,773 | 1,382,762 | 1,401,433 | 1,411,771 | 1,424,631 |
| B | 157,498 | 156,276 | 154,874 | 154,356 | 0 | 0 | 0 | 0 | 0 | 0 |
| C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 1,299,330 | 1,310,284 | 1,320,645 | 1,332,630 | 1,347,653 | 1,190,773 | 1,382,762 | 1,401,433 | 1,411,771 | 1,424,631 |
| NM | 1,414,205 | 1,412,720 | 1,413,728 | 1,412,669 | 1,415,278 | 1,593,012 | 1,425,314 | 1,431,271 | 1,441,347 | 1,446,607 |
| Total | 2,713,535 | 2,723,004 | 2,734,373 | 2,745,299 | 2,762,931 | 2,783,785 | 2,808,076 | 2,832,704 | 2,853,118 | 2,871,238 |

NM – Not Monitored

Figure KS-1

People Breathing Various Air Quality Levels - 8 Hour Ozone - Kansas
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure KS-2

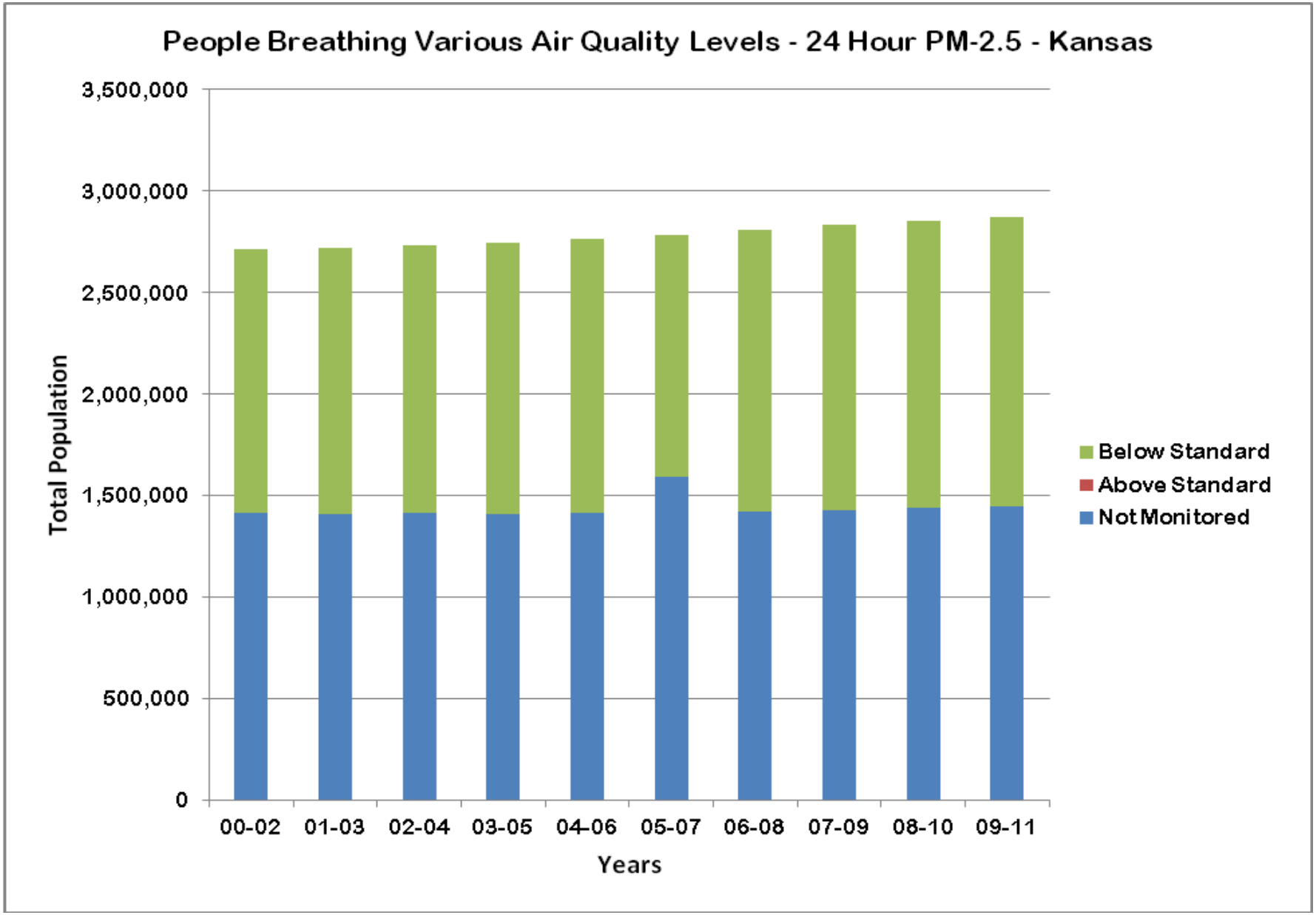
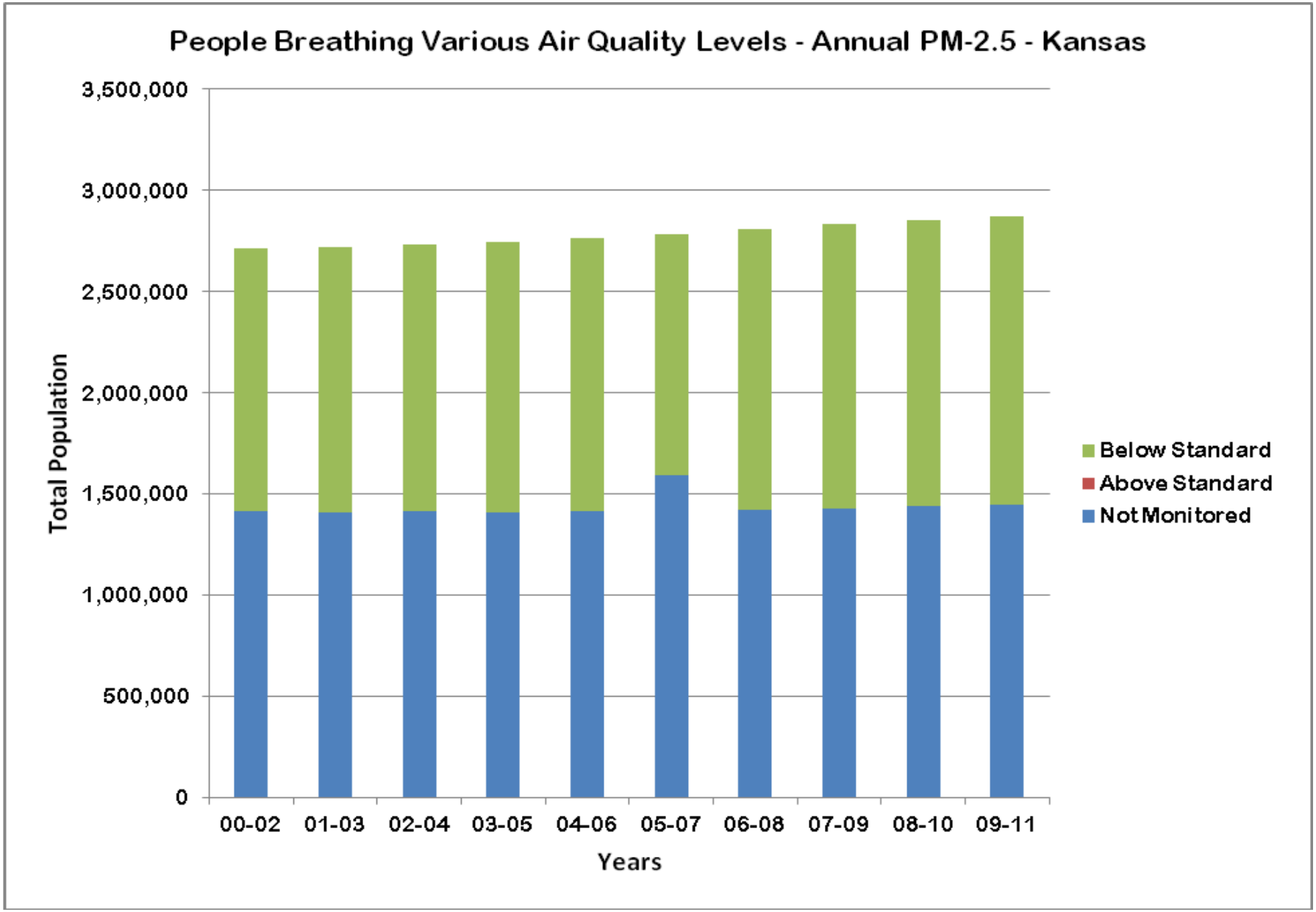

People Breathing Various Air Quality Levels - 24 Hour PM-2.5 - Kansas
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure KS-3


People Breathing Various Air Quality Levels - Annual PM-2.5 - Kansas
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# KENTUCKY

## Ozone

**Significant progress has been made in ozone levels in Kentucky. In the 2000 – 2002 time period, approximately 0.3 million people (7.7%) lived in counties that met the ozone standard. By 2009 – 2011 this had increased to approximately 1.5 million people (34.5%). Figure KY-1 shows the distribution of people by year.**

## 24-Hour PM-2.5

**Significant progress has been made in 24-hour PM-2.5 levels in Kentucky. In the 2000 – 2002 time period, approximately 0.9 million people (21.1%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 -2011 this was approximately 2.0 million people (46.3%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure KY-2 shows the distribution of people by year.**

## Annual PM-2.5

**Progress has been made in annual PM-2.5 levels in Kentucky. In the 2000 – 2002 time period, approximately 0.7 million people (16.6%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this had increased to approximately 2.0 million people (46.3%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure KY-3 shows the distribution of people by year.**

# KENTUCKY

Table KY-1

2009 – 2011

| | | OZONE | | PARTICLE POLLUTION (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg. 24-Hr DV | Grade | Avg. Ann DV | Grade |
| Bell | 28,725 | 0.063 | B | 26 | A | 11.3 | A |
| Boone | 121,737 | 0.067 | B | ND | --- | ND | --- |
| Boyd | 49,466 | 0.069 | C | 24 | A | 10.8 | A |
| Bullitt | 75,109 | 0.070 | C | 24 | A | 12.1 | B |
| Campbell | 90,940 | 0.074 | C | 25 | A | 11.1 | A |
| Carter | 27,586 | 0.067 | B | 19 | A | 9.1 | A |
| Christian | 73,591 | 0.070 | C | 23 | A | 11.0 | A |
| Daviess | 97,234 | 0.073 | C | 27 | A | 12.3 | B |
| Edmonson | 12,090 | 0.070 | C | ND | --- | ND | --- |
| Fayette | 301,569 | 0.070 | C | 22 | A | 11.2 | A |
| Franklin | 49,393 | ND | --- | 23 | A | 10.7 | A |
| Greenup | 36,865 | 0.068 | C | ND | --- | ND | --- |
| Hancock | 8,572 | 0.072 | C | ND | --- | ND | --- |
| Hardin | 107,456 | 0.069 | C | 23 | A | 11.2 | A |
| Henderson | 46,406 | 0.074 | C | 25 | A | 11.7 | A |
| **Jefferson** | **746,906** | **0.077** | **D** | 27 | A | 12.4 | B |
| Jessamine | 49,046 | 0.069 | C | ND | --- | ND | --- |
| Livingston | 9,531 | 0.068 | C | ND | --- | ND | --- |
| McCracken | 65,864 | 0.070 | C | 24 | A | 11.1 | A |
| Madison | 84,188 | ND | --- | 21 | A | 9.9 | A |
| **Oldham** | **60,642** | **0.079** | **D** | ND | --- | ND | --- |
| Perry | 28,751 | 0.065 | B | ND | --- | ND | --- |
| Pike | 64,904 | 0.066 | B | 23 | A | 9.7 | A |
| Pulaski | 63,657 | 0.065 | B | ND | --- | ND | --- |
| Simpson | 17,378 | 0.070 | C | ND | --- | ND | --- |
| Trigg | 14,305 | 0.070 | C | ND | --- | ND | --- |
| Warren | 15,517 | 0.064 | B | 21 | A | 11.0 | A |
| | | | | | | | |
| Subtotal | 2,447,428 | | | | | | |
| Not Monitored | 1,921,928 | | | | | | |
| Total | 4,369,356 | | | | | | |

DV – Design Value ND - No Data

# KENTUCKY

## Table KY-2
## People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| B | 0 | 0 | 38,051 | 65,719 | 345,603 | 0 | 0 | 28,691 | 333,876 | 450,877 |
| C | 314,323 | 386,490 | 697,763 | 1,715,826 | 1,563,590 | 612,533 | 981,850 | 2,022,641 | 2,118,445 | 1,055,422 |
| D | 525,411 | 1,432,406 | 1,303,062 | 472,316 | 312,288 | 1,625,283 | 1,338,252 | 219,016 | 0 | 807,548 |
| F | 1,437,999 | 506,710 | 290,662 | 88,047 | 56,329 | 57,991 | 0 | 0 | 0 | 0 |
| Subtotal | 2,277,733 | 2,325,606 | 2,329,538 | 2,341,908 | 2,277,810 | 2,295,807 | 2,320,102 | 2,270,348 | 2,452,321 | 2,313,847 |
| NM | 1,812,142 | 1,791,564 | 1,816,563 | 1,840,834 | 1,941,429 | 1,960,865 | 1,969,776 | 2,046,726 | 1,887,046 | 2,055,509 |
| Total | 4,089,875 | 4,117,170 | 4,146,101 | 4,182,742 | 4,219,239 | 4,256,672 | 4,289,878 | 4,317,074 | 4,339,367 | 4,369,356 |

## People Breathing Short-term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 29,173 | 112,382 | 56,465 | 98,025 | 28,794 | 443,188 | 1,258,678 | 1,360,093 | 2,024,854 |
| B | 94,700 | 432,528 | 643,805 | 905,609 | 573,303 | 808,827 | 1,627,577 | 802,359 | 741,096 | 0 |
| C | 768,299 | 657,869 | 629,976 | 390,205 | 1,537,418 | 1,323,649 | 0 | 0 | 0 | 0 |
| D | 467,177 | 262,345 | 706,828 | 710,018 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 699,810 | 703,970 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 2,029,986 | 2,025,885 | 2,092,991 | 2,062,297 | 2,208,746 | 2,161,270 | 2,070,765 | 2,061,037 | 2,101,189 | 2,024,854 |
| NM | 2,059,889 | 2,091,285 | 2,053,110 | 2,120,445 | 2,010,493 | 2,095,402 | 2,219,113 | 2,256,037 | 2,238,178 | 2,344,502 |
| Total | 4,089,875 | 4,117,170 | 4,146,101 | 4,182,742 | 4,219,239 | 4,256,672 | 4,289,878 | 4,317,074 | 4,339,367 | 4,369,356 |

## People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 27,528 | 0 | 69,196 | 0 | 109,273 | 298,049 | 1,142,868 | 1,105,605 |
| B | 27,262 | 102,502 | 606,615 | 461,396 | 585,834 | 266,938 | 1,129,724 | 1,762,988 | 958,321 | 919,249 |
| C | 650,450 | 949,509 | 752,020 | 890,883 | 1,553,716 | 1,894,332 | 831,768 | 0 | 0 | 0 |
| D | 652,464 | 973,874 | 706,828 | 710,018 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 699,810 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 2,029,986 | 2,025,885 | 2,092,991 | 2,062,297 | 2,208,746 | 2,161,270 | 2,070,765 | 2,061,037 | 2,101,189 | 2,024,854 |
| NM | 2,059,889 | 2,091,285 | 2,053,110 | 2,120,445 | 2,010,493 | 2,095,402 | 2,219,113 | 2,256,037 | 2,238,178 | 2,334,502 |
| Total | 4,089,875 | 4,117,170 | 4,146,101 | 4,182,742 | 4,219,239 | 4,256,672 | 4,289,878 | 4,317,074 | 4,339,367 | 4,369,356 |

NM – Not Monitored

Figure KY-1

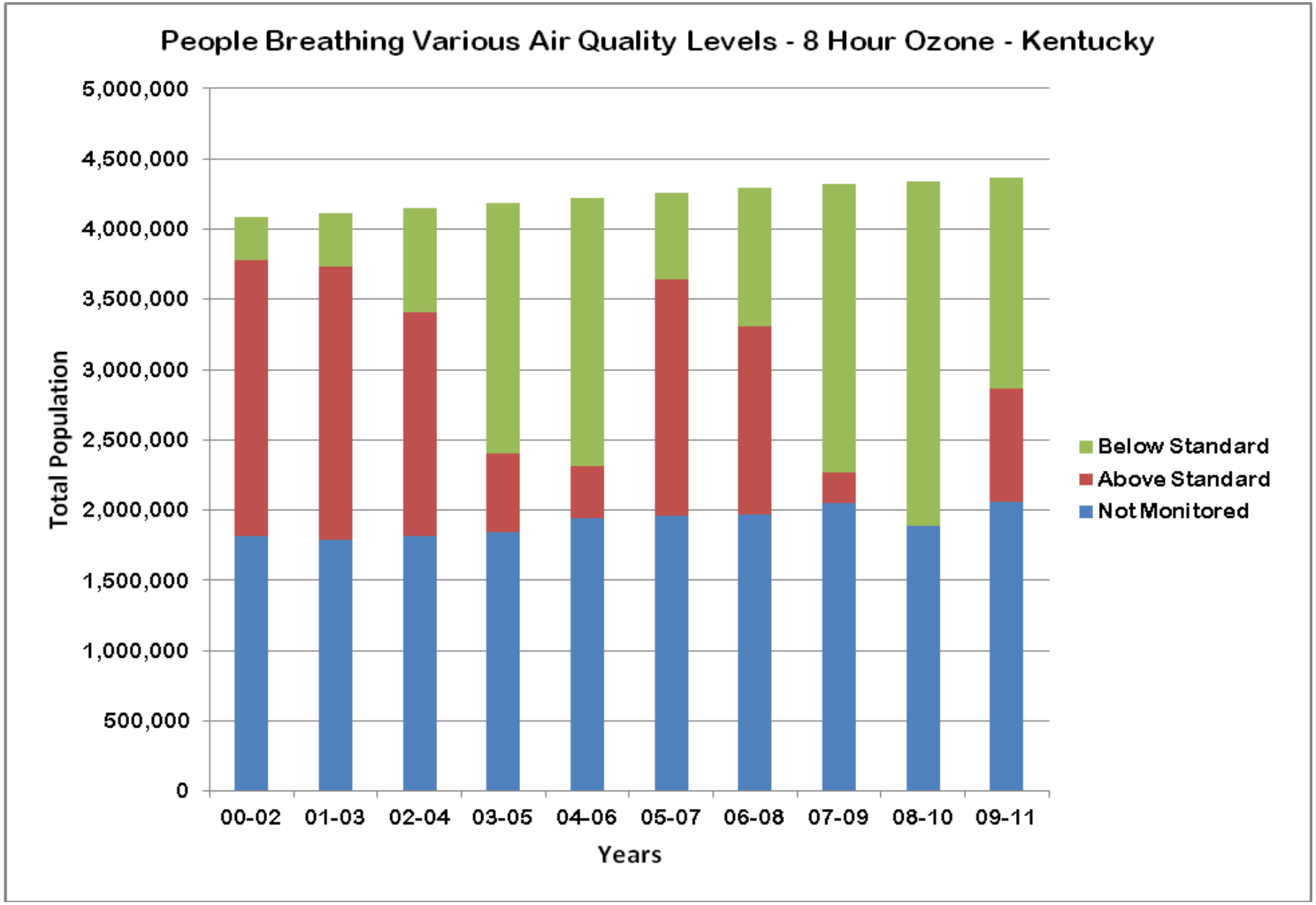

People Breathing Various Air Quality Levels - 8 Hour Ozone - Kentucky
Total Population
5,000,000
4,500,000
4,000,000
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure KY-2

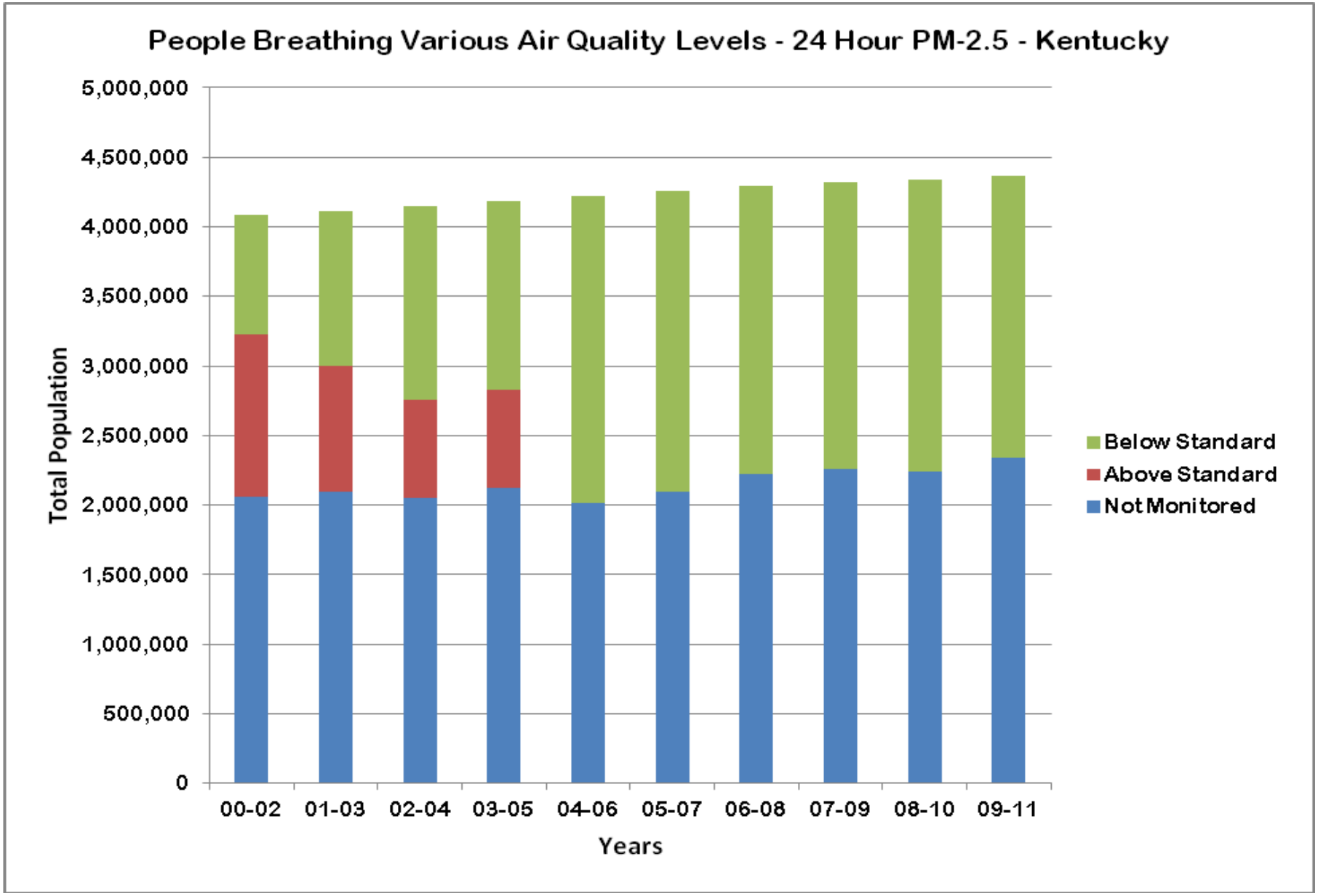
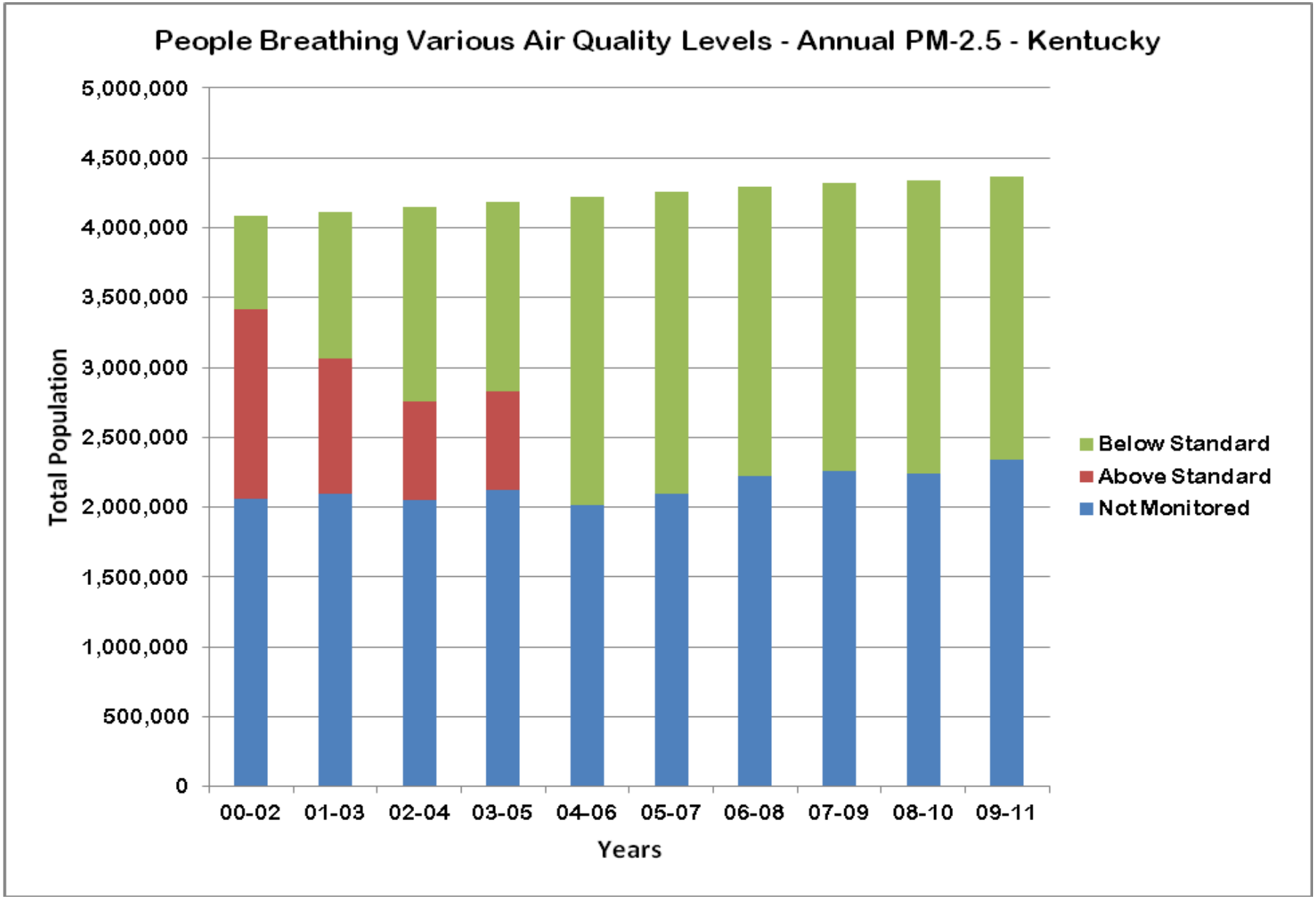

People Breathing Various Air Quality Levels - 24 Hour PM-2.5 - Kentucky
5,000,000
4,500,000
4,000,000
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure KY-3


People Breathing Various Air Quality Levels - Annual PM-2.5 - Kentucky
Total Population
5,000,000
4,500,000
4,000,000
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# LOUISIANA

## Ozone

**Significant progress has been made in ozone levels in Louisiana. In the 2000 – 2002 time period, approximately 0.5 million people (12.1%) lived in counties that met the ozone standard. By 2009 – 2011 this had increased to approximately 1.7 million people (37.0%). Figure LA-1 shows the distribution of people by year.**

## 24-Hour PM-2.5

**Significant progress has been made in 24-hour PM-2.5 levels in Louisiana. In the 2000 – 2002 time period, approximately 2.6 million people (57.5%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 -2011 this was approximately 2.2 million people (47.4%). All of the people in the latter time period were in areas that were better than the standard by 20% or more (grade A). The remainder of the population lived in counties where PM-2.5 was not measured. Figure LA-2 shows the distribution of people by year.**

## Annual PM-2.5

**Annual PM-2.5 levels in Louisiana have historically been better than the standard. In the 2000 – 2002 time period, approximately 2.6 million people (57.5%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this had decreased to approximately 2.1 million people (47.4%). However, all of the people in the latter period lived in areas more than 20% better than the standard (grade A). The remainder of the population lived in counties where PM-2.5 was not measured. Figure LA-3 shows the distribution of people by year.**

# LOUISIANA

Table LA-1

2009 – 2011

| | | OZONE | | PARTICLE POLLUTION (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg.24-Hr DV | Grade | Avg. Ann DV | Grade |
| **Ascension** | **109,985** | **0.077** | **D** | ND | --- | ND | --- |
| **Bossier** | **119,732** | **0.081** | **D** | ND | --- | ND | --- |
| Caddo | 257,051 | 0.075 | C | 21 | A | 11.1 | A |
| Calcasieu | 194,092 | 0.073 | C | 20 | A | 8.9 | A |
| **E. Baton Rouge** | **441,438** | **0.077** | **D** | 21 | A | 10.2 | A |
| **Iberville** | **33,230** | **0.076** | **D** | 20 | A | 9.5 | A |
| **Jefferson** | **432,640** | **0.076** | **D** | 19 | A | 9.1 | A |
| Lafayette | 224,390 | 0.072 | C | 20 | A | 9.1 | A |
| Lafourche | 96,666 | 0.072 | C | ND | --- | ND | --- |
| **Livingston** | **130,251** | **0.076** | **D** | ND | --- | ND | --- |
| Orleans | 360,740 | 0.071 | C | ND | --- | ND | --- |
| Ouachita | 154,919 | 0.066 | B | 19 | A | 9.2 | A |
| Pointe Coupee | 22,703 | 0.075 | C | ND | --- | ND | --- |
| Rapides | 132,374 | ND | --- | 20 | A | 8.7 | A |
| St. Bernard | 39,558 | ND | --- | 20 | A | 10.6 | A |
| St. Charles | 52,517 | 0.072 | C | ND | --- | ND | --- |
| St. James | 21,784 | 0.070 | C | ND | --- | ND | --- |
| St. John the Baptist | 45,221 | 0.075 | C | ND | --- | ND | --- |
| St. Tammany | 236,785 | 0.075 | C | ND | --- | ND | --- |
| Tangipahoa | 122,571 | ND | --- | 19 | A | 8.9 | A |
| Terrebonne | 111,917 | ND | --- | 18 | A | 8.6 | A |
| W. Baton Rouge | 24,109 | 0.072 | C | 22 | A | 10.8 | A |
| | | | | | | | |
| Subtotal | 3,364,673 | | | | | | |
| Not Monitored | 1,210,163 | | | | | | |
| Total | 4,574,836 | | | | | | |

DV – Design Value ND - No Data

# LOUISIANA

## Table LA-2

### People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| B | 0 | 0 | 0 | 0 | 0 | 0 | 151,727 | 153,058 | 153,720 | 154,919 |
| C | 545,173 | 641,716 | 912,802 | 548,810 | 94,385 | 151,157 | 406,242 | 1,443,861 | 2,371,085 | 1,536,058 |
| D | 1,121,093 | 1,355,723 | 1,559,727 | 1,450,376 | 1,460,020 | 887,477 | 1,655,887 | 765,899 | 0 | 1,267,276 |
| F | 748,680 | 888,906 | 436,211 | 924,992 | 512,413 | 1,045,794 | 125,857 | 0 | 0 | 0 |
| Subtotal | 2,414,946 | 2,886,345 | 2,908,740 | 2,924,178 | 2,066,818 | 2,084,428 | 2,339,713 | 2,362,818 | 2,524,805 | 2,958,253 |
| NM | 1,082,321 | 1,634,697 | 1,643,498 | 1,652,450 | 1,235,847 | 2,291,153 | 2,095,873 | 2,128,830 | 2,008,567 | 1,616,583 |
| Total | 4,497,267 | 4,521,042 | 4,552,238 | 4,576,628 | 4,302,665 | 4,375,581 | 4,435,586 | 4,491,648 | 4,533,372 | 4,574,836 |

### People Breathing Short-term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 730,602 | 1,477,952 | 2,256,156 | 1,677,745 | 525,083 | 1,130,361 | 1,839,072 | 2,138,809 | 2,153,400 | 2,168,289 |
| B | 1,673,118 | 994,149 | 249,157 | 378,509 | 1,311,332 | 723,816 | 251,953 | 0 | 0 | 0 |
| C | 183,487 | 0 | 0 | 584,098 | 269,303 | 0 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 2,587,207 | 2,472,101 | 2,505,313 | 2,640,352 | 2,105,718 | 1,854,177 | 2,091,025 | 2,138,809 | 2,153,400 | 2,168,289 |
| NM | 1,910,060 | 2,048,941 | 2,046,925 | 1,936,276 | 2,196,947 | 2,521,404 | 2,344,561 | 2,352,839 | 2,379,972 | 2,406,547 |
| Total | 4,497,267 | 4,521,042 | 4,552,238 | 4,576,628 | 4,302,665 | 4,375,581 | 4,435,586 | 4,491,648 | 4,533,372 | 4,574,836 |

### People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 585,956 | 1,443,866 | 1,819,945 | 1,955,018 | 806,369 | 1,072,484 | 1,815,820 | 2,138,809 | 2,153,400 | 2,168,289 |
| B | 2,001,251 | 1,174,906 | 685,368 | 685,334 | 1,023,943 | 758,509 | 275,205 | 0 | 0 | 0 |
| C | 0 | 0 | 0 | 0 | 275,406 | 23,184 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 2,587,207 | 2,618,772 | 2,505,313 | 2,640,352 | 2,105,718 | 1,854,177 | 2,091,025 | 2,138,809 | 2,153,400 | 2,168,289 |
| NM | 1,910,060 | 1,902,270 | 2,046,925 | 1,936,276 | 2,196,947 | 2,521,404 | 2,344,561 | 2,352,839 | 2,379,972 | 2,406,547 |
| Total | 4,497,267 | 4,521,042 | 4,552,238 | 4,576,628 | 4,302,665 | 4,375,581 | 4,435,586 | 4,491,648 | 4,533,372 | 4,574,836 |

NM – Not Monitored

Figure LA-1

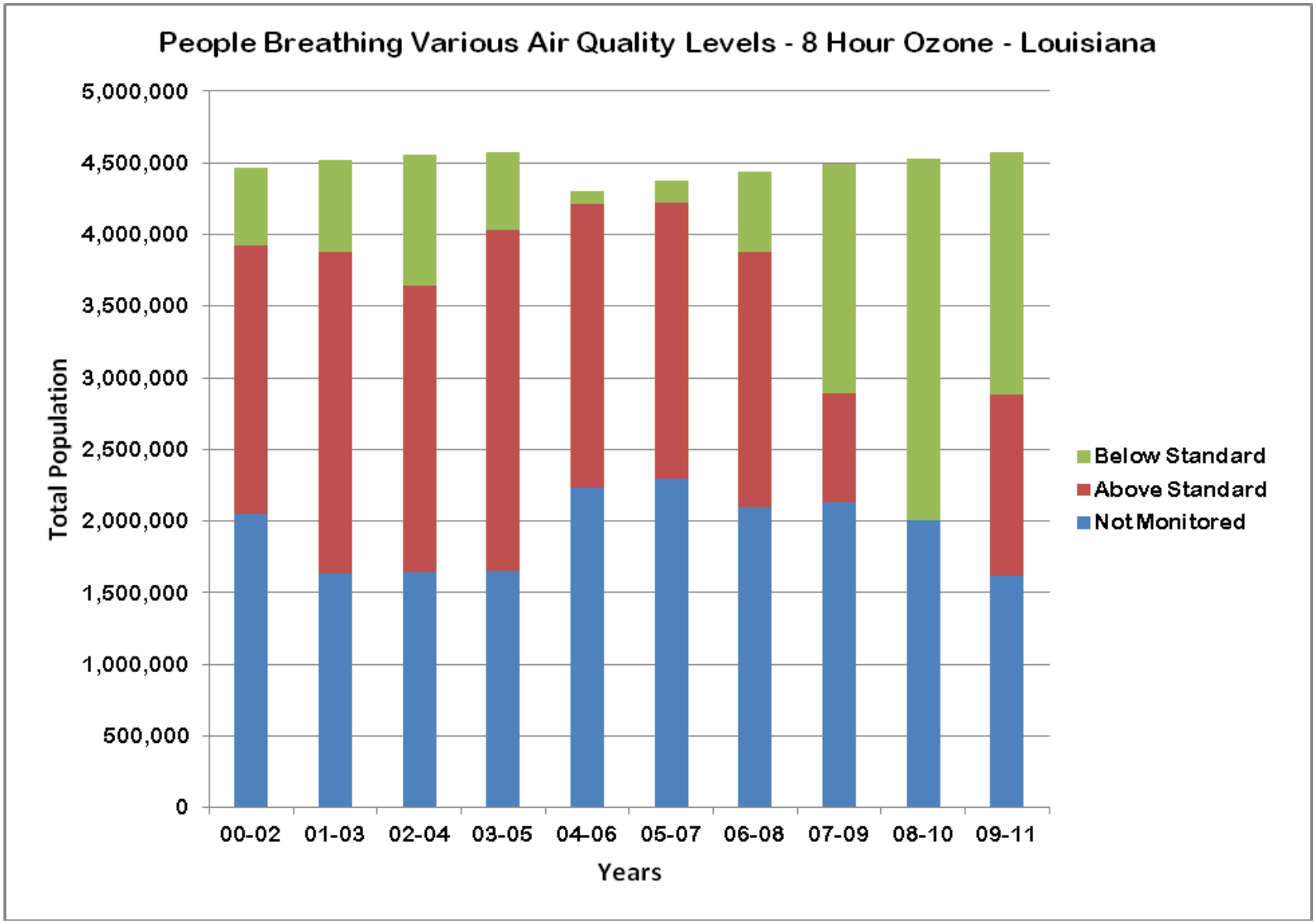

People Breathing Various Air Quality Levels - 8 Hour Ozone - Louisiana
Total Population
5,000,000
4,500,000
4,000,000
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure LA-2

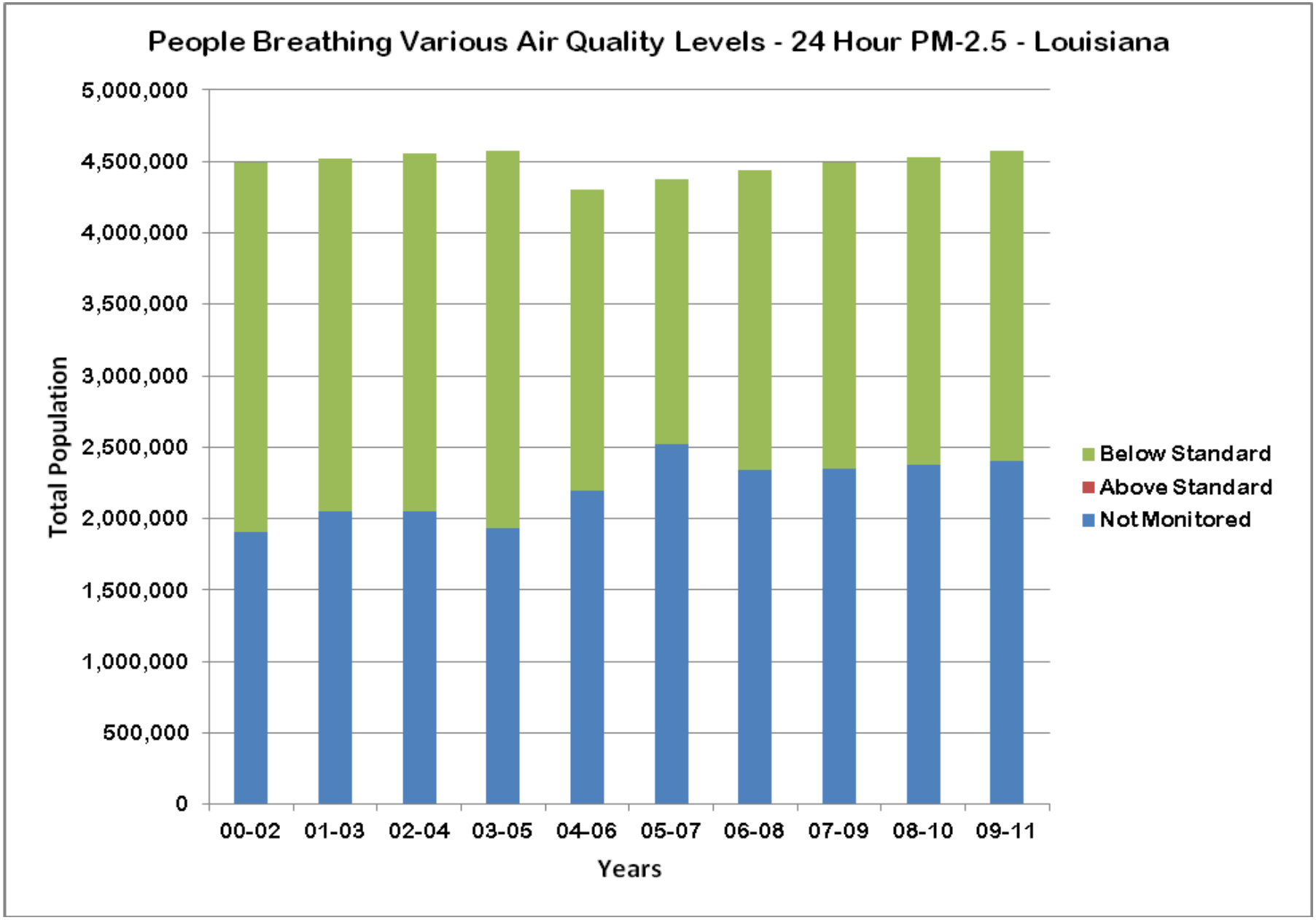
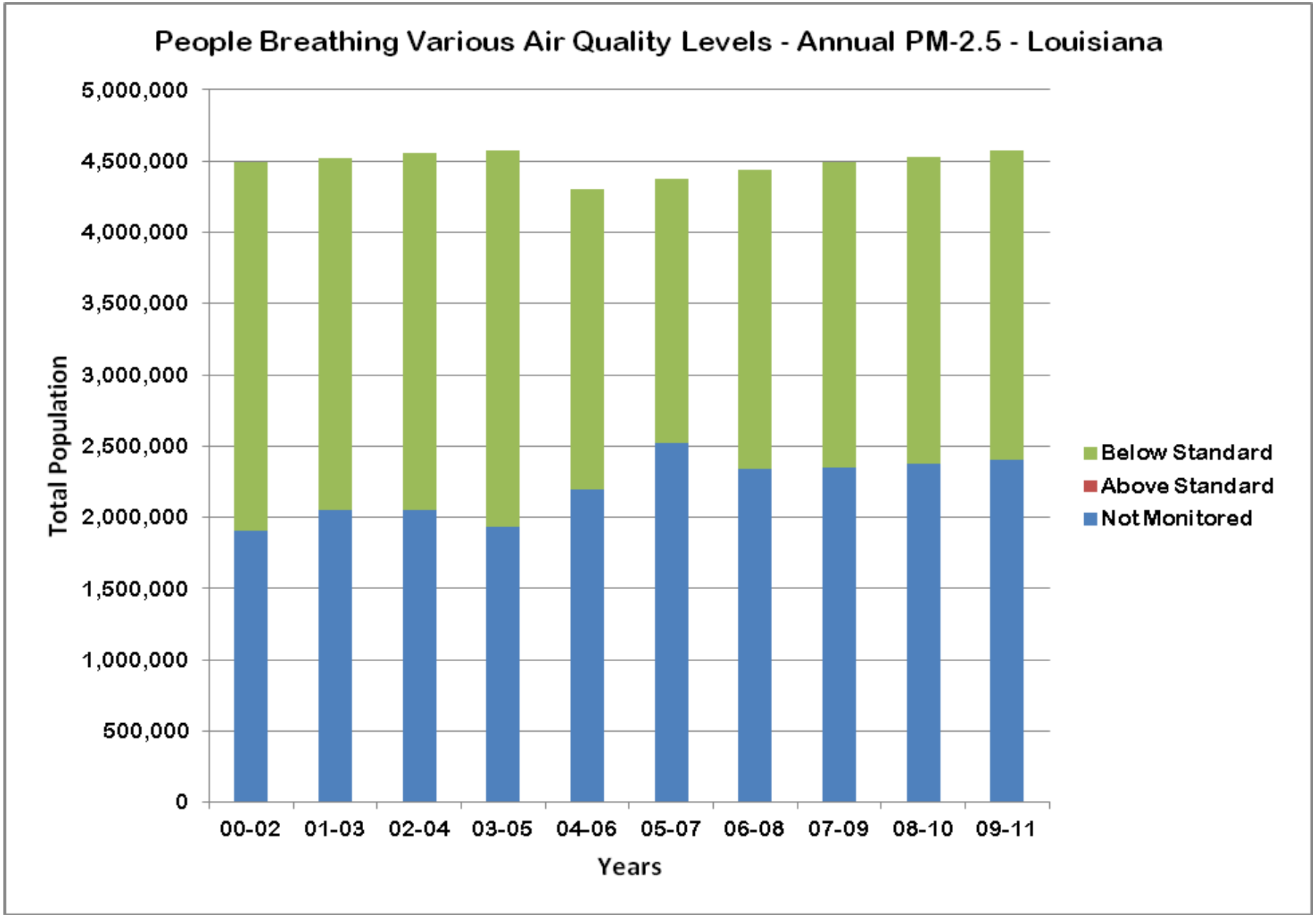

People Breathing Various Air Quality Levels - 24 Hour PM-2.5 - Louisiana
Total Population
5,000,000
4,500,000
4,000,000
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure LA-3


People Breathing Various Air Quality Levels - Annual PM-2.5 - Louisiana
5,000,000
4,500,000
4,000,000
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# MAINE

## Ozone

**Significant progress has been made in ozone levels in Maine. In the 2000 – 2002 time period, approximately 56 thousand people (4.3%) lived in counties that met the ozone standard. By 2009 – 2011 this had increased to approximately 1.2 million people (87.0%). The remainder of the population lived in counties where ozone was not measured. Figure ME-1 shows the distribution of people by year.**

## 24-Hour PM-2.5

**24-hour PM-2.5 levels in Maine have historically been better than the standard. In the 2000 – 2002 time period, approximately 1.1 million people (81.6%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 -2011 this was approximately 0.9 million people (65.3%). However, all people lived in counties rated as A. The remainder of the population lived in counties where PM-2.5 was not measured. Figure ME-2 shows the distribution of people by year.**

## Annual PM-2.5

**Annual PM-2.5 levels in Main have historically been better than the standard. In the 2000 – 2002 time period, approximately 1.1 million people (81.6%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this had decreased to approximately 0.9 million people (65.3%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure ME-3 shows the distribution of people by year.**

Table ME-1

2009 – 2011

| | | OZONE | | PARTICLE POLLUTION (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg. 24-Hr DV | Grade | Avg. Ann DV | Grade |
| Androscoggin | 107,398 | 0.063 | B | 22 | A | 7.5 | A |
| Aroostook | 71,482 | 0.052 | A | 20 | A | 6.7 | A |
| Cumberland | 282,401 | 0.066 | B | 21 | A | 8.1 | A |
| Hancock | 54,578 | 0.073 | C | 13 | A | 4.5 | A |
| Kennebec | 121,935 | 0.063 | B | 21 | A | 7.2 | A |
| Knox | 39,708 | 0.069 | C | ND | --- | ND | --- |
| Oxford | 57,695 | 0.055 | A | 26 | A | 8.2 | A |
| Penobscot | 153,786 | 0.057 | A | 21 | A | 7.3 | A |
| Piscataquis | 17,419 | ND | --- | 16 | A | 5.0 | A |
| Sagadahoc | 35,207 | 0.062 | B | ND | --- | ND | --- |
| Washington | 32,637 | 0.057 | A | ND | --- | ND | --- |
| York | 98,199 | 0.065 | B | ND | --- | ND | --- |
| | | | | | | | |
| Subtotal | 1,172,445 | | | | | | |
| Not Monitored | 155,743 | | | | | | |
| Total | 1,328,188 | | | | | | |

DV – Design Value ND - No Data

# MAINE

## Table ME-2

### People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 72,542 | 72,258 | 316,482 | 315,600 |
| B | 55,843 | 56,206 | 56,763 | 333,510 | 521,981 | 91,390 | 244,799 | 244,618 | 783,687 | 745,140 |
| C | 0 | 119,538 | 0 | 306,496 | 413,569 | 786,238 | 640,703 | 748,999 | 54,418 | 94,286 |
| D | 265,322 | 0 | 871,672 | 94,316 | 0 | 94,597 | 54,371 | 0 | 0 | 0 |
| F | 557,218 | 711,074 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 878,383 | 886,818 | 928,435 | 734,322 | 935,550 | 972,225 | 1,012,415 | 1,120,374 | 1,154,587 | 1,155,026 |
| NM | 417,577 | 419,695 | 385,253 | 584,465 | 388,069 | 354,815 | 318,094 | 209,216 | 173,774 | 173,162 |
| Total | 1,295,960 | 1,306,513 | 1,313,688 | 1,318,787 | 1,323,619 | 1,327,040 | 1,330,509 | 1,329,590 | 1,328,361 | 1,328,188 |

### People Breathing Short-term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 562,768 | 321,825 | 202,427 | 276,352 | 507,822 | 845,470 | 849,535 | 867,766 | 867,106 | 866,694 |
| B | 494,207 | 478,006 | 631,812 | 561,819 | 334,640 | 0 | 0 | 0 | 0 | 0 |
| C | 0 | 225,678 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 1,056,975 | 1,025,509 | 834,239 | 838,171 | 842,462 | 845,470 | 849,535 | 867,766 | 867,106 | 866,694 |
| NM | 238,985 | 281,004 | 479,449 | 480,616 | 481,157 | 481,570 | 480,974 | 461,824 | 461,255 | 461,494 |
| Total | 1,295,960 | 1,306,513 | 1,313,688 | 1,318,787 | 1,323,619 | 1,327,040 | 1,330,509 | 1,329,590 | 1,328,361 | 1,328,188 |

### People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 1,056,975 | 1,025,509 | 834,239 | 838,171 | 842,462 | 845,470 | 849,535 | 867,766 | 867,106 | 866,694 |
| B | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 1,056,975 | 1,025,509 | 834,239 | 838,171 | 842,462 | 845,470 | 849,535 | 867,766 | 867,106 | 866,694 |
| NM | 238,985 | 281,004 | 479,449 | 480,616 | 481,157 | 481,570 | 480,974 | 461,824 | 461,255 | 461,494 |
| Total | 1,295,960 | 1,306,513 | 1,313,688 | 1,318,787 | 1,323,619 | 1,327,040 | 1,330,509 | 1,329,590 | 1,328,361 | 1,328,188 |

NM – Monitored

Figure ME-1

People Breathing Various Air Quality Levels - 8 Hour Ozone - Maine
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure ME-2

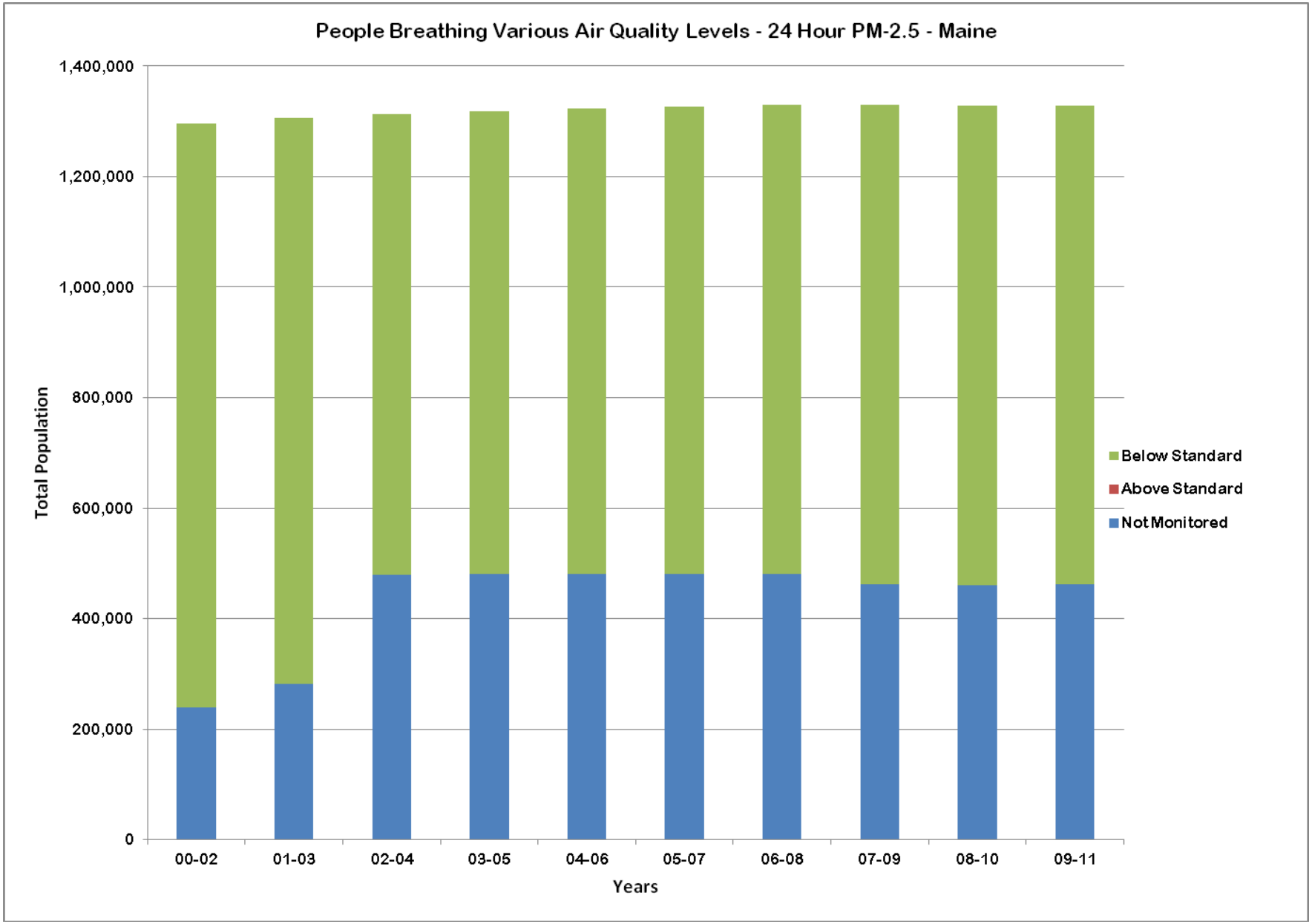
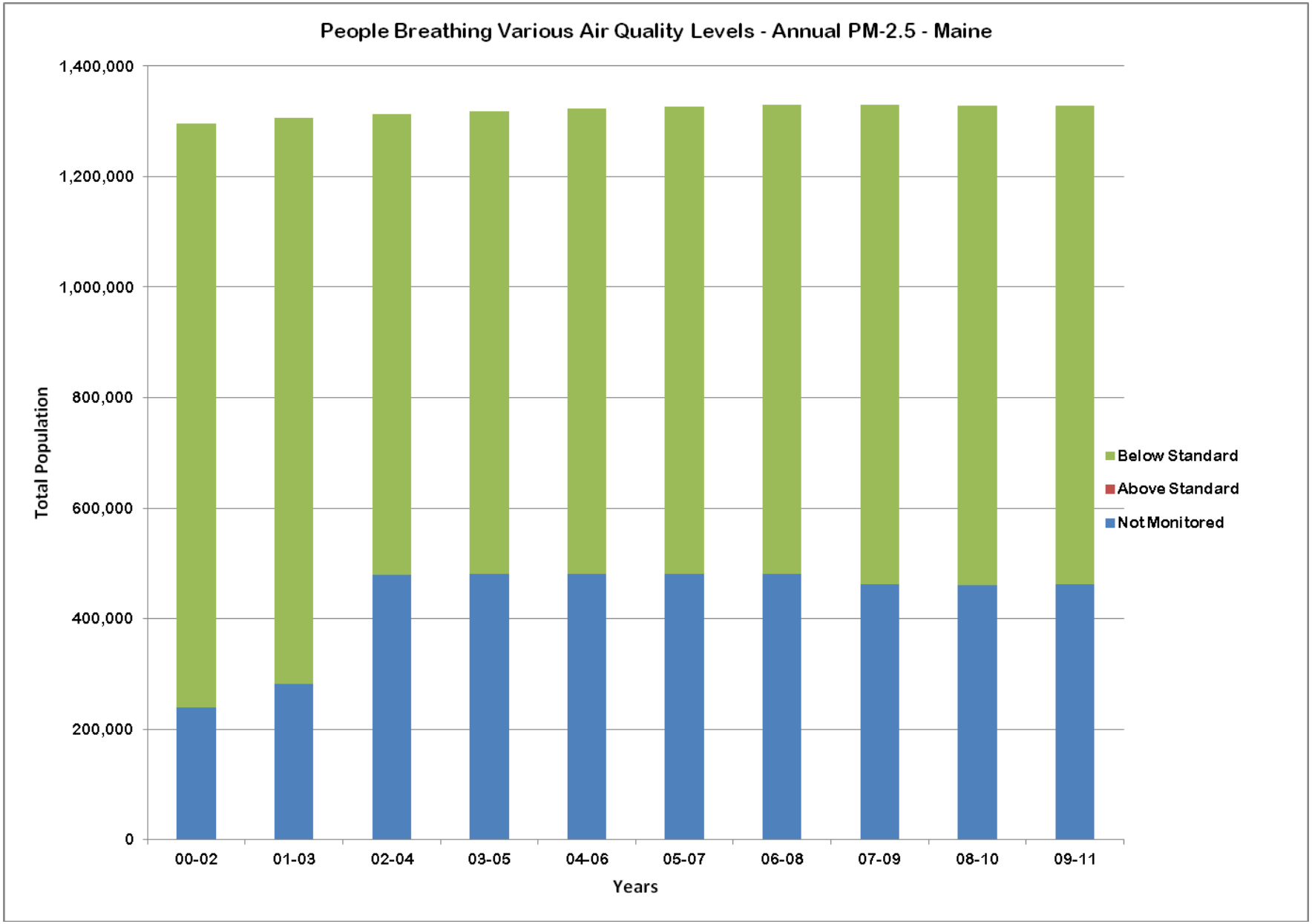

People Breathing Various Air Quality Levels - 24 Hour PM-2.5 - Maine
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure ME-3


People Breathing Various Air Quality Levels - Annual PM-2.5 - Maine
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# MARYLAND

## Ozone

**Progress has been made in ozone levels in Maryland. In the 2000 – 2002 time period, no people lived in counties that met the ozone standard. By 2009 – 2011 this had increased to approximately 0.8 million people (14.0%). Figure MD-1 shows the distribution of people by year.**

## 24-Hour PM-2.5

**Significant progress has been made in 24-hour PM-2.5 levels in Maryland. In the 2000 – 2002 time period, approximately 317 thousand people (5.8%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 -2011 this was approximately 4.1 million people (70.4%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure MD-2 shows the distribution of people by year.**

## Annual PM-2.5

**Progress has been made in annual PM-2.5 levels in Maryland. In the 2000 – 2002 time period, approximately 2.6 million people (48.4%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this had increased to approximately 4.1 million people (70.4%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure MD-3 shows the distribution of people by year.**

Table MD-1

2009 – 2011

| | | OZONE | | PARTICLE POLLUTION (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg. 24-Hr DV | Grade | Avg. Ann DV | Grade |
| Anne Arundel | 544,403 | 0.081 | D | 26 | A | 10.9 | A |
| Baltimore | 809,941 | 0.079 | D | 26 | A | 10.6 | A |
| Calvert | 89,256 | 0.079 | D | ND | --- | ND | --- |
| Carroll | 167,288 | 0.077 | D | ND | --- | ND | --- |
| Cecil | 101,694 | 0.081 | D | ND | --- | ND | --- |
| Charles | 149,130 | 0.078 | D | ND | --- | ND | --- |
| Frederick | 236,745 | 0.076 | D | ND | --- | ND | --- |
| Garrett | 30,051 | 0.071 | C | ND | --- | ND | --- |
| Harford | 246,489 | 0.085 | F | 23 | A | 9.8 | A |
| Kent | 20,204 | 0.075 | C | 25 | A | 10.3 | A |
| Montgomery | 989,794 | 0.076 | D | 25 | A | 10.7 | A |
| Prince Georges | 871,233 | 0.079 | D | 23 | A | 10.4 | A |
| Washington | 148,203 | 0.072 | C | ND | --- | ND | --- |
| Baltimore City | 619,493 | 0.074 | C | 26 | A | 10.9 | A |
| | | | | | | | |
| Subtotal | 5,023,924 | | | | | | |
| Not Monitored | 804,365 | | | | | | |
| Total | 5,828,289 | | | | | | |

DV – Design Value ND - No Data

# MARYLAND

## Table MD-2

### People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| B | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 620,509 | 620,961 | 0 |
| C | 0 | 0 | 0 | 0 | 30,147 | 0 | 30,222 | 264,342 | 1,367,506 | 817,951 |
| D | 0 | 0 | 0 | 2,239,445 | 388,283 | 1,059,839 | 607,531 | 2,753,270 | 3,041,295 | 3,959,484 |
| F | 3,973,971 | 4,025,554 | 4,064,457 | 1,862,935 | 3,738,118 | 2,269,056 | 2,704,716 | 344,501 | 0 | 246,489 |
| Subtotal | 3,973,971 | 4,025,554 | 4,064,457 | 4,102,380 | 4,156,548 | 3,328,895 | 3,342,469 | 3,982,622 | 5,029,762 | 5,023,924 |
| NM | 1,466,418 | 1,470,715 | 1,482,478 | 1,849,999 | 1,470,819 | 2,324,513 | 2,342,496 | 1,747,766 | 743,790 | 804,365 |
| Total | 5,440,389 | 5,496,269 | 5,546,935 | 5,592,379 | 5,627,367 | 5,653,408 | 5,684,965 | 5,730,388 | 5,773,552 | 5,828,289 |

### People Breathing Short-term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2,306,628 | 2,328,561 | 4,081,353 |
| B | 0 | 0 | 0 | 0 | 1,266,476 | 2,269,045 | 2,282,600 | 1,954,712 | 1,963,646 | 0 |
| C | 317,430 | 1,234,353 | 1,244,649 | 2,252,124 | 2,307,814 | 1,316,576 | 1,944,338 | 0 | 0 | 0 |
| D | 3,007,064 | 2,123,173 | 1,921,852 | 1,926,841 | 621,109 | 620,306 | 0 | 0 | 0 | 0 |
| F | 768,946 | 765,905 | 985,373 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 4,093,440 | 4,123,431 | 4,151,874 | 4,178,965 | 4,195,399 | 4,205,927 | 4,226,938 | 4,261,340 | 4,292,207 | 4,081,353 |
| NM | 1,346,949 | 1,372,838 | 1,395,061 | 1,413,414 | 1,431,968 | 1,447,481 | 1,458,027 | 1,469,048 | 1,481,345 | 1,746,936 |
| Total | 5,440,389 | 5,496,269 | 5,546,935 | 5,592,379 | 5,627,367 | 5,653,408 | 5,684,965 | 5,730,388 | 5,773,552 | 5,828,289 |

### People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 1,285,759 | 2,306,628 | 4,292,207 | 4,081,353 |
| B | 993,201 | 1,234,353 | 1,244,649 | 2,110,040 | 2,118,573 | 2,269,045 | 2,320,995 | 1,954,712 | 0 | 0 |
| C | 1,637,231 | 2,260,045 | 2,283,003 | 1,447,365 | 1,455,717 | 1,936,882 | 620,184 | 0 | 0 | 0 |
| D | 1,463,008 | 629,033 | 624,222 | 621,560 | 621,109 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 4,093,440 | 4,123,431 | 4,151,874 | 4,178,965 | 4,195,399 | 4,205,927 | 4,226,938 | 4,261,340 | 4,292,207 | 4,081,353 |
| NM | 1,346,949 | 1,372,838 | 1,395,061 | 1,413,414 | 1,431,968 | 1,447,481 | 1,458,027 | 1,469,048 | 1,481,345 | 1,746,936 |
| Total | 5,440,389 | 5,496,269 | 5,546,935 | 5,592,379 | 5,627,367 | 5,653,408 | 5,684,965 | 5,730,388 | 5,773,552 | 5,828,289 |

NM – Not Monitored

Figure MD-1

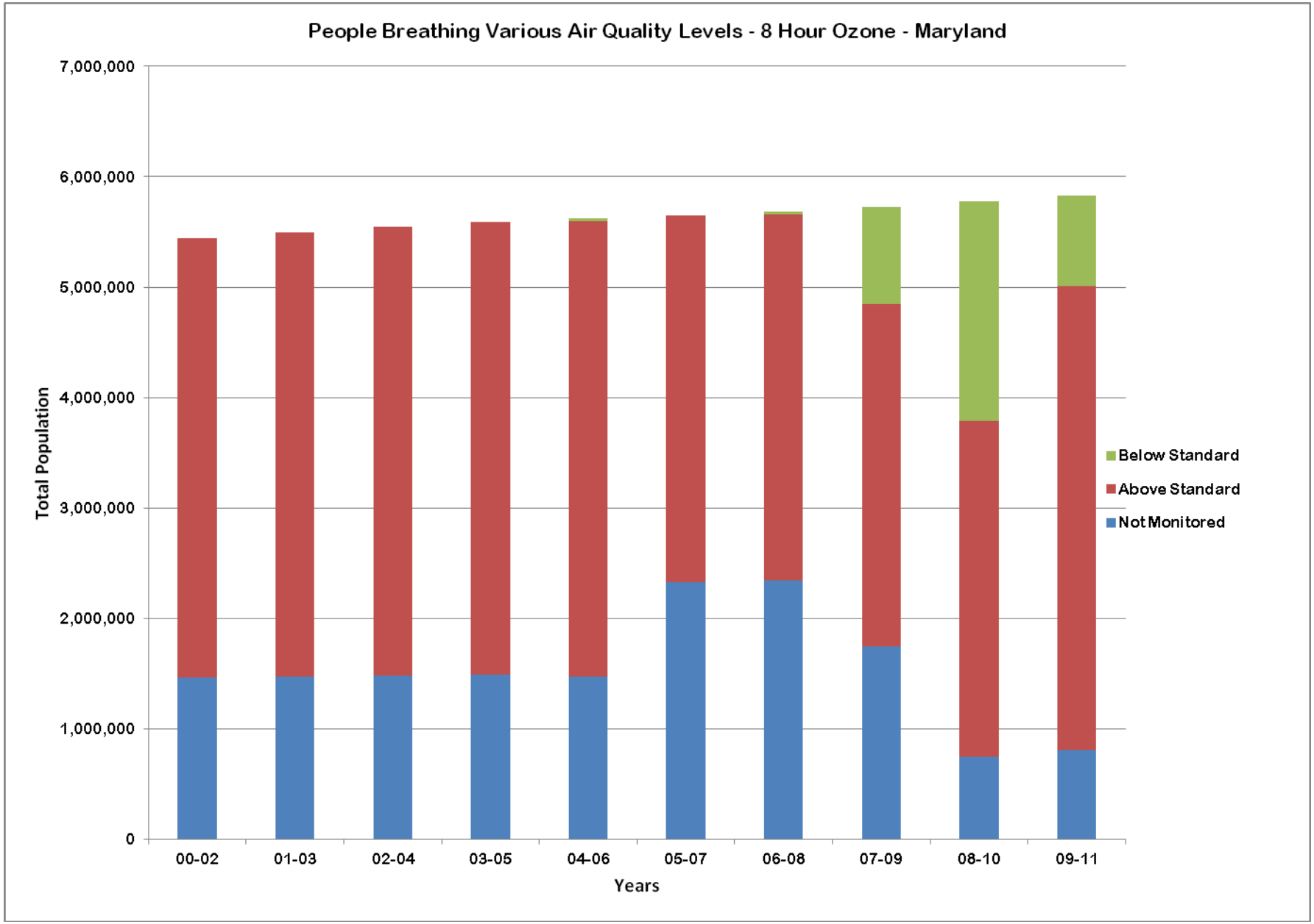

People Breathing Various Air Quality Levels - 8 Hour Ozone - Maryland
7,000,000
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure MD-2

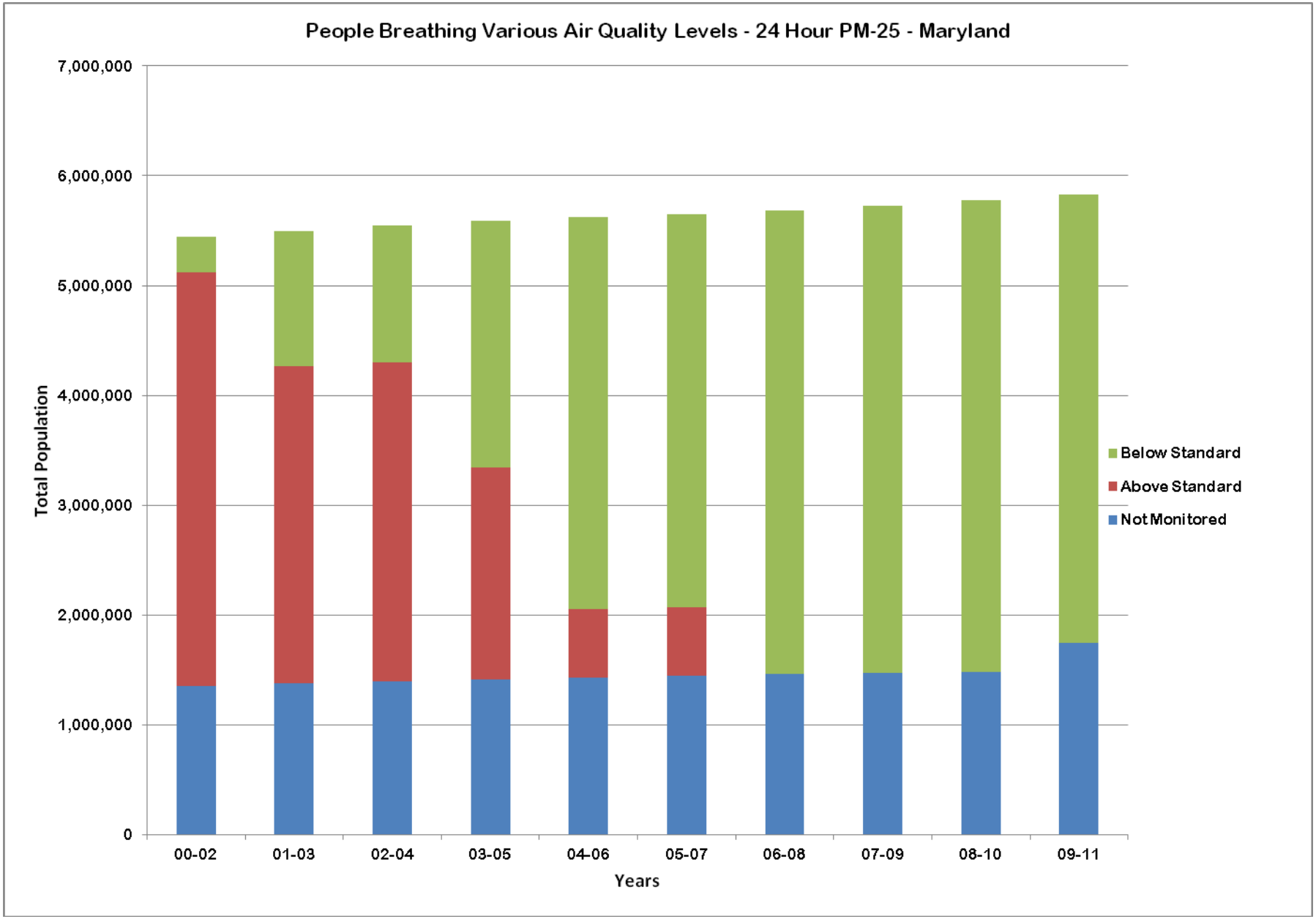
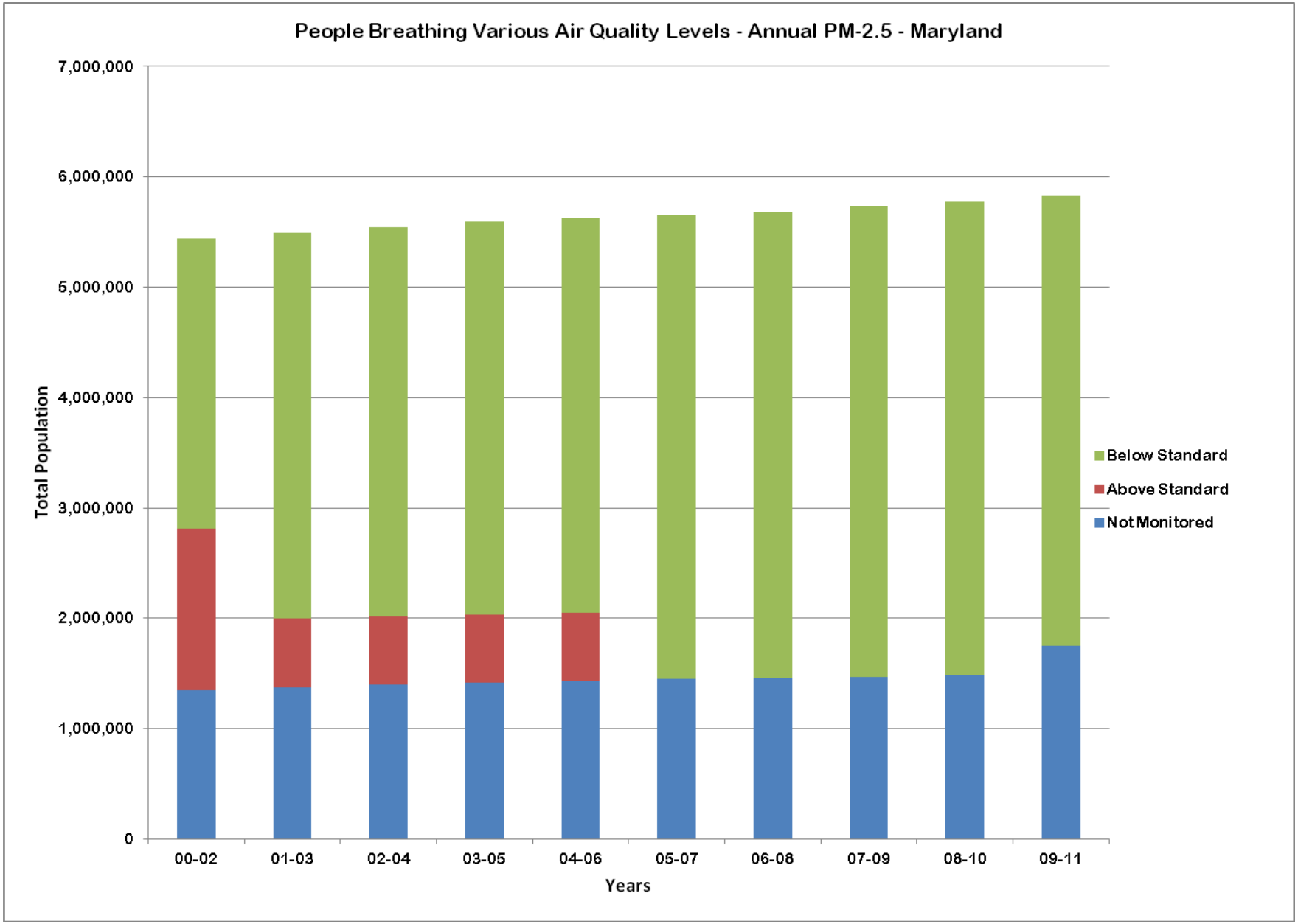

People Breathing Various Air Quality Levels - 24 Hour PM-25 - Maryland
7,000,000
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure MD-3


People Breathing Various Air Quality Levels - Annual PM-2.5 - Maryland
7,000,000
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# MASSACHUSETTS

## Ozone

**Significant progress has been made in ozone levels in Massachusetts. In the 2000 – 2002 time period, no people lived in counties that met the ozone standard. By 2009 – 2011 this had increased to approximately 6.0 million people (91.0%). Figure MA-1 shows the distribution of people by year.**

## 24-Hour PM-2.5

**Progress has been made in 24-hour PM-2.5 levels in Massachusetts. In the 2000 – 2002 time period, approximately 6.1 million people (95.0%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 -2011 this was approximately 5.4 million people (82.6%). In the latter period all people lived in areas that were 20% or more lower than the standard (grade A). The remainder of the population lived in counties where PM-2.5 was not measured. Figure MA-2 shows the distribution of people by year.**

## Annual PM-2.5

**Progress has been made in annual PM-2.5 levels in Massachusetts. In the 2000 – 2002 time period, approximately 6.1 million people (95.0%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this had decreased to approximately 5.4 million people (82.6%). In the latter period all people lived in areas that were 20% or more lower than the standard (grade A). The remainder of the population lived in counties where PM-2.5 was not measured. Figure MA-3 shows the distribution of people by year.**

Table MA-1

2009 – 2011

| | | OZONE | | PARTICLE POLLUTION (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg. 24-Hr DV | Grade | Avg. Ann DV | Grade |
| Barnstable | 215,769 | 0.072 | C | ND | --- | ND | --- |
| Berkshire | 130,458 | 0.069 | C | 26 | A | 8.9 | A |
| Bristol | 548,922 | 0.074 | C | 21 | A | 7.9 | A |
| Essex | 748,930 | 0.069 | C | 19 | A | 7.7 | A |
| Hampden | 463,783 | 0.075 | C | 26 | A | 8.8 | A |
| Hampshire | 157,822 | 0.070 | C | ND | --- | ND | --- |
| Middlesex | 1,518,171 | 0.068 | C | 20 | A | 7.7 | A |
| Norfolk | 675,436 | 0.072 | C | ND | --- | ND | --- |
| Plymouth | 497,579 | ND | --- | 21 | A | 8.1 | A |
| Suffolk | 730,932 | 0.066 | B | 22 | A | 9.3 | A |
| Worcester | 801,227 | 0.071 | C | 23 | A | 8.7 | A |
| | | | | | | | |
| Subtotal | 6,489,029 | | | | | | |
| Not Monitored | 98,507 | | | | | | |
| Total | 6,587,536 | | | | | | |

DV – Design Value ND - No Data

# MASSACHUSETTS

## Table MA-2

### People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| B | 0 | 0 | 0 | 0 | 0 | 0 | 702,201 | 715,214 | 722,023 | 2,249,103 |
| C | 0 | 0 | 0 | 2,296,851 | 687,192 | 693,368 | 0 | 678,588 | 3,754,678 | 3,742,347 |
| D | 1,433,565 | 154,621 | 2,984,587 | 1,642,705 | 3,803,960 | 2,870,941 | 4,716,469 | 4,085,679 | 1,477,930 | 16,766 |
| F | 2,982,400 | 4,259,095 | 2,067,518 | 1,880,117 | 1,350,634 | 2,297,437 | 478,185 | 462,777 | 0 | 0 |
| Subtotal | 4,415,965 | 4,413,716 | 5,052,105 | 5,819,673 | 5,841,786 | 5,861,746 | 5,896,855 | 5,942,258 | 5,954,631 | 6,008,216 |
| NM | 2,001,241 | 2,008,849 | 1,360,176 | 583,617 | 568,298 | 569,813 | 572,112 | 575,355 | 592,998 | 579,320 |
| Total | 6,417,206 | 6,422,565 | 6,412,281 | 6,403,290 | 6,410,084 | 6,431,559 | 6,468,967 | 6,517,613 | 6,547,629 | 6,587,536 |

### People Breathing Short-term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 1,621,949 | 0 | 0 | 545,437 | 1,273,942 | 2,739,058 | 2,757,866 | 4,915,926 | 5,404,732 | 5,440,002 |
| B | 2,697,303 | 731,544 | 1,421,055 | 1,901,769 | 2,552,701 | 2,563,216 | 2,576,844 | 462,777 | 0 | 0 |
| C | 1,775,734 | 2,089,224 | 1,078,927 | 1,374,975 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 0 | 460,673 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 6,094,986 | 3,281,441 | 2,499,982 | 3,822,181 | 3,826,643 | 5,302,274 | 5,334,710 | 5,378,703 | 5,404,732 | 5,440,002 |
| NM | 322,220 | 3,141,124 | 3,912,299 | 2,581,109 | 2,583,441 | 1,129,285 | 1,134,257 | 1,138,910 | 1,142,897 | 1,147,534 |
| Total | 6,417,206 | 6,422,565 | 6,412,281 | 6,403,290 | 6,410,084 | 6,431,559 | 6,468,967 | 6,517,613 | 6,547,629 | 6,587,536 |

### People Breathing Year round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 4,801,344 | 2,123,688 | 1,808,710 | 3,135,581 | 3,139,451 | 5,302,274 | 5,378,703 | 5,378,703 | 5,404,732 | 5,440,002 |
| B | 592,309 | 1,157,753 | 391,272 | 686,600 | 687,192 | 0 | 0 | 0 | 0 | 0 |
| C | 701,333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 6,094,986 | 3,281,441 | 2,499,982 | 3,822,181 | 3,826,642 | 5,302,274 | 5,334,710 | 5,378,703 | 5,404,732 | 5,440,002 |
| NM | 322,220 | 3,141,124 | 3,912,299 | 2,581,109 | 2,587.441 | 1,129,285 | 1,134,257 | 1,138,910 | 1,142,897 | 1,147,534 |
| Total | 6,417,206 | 6,422,565 | 6,412,281 | 6,403,290 | 6,410,084 | 6,431,559 | 6,468,967 | 6,517,613 | 6,547,629 | 6,587,536 |

NM – Not Monitored

Figure MA-1

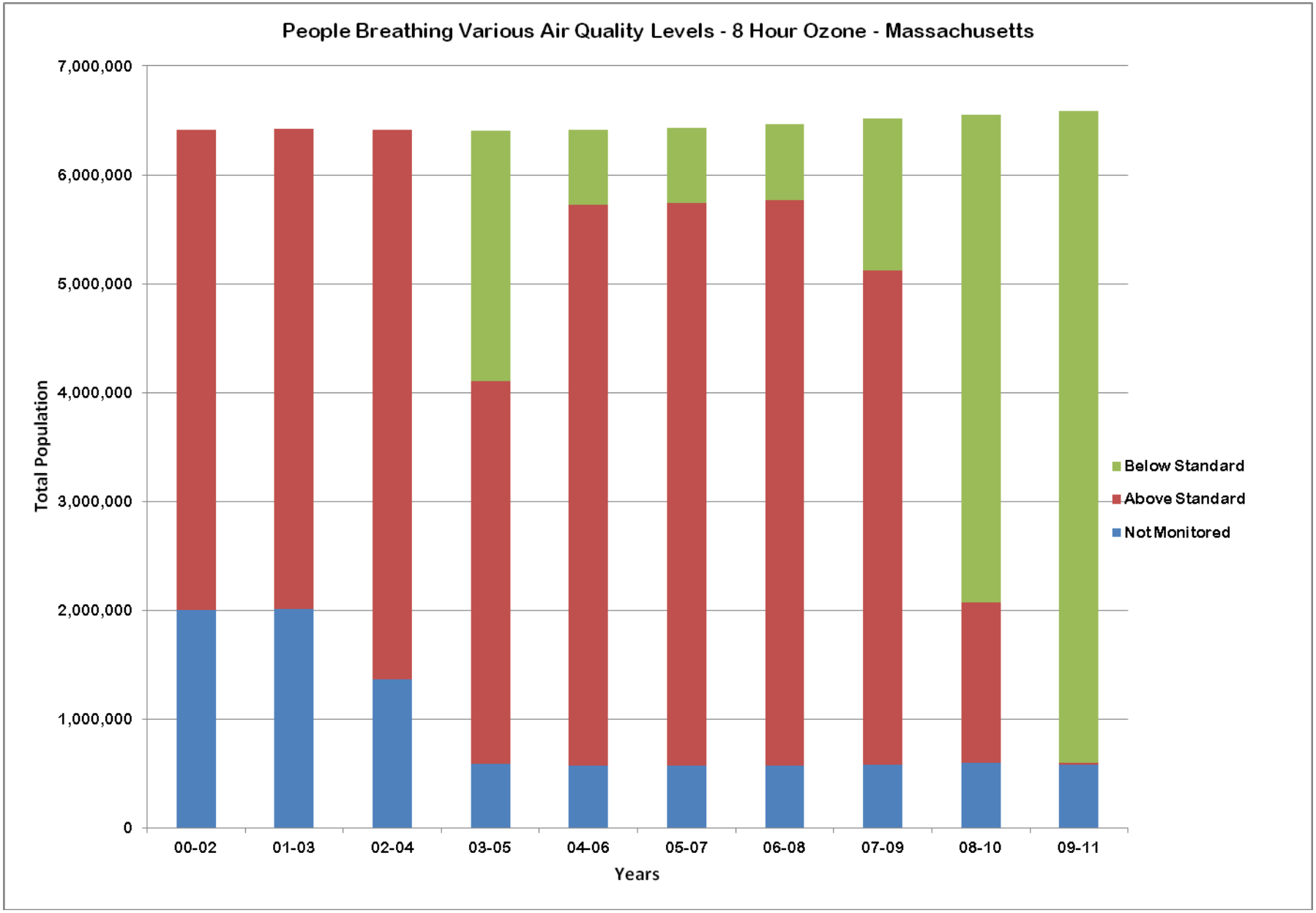

People Breathing Various Air Quality Levels - 8 Hour Ozone - Massachusetts
7,000,000
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure MA-2

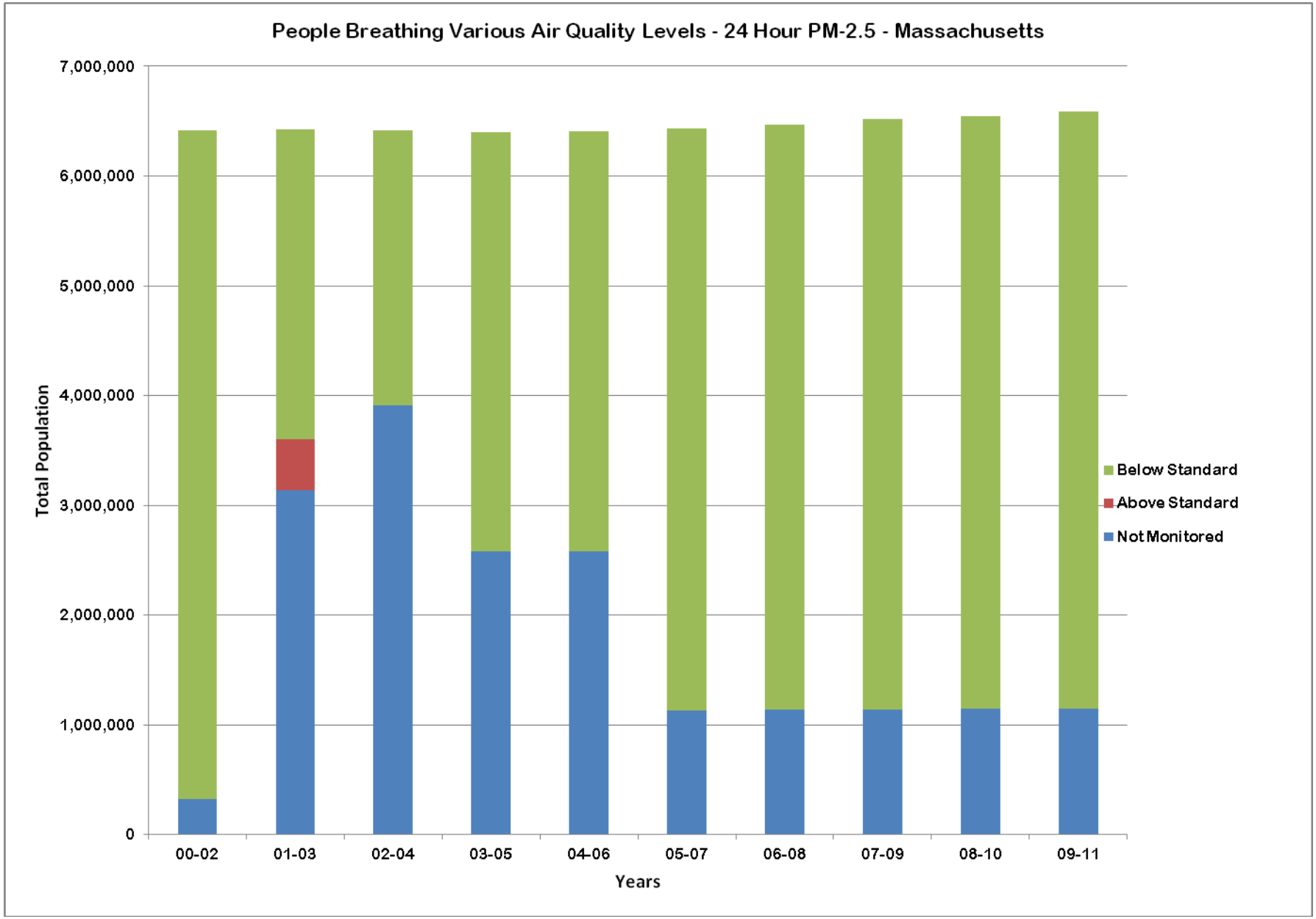
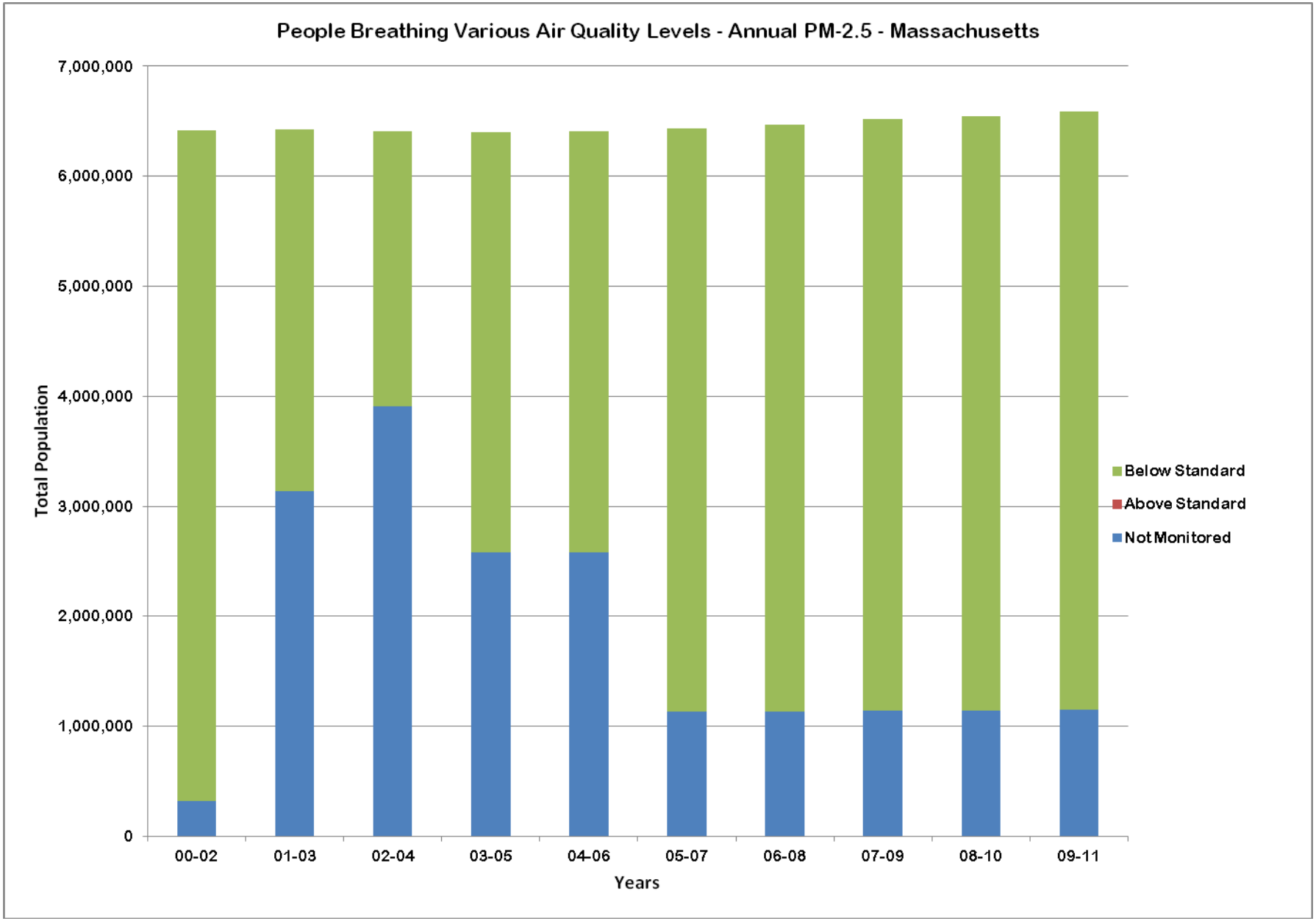

People Breathing Various Air Quality Levels - 24 Hour PM-2.5 - Massachusetts
7,000,000
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure MA-3


People Breathing Various Air Quality Levels - Annual PM-2.5 - Massachusetts
7,000,000
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# MICHIGAN

## Ozone

**Significant progress has been made in ozone levels in Michigan. In the 2000 – 2002 time period, no people lived in counties that met the ozone standard. By 2009 – 2011 this had increased to approximately 5.9 million people (59.4%). Figure MI-1 shows the distribution of people by year.**

## 24-Hour PM-2.5

**Significant progress has been made in 24-hour PM-2.5 levels in Michigan. In the 2000 – 2002 time period, approximately 1.8 million people (17.8%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 -2011 this was approximately 7.1 million people (71.6%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure MI-2 shows the distribution of people by year.**

## Annual PM-2.5

**Significant progress has been made in annual PM-2.5 levels in Michigan. In the 2000 – 2002 time period, approximately 4.8 million people (48.1%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this had increased to approximately 7.1 million people (71.6%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure MI-3 shows the distribution of people by year.**

# MICHIGAN

Table MI-1

2009 – 2011

| | | OZONE | | PARTICLE POLLUTION (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg. 24-Hr DV | Grade | Avg. Ann DV | Grade |
| **Allegan** | **111,234** | **0.078** | **D** | 25 | A | 8.5 | A |
| Bay | 107,110 | ND | --- | 25 | A | 8.0 | A |
| Benzie | 17,443 | 0.071 | C | ND | --- | ND | --- |
| Berrien | 156,941 | 0.075 | C | 22 | A | 8.8 | A |
| Cass | 51,988 | 0.074 | C | ND | --- | ND | --- |
| Chippewa | 38,797 | ND | --- | 32 | B | 12.3 | B |
| Clinton | 75,469 | 0.066 | B | ND | --- | ND | --- |
| Genesee | 422,080 | 0.070 | C | 24 | A | 8.7 | A |
| Huron | 32,675 | 0.068 | C | ND | --- | ND | --- |
| Ingham | 281,613 | 0.068 | C | 24 | A | 8.9 | A |
| Kalamazoo | 252,074 | 0.071 | C | 24 | A | 9.5 | A |
| Kent | 608,453 | 0.071 | C | 26 | A | 9.6 | A |
| Lenawee | 99,440 | 0.070 | C | 25 | A | 9.4 | A |
| **Macomb** | **842,145** | **0.076** | **D** | 25 | A | 9.0 | A |
| Manistee | 24,709 | 0.069 | C | 20 | A | 6.4 | A |
| Mason | 28,678 | 0.070 | C | ND | --- | ND | --- |
| Missaukee | 14,911 | 0.066 | B | 18 | A | 6.0 | A |
| Monroe | 151,560 | ND | --- | 25 | A | 9.9 | A |
| **Muskegon** | **171,302** | **0.076** | **D** | 24 | A | 8.5 | A |
| Oakland | 1,210,145 | 0.075 | C | 27 | A | 9.4 | A |
| Ottawa | 266,300 | 0.074 | C | 25 | A | 9.1 | A |
| St. Clair | 161,642 | 0.074 | C | 26 | A | 9.2 | A |
| Schoolcraft | 8,490 | 0.068 | C | ND | --- | ND | --- |
| Washtenaw | 347,962 | 0.069 | C | 25 | A | 9.6 | A |
| Wayne | 1,802,096 | 0.074 | C | 27 | A | 10.3 | A |
| | | | | | | | |
| Subtotal | 7,373,527 | | | | | | |
| Not Monitored | 2,502,660 | | | | | | |
| Total | 9,876,187 | | | | | | |

DV – Design Value ND - No Data

# MICHIGAN

## Table MI-2

### People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| B | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 501,358 | 90,380 |
| C | 0 | 0 | 0 | 0 | 3,805,133 | 15,009 | 1,455,890 | 4,358,405 | 6,489,227 | 5,772,729 |
| D | 944,823 | 15,031 | 3,258,025 | 5,604,281 | 3,007,209 | 4,732,781 | 5,485,999 | 2,645,402 | 0 | 1,124,681 |
| F | 6,137,725 | 7,025,788 | 3,792,065 | 1,457,654 | 284,366 | 2,321,749 | 111,589 | 0 | 0 | 0 |
| Subtotal | 7,082,548 | 7,040,819 | 7,050,090 | 7,061,935 | 7,097,208 | 7,069,539 | 7,053,478 | 7,003,807 | 6,990,585 | 6,987,790 |
| NM | 2,933,162 | 3,000,333 | 3,005,225 | 2,989,202 | 2,938,873 | 2,931,745 | 2,893,411 | 2,897,784 | 2,893,055 | 2,888,397 |
| Total | 10,015,710 | 10,041,152 | 10,055,315 | 10,051,137 | 10,036,081 | 10,001,284 | 9,946,889 | 9,901,591 | 9,883,640 | 9,876,187 |

### People Breathing Short-term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 38,789 | 247,292 | 54,089 | 54,094 | 15,009 | 962,705 | 1,560,310 | 3,854,883 | 7,031,717 |
| B | 481,896 | 318,314 | 995,315 | 207,368 | 842,879 | 830,986 | 2,922,322 | 4,062,421 | 3,185,986 | 38,797 |
| C | 1,299,228 | 1,306,283 | 2,699,400 | 1,602,538 | 933,684 | 1,819,989 | 3,230,562 | 1,364,901 | 0 | 0 |
| D | 2,083,450 | 3,462,021 | 3,338,759 | 1,936,817 | 1,772,537 | 751,501 | 0 | 0 | 0 | 0 |
| F | 3,372,583 | 2,155,901 | 0 | 3,484,099 | 3,456,518 | 3,613,690 | 0 | 0 | 0 | 0 |
| Subtotal | 7,237,157 | 7,281,308 | 7,280,766 | 7,284,911 | 7,059,712 | 7,031,175 | 7,115,589 | 6,987,632 | 7,040,869 | 7,070,514 |
| NM | 2,778,553 | 2,759,844 | 2,774,549 | 2,766,226 | 2,976,369 | 2,970,109 | 2,831,300 | 2,913,959 | 2,842,771 | 2,805,673 |
| Total | 10,015,710 | 10,041,152 | 10,055,315 | 10,051,137 | 10,036,081 | 10,001,284 | 9,946,889 | 9,901,591 | 9,883,640 | 9,876,187 |

### People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 321,292 | 357,103 | 959,021 | 1,145,248 | 1,046,372 | 1,043,107 | 3,209,723 | 5,150,096 | 7,040,869 | 7,031,717 |
| B | 880,432 | 1,949,274 | 2,982,986 | 2,655,564 | 3,583,372 | 2,388,480 | 3,805,866 | 1,837,536 | 0 | 38,797 |
| C | 3,619,802 | 2,819,030 | 1,354,929 | 1,523,836 | 2,429,968 | 3,599,588 | 0 | 0 | 0 | 0 |
| D | 390,498 | 2,155,901 | 1,983,830 | 1,960,263 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 2,025,133 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 7,237,157 | 7,281,308 | 7,280,766 | 7,284,911 | 7,059,712 | 7,031,175 | 7,015,589 | 6,987,632 | 7,040,869 | 7,070,514 |
| NM | 2,778,553 | 2,759,844 | 2,774,549 | 2,766,226 | 2,976,369 | 2,970,109 | 2,931,300 | 2,913,959 | 2,842,771 | 2,805,673 |
| Total | 10,015,710 | 10,041,152 | 10,055,315 | 10,051,137 | 10,036,081 | 10,001,284 | 9,946,889 | 9,901,591 | 9,883,640 | 9,876,187 |

NM – Not Monitored

Figure MI-1

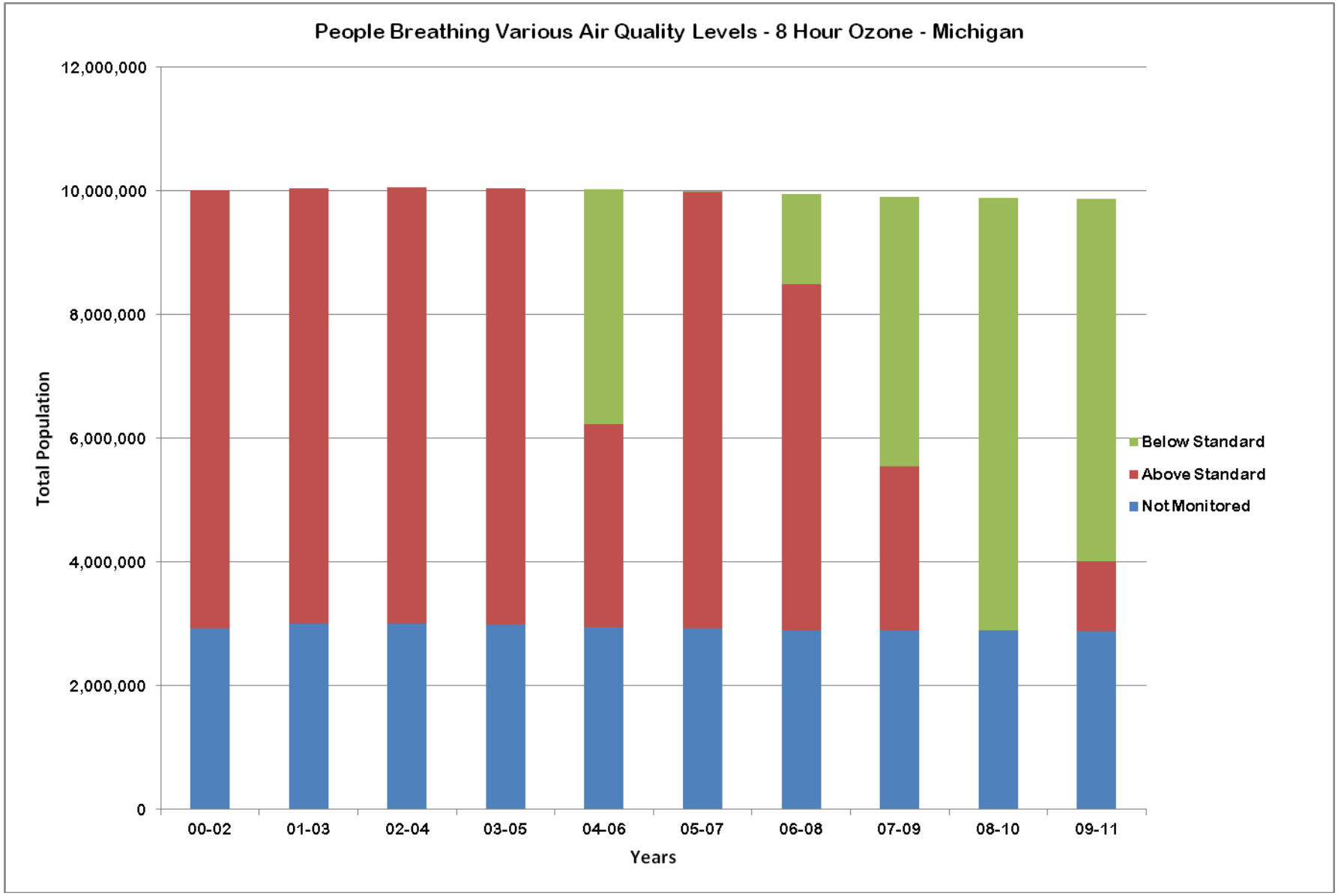

People Breathing Various Air Quality Levels - 8 Hour Ozone - Michigan
12,000,000
10,000,000
8,000,000
6,000,000
4,000,000
2,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure MI-2

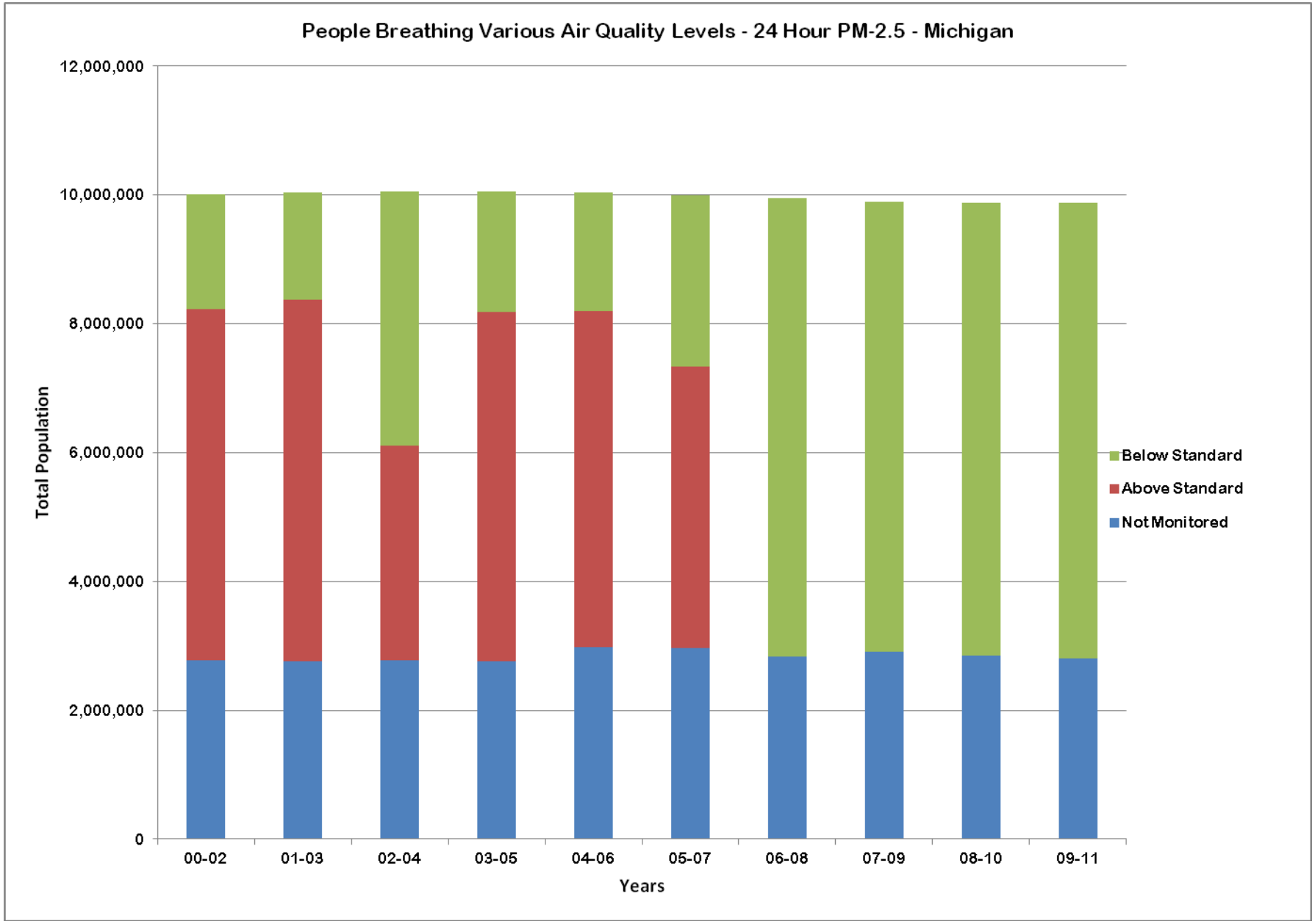
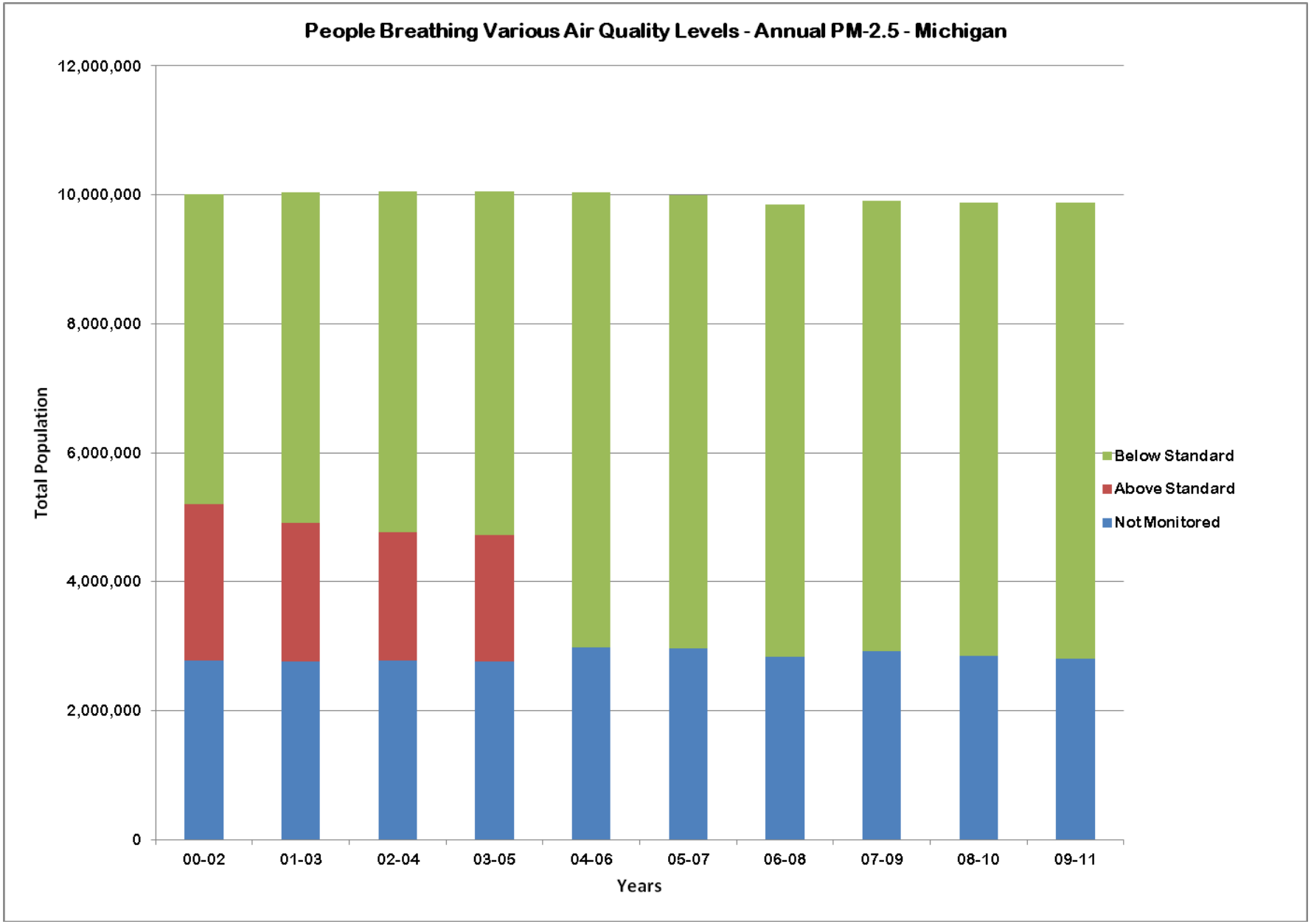

People Breathing Various Air Quality Levels - 24 Hour PM-2.5 - Michigan
12,000,000
10,000,000
8,000,000
6,000,000
4,000,000
2,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure MI-3


People Breathing Various Air Quality Levels - Annual PM-2.5 - Michigan
12,000,000
10,000,000
8,000,000
6,000,000
4,000,000
2,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# MINNESOTA

## Ozone

**Ozone levels in Minnesota have historically been better than the standard. In the 2000 – 2002 time period, approximately 0.8 million people (15.0%) lived in counties that met the ozone standard. By 2009 – 2011 this had increased to approximately 1.6 million people (29.4%). The remainder of the population lived in counties where ozone was not measured. Figure MN-1 shows the distribution of people by year.**

## 24-Hour PM-2.5

**24-hour PM-2.5 levels in Minnesota have historically been better than the standard. In the 2000 – 2002 time period, approximately 2.6 million people (51.7%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 -2011 this was approximately 3.2 million people (60.0%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure MN-2 shows the distribution of people by year.**

## Annual PM-2.5

**Annual PM-2.5 levels in Minnesota have historically been better than the standard. In the 2000 – 2002 time period, approximately 2.6 million people (51.7%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this had increased to approximately 3.2 million people (60.0%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure MN-3 shows the distribution of people by year.**

Table MN-1

2009 – 2011

| | | OZONE | | PARTICLE POLLUTION (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg.24-Hr DV | Grade | Avg. Ann DV | Grade |
| Anoka | 333,140 | 0.064 | B | ND | --- | ND | --- |
| Becker | 32,778 | 0.059 | A | ND | --- | ND | --- |
| Carlton | 35,455 | 0.054 | A | ND | --- | ND | --- |
| Crow Wing | 62,763 | 0.061 | B | ND | --- | ND | --- |
| Dakota | 402,006 | ND | --- | 31 | B | 9.2 | A |
| Goodhue | 46,217 | 0.061 | B | ND | --- | ND | --- |
| Hennepin | 1,168,431 | ND | --- | 30 | B | 9.2 | A |
| Lake | 10,824 | 0.058 | A | ND | --- | ND | --- |
| Lyon | 25,891 | 0.063 | B | ND | --- | ND | --- |
| Mille Lacs | 25,979 | 0.059 | A | ND | --- | ND | --- |
| Olmsted | 145,769 | 0.060 | B | 30 | B | 9.6 | A |
| Ramsey | 514,696 | ND | --- | 34 | C | 9.8 | A |
| Saint Louis | 200,255 | 0.056 | A | 19 | A | 5.9 | A |
| Scott | 132,556 | 0.060 | B | 28 | B | 8.8 | A |
| Stearns | 151,343 | 0.058 | A | 27 | A | 8.6 | A |
| Washington | 241,280 | 0.063 | B | ND | --- | ND | --- |
| Wright | 126,437 | 0.062 | B | ND | --- | ND | --- |
| | | | | | | | |
| Subtotal | 3,655,820 | | | | | | |
| Not Monitored | 1,689,041 | | | | | | |
| Total | 5,344,861 | | | | | | |

DV – Design Value ND - No Data

# MINNESOTA

## Table MN-2

### People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 144,256 | 0 | 34,986 | 267,874 | 455,721 | 456,634 |
| B | 211,647 | 211,238 | 612,263 | 637,701 | 787,908 | 423,170 | 1,100,730 | 1,045,811 | 1,102,396 | 1,114,053 |
| C | 542,463 | 922,271 | 532,580 | 675,890 | 510,262 | 1,071,035 | 400,778 | 235,684 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 754,110 | 1,133,509 | 1,144,843 | 1,313,591 | 1,442,426 | 1,494,205 | 1,536,494 | 1,549,369 | 1,558,117 | 1,570,687 |
| NM | 4,264,825 | 3,920,063 | 3,942,870 | 3,806,007 | 3,721,129 | 3,712,998 | 3,710,524 | 3,731,834 | 3,745,808 | 3,774,174 |
| Total | 5,018,935 | 5,053,572 | 5,087,713 | 5,119,598 | 5,163,555 | 5,207,203 | 5,247,018 | 5,281,203 | 5,303,925 | 5,344,861 |

### People Breathing Short-term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 224,099 | 2,092,834 | 2,606,611 | 2,010,308 | 2,521,155 | 2,541,290 | 2,532,799 | 504,551 | 350,868 | 1,006,278 |
| B | 1,857,743 | 505,958 | 0 | 632,513 | 137,293 | 139,369 | 170,260 | 1,687,148 | 1,825,153 | 351,598 |
| C | 510,581 | 0 | 0 | 0 | 0 | 0 | 0 | 506,590 | 508,640 | 1,848,762 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 2,592,423 | 2,598,792 | 2,606,611 | 2,642,821 | 2,658,448 | 2,680,659 | 2,703,059 | 2,698,289 | 2,684,661 | 3,206,638 |
| NM | 2,426,512 | 2,454,780 | 2,481,102 | 2,476,777 | 2,505,107 | 2,526,544 | 2,543,959 | 2,582,914 | 2,619,264 | 2,138,223 |
| Total | 5,018,935 | 5,053,572 | 5,087,713 | 5,119,598 | 5,163,555 | 5,207,203 | 5,247,018 | 5,281,203 | 5,303,925 | 5,344,861 |

### People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 2,081,842 | 2,598,792 | 2,606,611 | 2,642,821 | 2,658,448 | 2,680,659 | 2,703,059 | 2,698,289 | 2,684,661 | 3,206,638 |
| B | 510,581 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 2,592,423 | 2,598,792 | 2,606,611 | 2,642,821 | 2,658,448 | 2,680,659 | 2,703,059 | 2,698,289 | 2,684,661 | 3,206,638 |
| NM | 2,426,512 | 2,454,780 | 2,481,102 | 2,476,777 | 2,505,107 | 2,526,544 | 2,543,959 | 2,582,914 | 2,619,264 | 2,138,223 |
| Total | 5,018,935 | 5,053,572 | 5,087,713 | 5,119,598 | 5,163,555 | 5,207,203 | 5,247,018 | 5,281,203 | 5,303,925 | 5,344,861 |

NM – Not Monitored

Figure MN-1

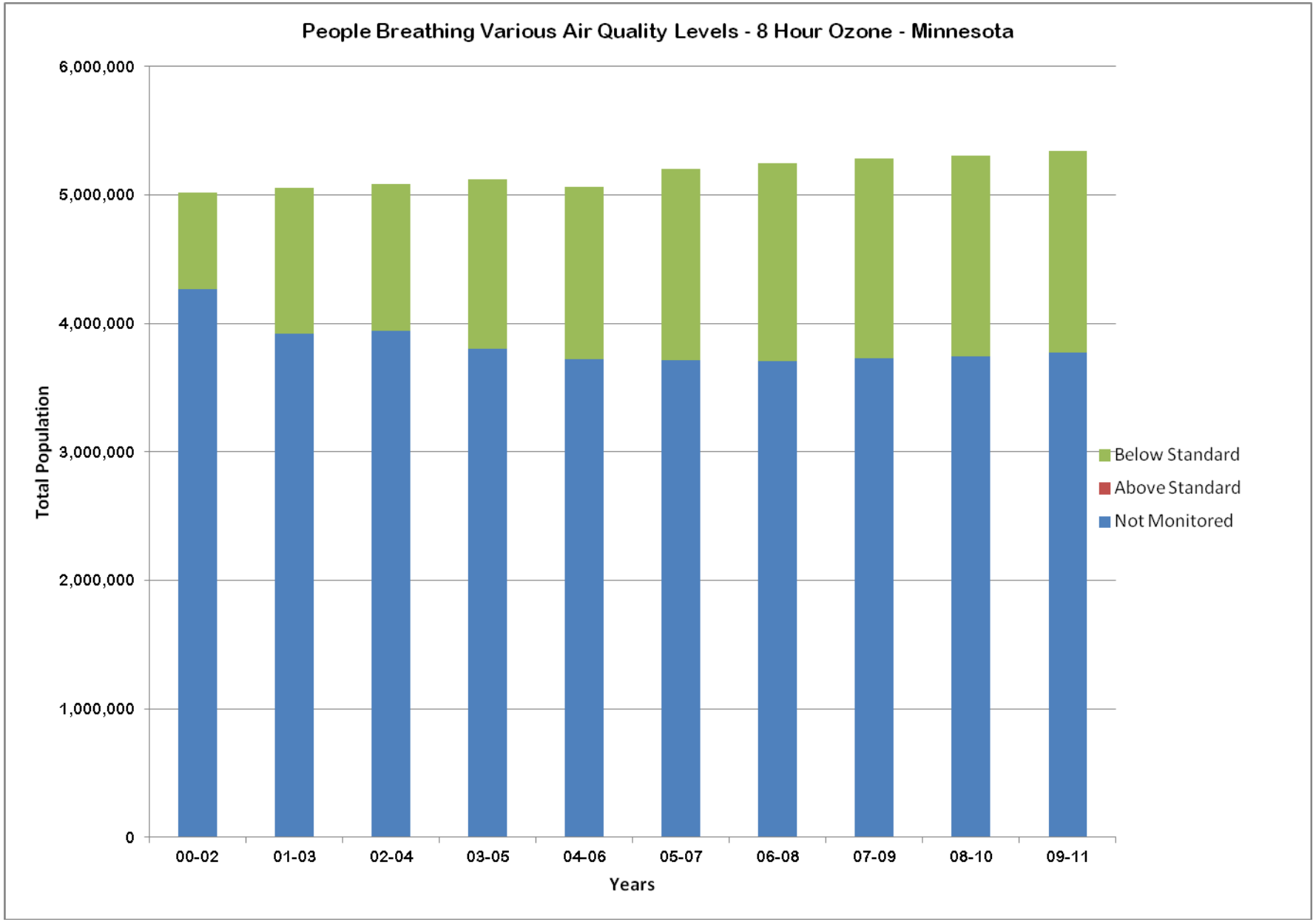

People Breathing Various Air Quality Levels - 8 Hour Ozone - Minnesota
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure MN-2

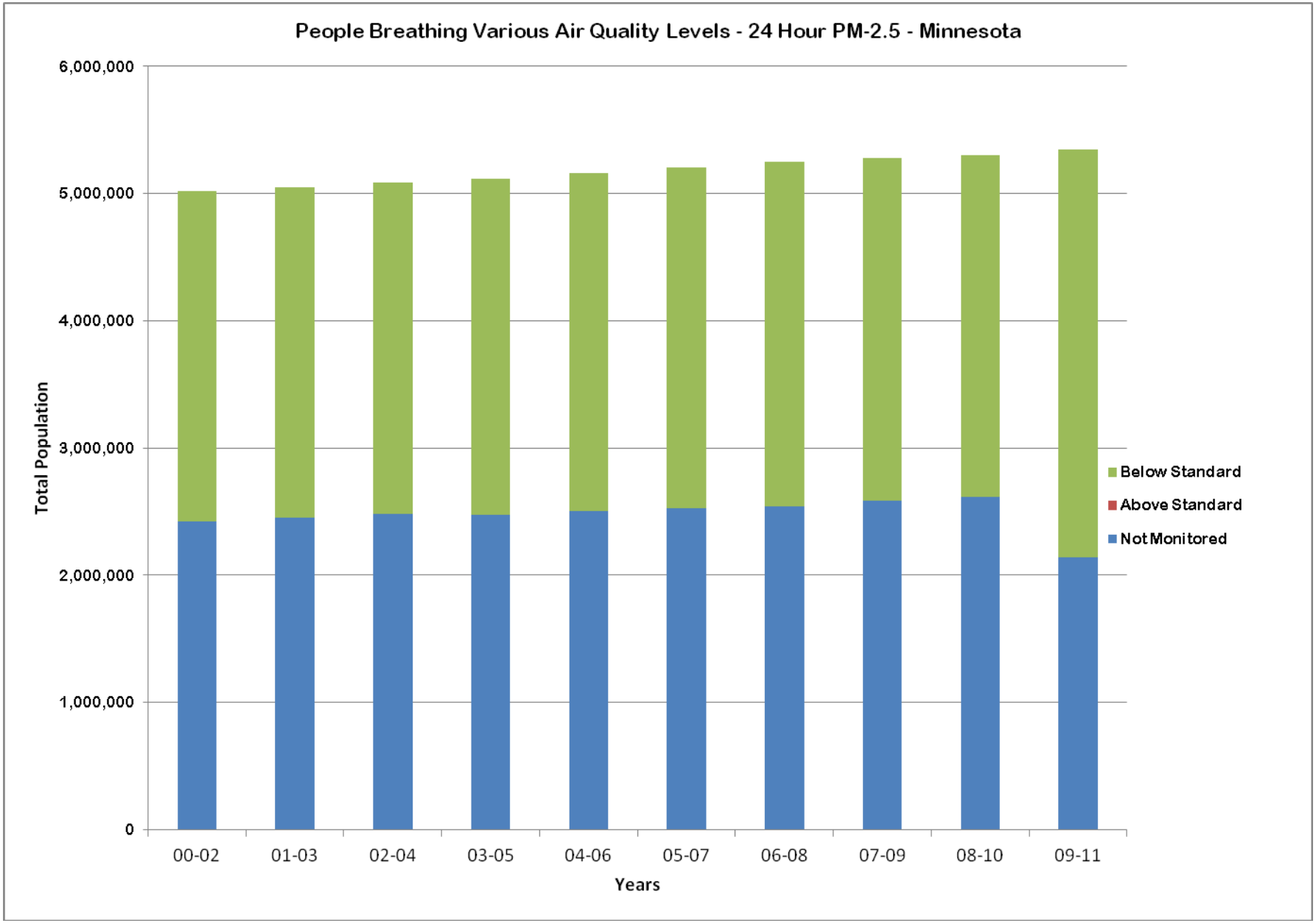
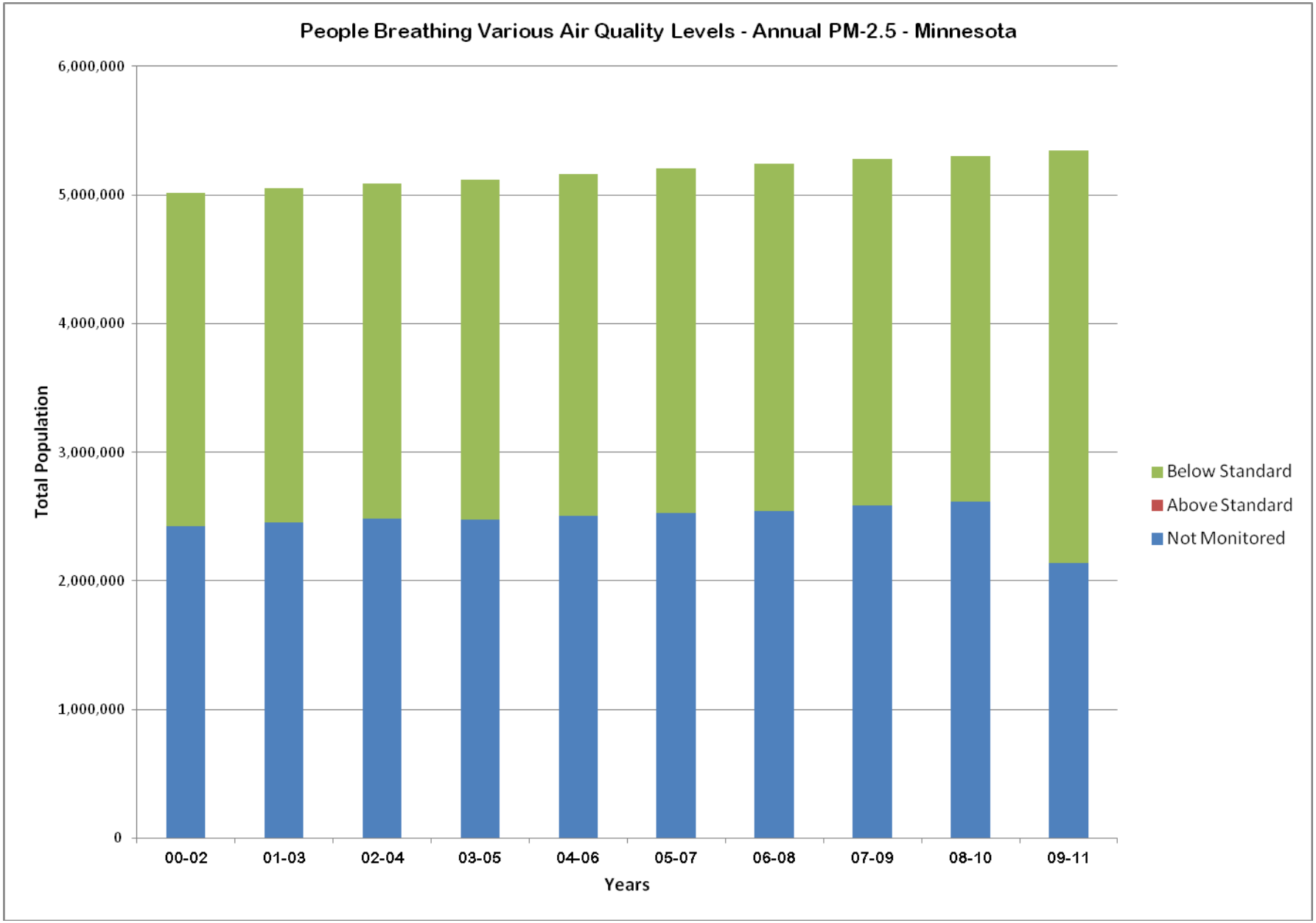

People Breathing Various Air Quality Levels - 24 Hour PM-2.5 - Minnesota
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure MN-3


People Breathing Various Air Quality Levels - Annual PM-2.5 - Minnesota
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# MISSISSIPPI

## Ozone

**Significant progress has been made in ozone levels in Mississippi. In the 2000 – 2002 time period, no people lived in counties that met the ozone standard. By 2009 – 2011 this had increased to approximately 1.0 million people (34.2%). The remainder of the population lived in counties where ozone was not measured. Figure MS-1 shows the distribution of people by year.**

## 24-Hour PM-2.5

**24-hour PM-2.5 levels in Mississippi have historically been better than the standard. In the 2000 – 2002 time period, approximately 1.4 million people (49.3%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 -2011 this was approximately 1.1 million people (37.5%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure MS-2 shows the distribution of people by year.**

## Annual PM-2.5

**Annual PM-2.5 levels in Mississippi have historically been better than the standard. In the 2000 – 2002 time period, approximately 1.4 million people (49.3%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this had decreased to approximately 1.1 million people (37.5%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure MS-3 shows the distribution of people by year.**

Table MS-1
2009 – 2011

| | | Ozone | | Particle Pollution (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg.24-Hr DV | Grade | Avg. Ann DV | Grade |
| Adams | 32,067 | 0.066 | B | ND | --- | ND | --- |
| Bolivar | 33,771 | 0.071 | C | ND | --- | ND | --- |
| Desoto | 164,053 | 0.073 | C | 20 | A | 9.9 | A |
| Forrest | 75,842 | ND | --- | 22 | A | 11.6 | A |
| Grenada | 21,706 | ND | --- | 20 | A | 9.4 | A |
| Hancock | 44,649 | 0.067 | B | 21 | A | 9.8 | A |
| Harrison | 191,040 | 0.075 | C | 18 | A | 9.6 | A |
| Hinds | 248,184 | 0.067 | B | 25 | A | 11.6 | A |
| Jackson | 139,901 | 0.073 | C | 21 | A | 9.5 | A |
| Jones | 68,075 | ND | --- | 23 | A | 11.8 | A |
| Lauderdale | 80,475 | 0.062 | B | 22 | A | 10.9 | A |
| Lee | 84,156 | 0.065 | B | 22 | A | 10.9 | A |
| | | | | | | | |
| Subtotal | 1,183,919 | | | | | | |
| Not Monitored | 1,794,593 | | | | | | |
| Total | 2,978,512 | | | | | | |

DV - Design Value ND - No Data

# MISSISSIPPI

## Table MS-2

### People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| B | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 324,749 | 440,753 | 489,531 |
| C | 0 | 492,501 | 523,633 | 440,286 | 473,058 | 359,996 | 473,522 | 149,191 | 335,065 | 528,765 |
| D | 973,081 | 606,605 | 412,038 | 553,001 | 132,717 | 250,450 | 476,740 | 483,812 | 187,105 | 0 |
| F | 118,603 | 0 | 130,767 | 0 | 319,669 | 329,742 | 0 | 0 | 0 | 0 |
| Subtotal | 1,091,684 | 1,099,106 | 1,066,438 | 993,287 | 925,444 | 940,188 | 950,262 | 957,752 | 962,923 | 1,018,296 |
| NM | 1,766,997 | 1,769,206 | 1,822,572 | 1,912,656 | 1,979,534 | 1,988,162 | 1,997,544 | 2,001,022 | 2,004,374 | 1,960,216 |
| Total | 2,858,681 | 2,868,312 | 2,889,010 | 2,905,943 | 2,904,978 | 2,928,350 | 2,947,806 | 2,958,774 | 2,967,297 | 2,978,512 |

### People Breathing Short-term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 420,550 | 498,030 | 589,691 | 210,743 | 0 | 315,082 | 927,921 | 1,181,757 | 1,127,524 | 1,118,081 |
| B | 498,700 | 820,888 | 846,236 | 1,178,760 | 988,309 | 618,602 | 223,015 | 0 | 0 | 0 |
| C | 489,894 | 97,946 | 0 | 59,237 | 139,080 | 206,676 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 1,409,144 | 1,416,864 | 1,435,927 | 1,448,740 | 1,127,389 | 1,140,360 | 1,150,936 | 1,181,757 | 1,127,524 | 1,118,081 |
| NM | 1,449,537 | 1,451,448 | 1,453,083 | 1,457,203 | 1,777,589 | 1,787,990 | 1,796,870 | 1,777,017 | 1,839,773 | 1,860,431 |
| Total | 2,858,681 | 2,868,312 | 2,889,010 | 2,905,943 | 2,904,978 | 2,928,350 | 2,947,806 | 2,958,774 | 2,967,297 | 2,978,512 |

### People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 270,933 | 482,158 | 539,851 | 210,743 | 33,220 | 347,971 | 544,401 | 959,176 | 984,829 | 1,118,081 |
| B | 494,430 | 869,793 | 830,780 | 1,172,126 | 780,171 | 651,572 | 465,021 | 222,581 | 142,695 | 0 |
| C | 643,781 | 64,913 | 65,296 | 65,871 | 313,998 | 140,817 | 141,514 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 1,409,144 | 1,416,864 | 1,435,927 | 1,448,740 | 1,127,389 | 1,140,360 | 1,150,936 | 1,181,757 | 1,127,524 | 1,118,081 |
| NM | 1,449,537 | 1,451,448 | 1,453,083 | 1,457,203 | 1,777,589 | 1,787,990 | 1,796,870 | 1,777,017 | 1,839,773 | 1,860,431 |
| Total | 2,858,681 | 2,868,312 | 2,889,010 | 2,905,943 | 2,904,978 | 2,928,350 | 2,947,806 | 2,958,774 | 2,967,297 | 2,978,512 |

NM – Not Monitored

Figure MS-1

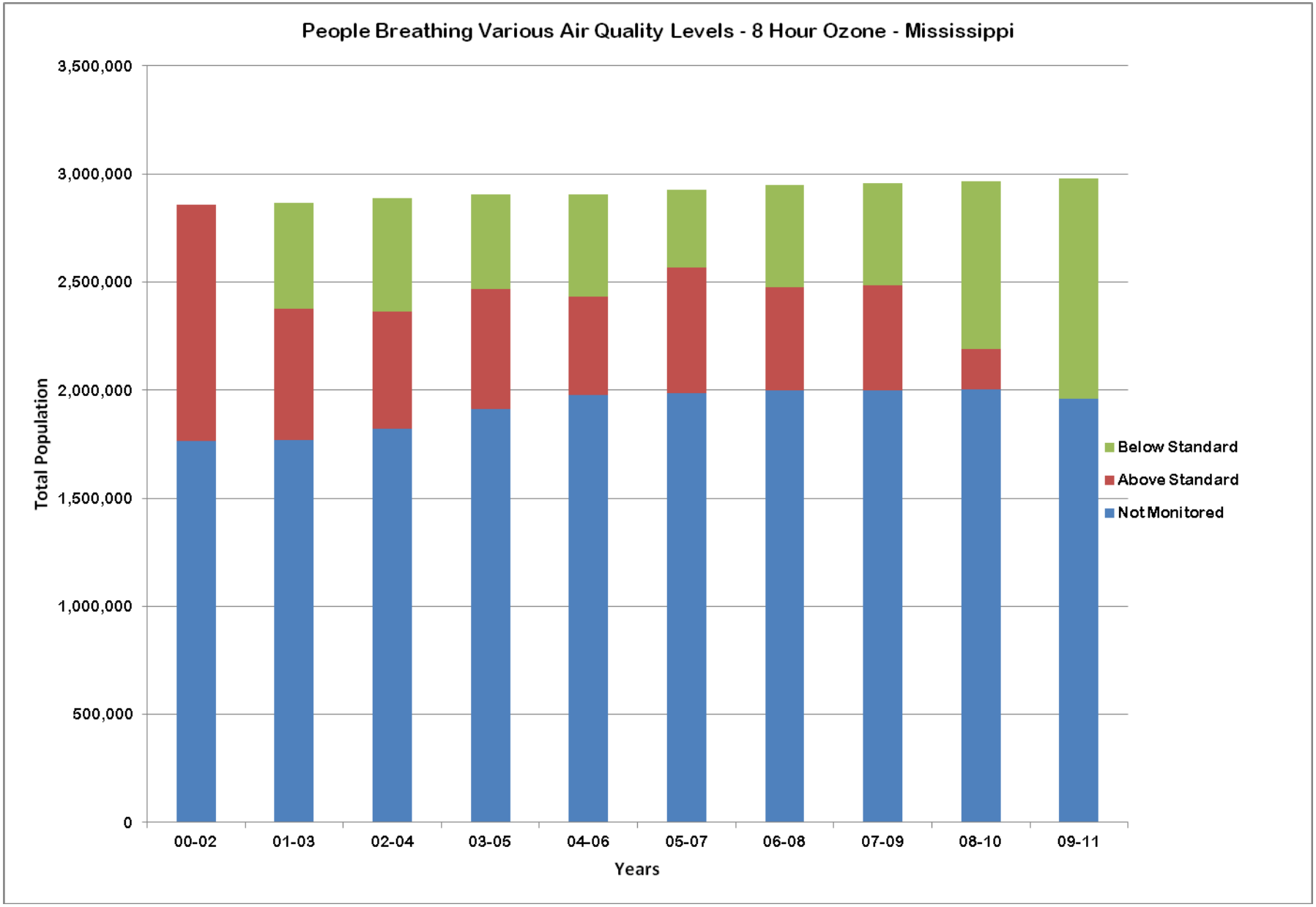

People Breathing Various Air Quality Levels - 8 Hour Ozone - Mississippi
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure MS-2

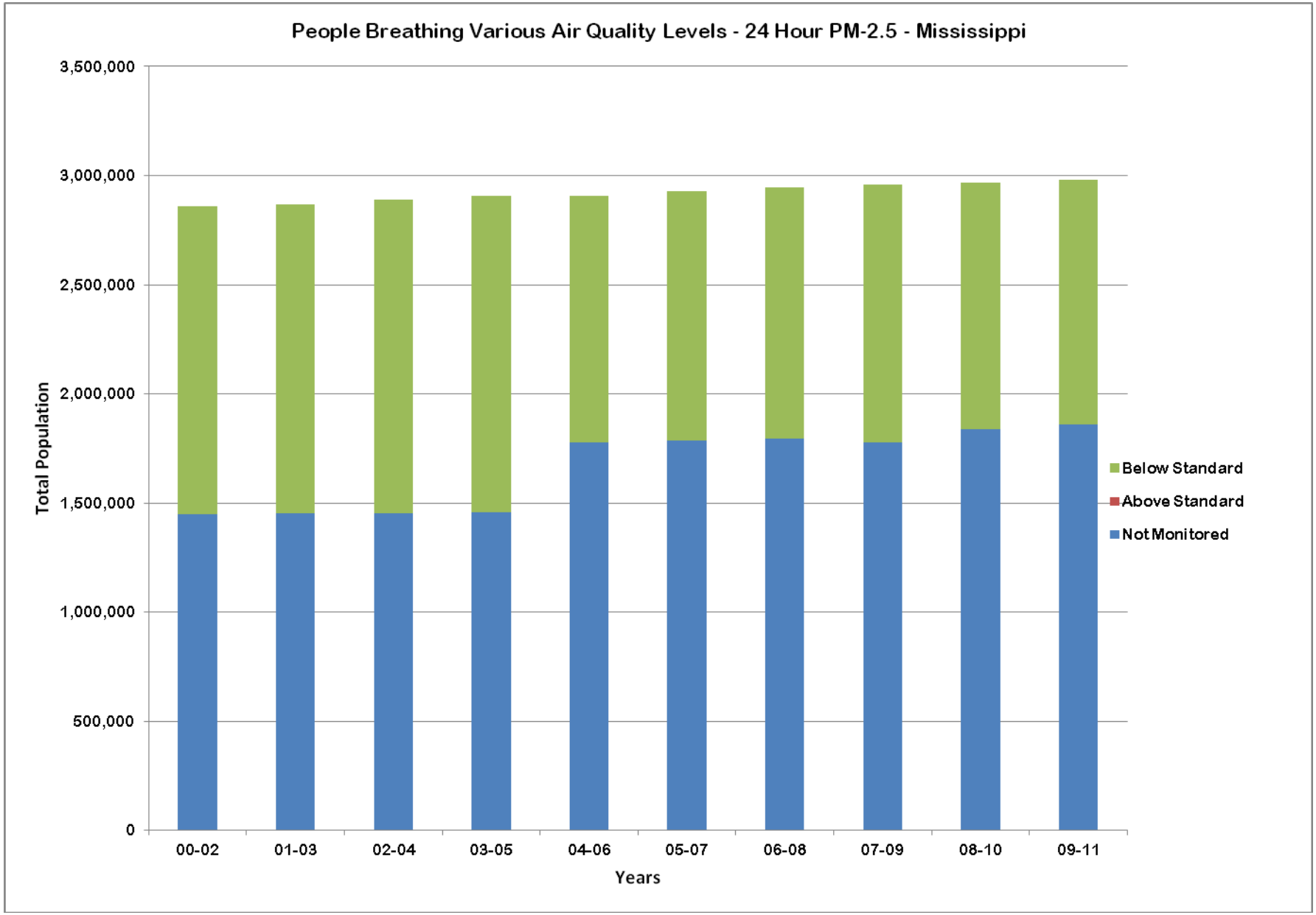
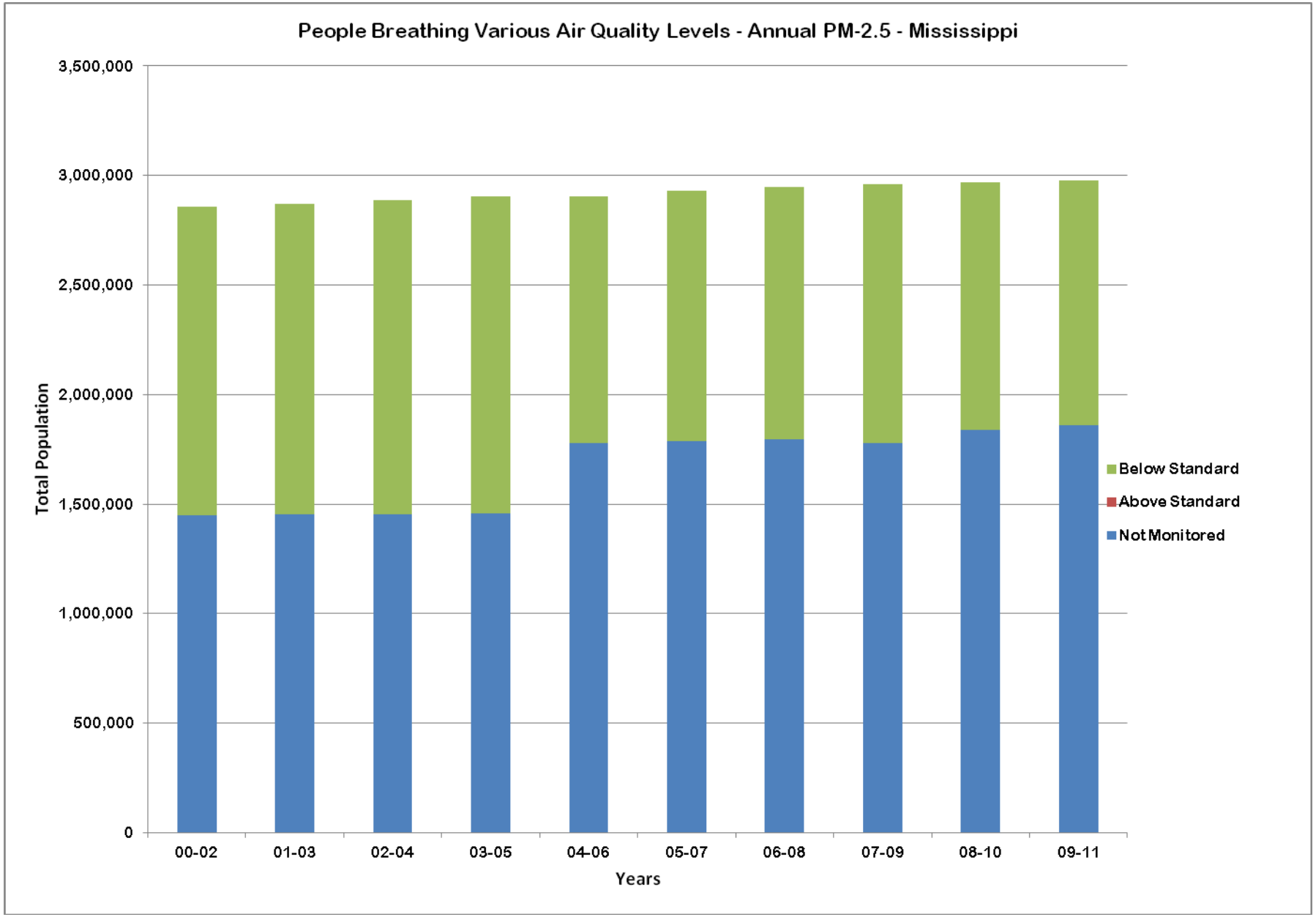

People Breathing Various Air Quality Levels - 24 Hour PM-2.5 - Mississippi
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure MS-3


People Breathing Various Air Quality Levels - Annual PM-2.5 - Mississippi
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# MISSOURI

## Ozone

**Significant progress has been made in ozone levels in Missouri. In the 2000 – 2002 time period, approximately 0.2 million people (4.3%) lived in counties that met the ozone standard. By 2009 – 2011 this had increased to approximately 2.6 million people (43.2%). Figure MO-1 shows the distribution of people by year.**

## 24-Hour PM-2.5

**24-hour PM-2.5 levels in Missouri have historically been better than the standard except for 2000 - 2003. In the 2000 – 2002 time period, approximately 3.0 million people (52.4%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 -2011 this was approximately 2.9 million people (48.6%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure MO-2 shows the distribution of people by year.**

## Annual PM-2.5

**Annual PM-2.5 levels in Missouri have historically been better than the standard except for 2000 - 2002. In the 2000 – 2002 time period, approximately 2.6 million people (46.4%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this had increased to approximately 2.9 million people (48.6%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure MO-3 shows the distribution of people by year.**

Table MO-1
2009 – 2011

| | | OZONE | | PARTICLE POLLUTION (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg. 24-Hr DV | Grade | Avg. Ann DV | Grade |
| Andrew | 17,196 | 0.073 | C | ND | --- | ND | --- |
| Boone | 165,627 | 0.066 | B | ND | --- | ND | --- |
| Buchanan | 89,666 | ND | --- | 30 | B | 12.0 | B |
| Callaway | 44,420 | 0.065 | B | ND | --- | ND | --- |
| Cass | 100,052 | 0.068 | C | 26 | A | 10.1 | A |
| Cedar | 13,948 | 0.068 | C | 22 | A | 10.8 | A |
| Clay | 225,161 | 0.075 | C | 26 | A | 9.4 | A |
| **Clinton** | **20,789** | **0.077** | **D** | ND | --- | ND | --- |
| Greene | 277,214 | 0.068 | C | 21 | A | 10.0 | A |
| Jackson | 676,360 | ND | --- | 27 | A | 10.8 | A |
| Jasper | 118,435 | 0.075 | C | ND | --- | ND | --- |
| Jefferson | 219,480 | 0.074 | C | 23 | A | 9.8 | A |
| Lincoln | 53,076 | 0.074 | C | ND | --- | ND | --- |
| Monroe | 8,734 | 0.067 | B | ND | --- | ND | --- |
| Perry | 19,041 | 0.074 | C | ND | --- | ND | --- |
| **Saint Charles** | **365,151** | **0.078** | **D** | ND | --- | ND | --- |
| St. Genevieve | 18,124 | 0.070 | C | ND | --- | ND | --- |
| Saint Louis | 998,692 | 0.072 | C | 26 | A | 11.0 | A |
| St. Louis City | 318,069 | 0.072 | C | 27 | A | 12.5 | B |
| | | | | | | | |
| Subtotal | 3,749,235 | | | | | | |
| Not Monitored | 2,261,463 | | | | | | |
| Total | 6,010,688 | | | | | | |

DV – Design Value ND - No Data

# MISSOURI

## Table MO-2

### People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| B | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 107,849 | 397,474 | 218,781 |
| C | 245,822 | 249,312 | 353,143 | 359,011 | 380,988 | 0 | 392,273 | 1,844,156 | 1,986,749 | 2,378,488 |
| D | 434,361 | 525,739 | 848,932 | 1,855,000 | 1,864,178 | 406,767 | 1,857,627 | 665,830 | 360,485 | 385,940 |
| F | 1,820,953 | 1,739,592 | 1,327,542 | 328,892 | 337,952 | 2,264,351 | 351,179 | 0 | 0 | 0 |
| Subtotal | 2,501,136 | 2,514,643 | 2,529,617 | 2,542,903 | 2,583,118 | 2,671,118 | 2,601,079 | 2,617,835 | 2,744,708 | 2,983,209 |
| NM | 3,173,689 | 3,194,760 | 3,218,124 | 3,247,397 | 3,259,586 | 3,216,494 | 3,322,837 | 3,343,253 | 3,244,219 | 3,027,479 |
| Total | 5,674,825 | 5,709,403 | 5,747,741 | 5,790,300 | 5,842,704 | 5,887,612 | 5,923,916 | 5,961,088 | 5,988,927 | 6,010,688 |

### People Breathing Short-term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 100,554 | 13,975 | 376,216 | 0 | 533,772 | 96,845 | 1,689,061 | 2,351,131 | 2,236,755 | 2,828,976 |
| B | 1,297,516 | 1,392,533 | 1,454,136 | 1,180,686 | 1,973,764 | 1,229,490 | 1,550,881 | 318,842 | 674,158 | 0 |
| C | 1,573,332 | 1,569,644 | 858,546 | 2,086,980 | 871,188 | 1,895,984 | 0 | 0 | 0 | 89,666 |
| D | 303,224 | 311,405 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 8,850 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 3,274,626 | 3,296,407 | 2,679,898 | 3,267,666 | 3,378,724 | 3,222,319 | 3,239,942 | 2,669,973 | 2,910,913 | 2,918,642 |
| NM | 2,400,199 | 2,412,996 | 3,067,843 | 2,522,634 | 2,463,980 | 2,665,293 | 2,683,974 | 3,291,115 | 3,078,014 | 3,092,046 |
| Total | 5,674,825 | 5,709,403 | 5,747,741 | 5,790,300 | 5,842,704 | 5,887,612 | 5,923,916 | 5,961,088 | 5,988,927 | 6,010,688 |

### People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 109,813 | 111,269 | 709,282 | 722,753 | 740,141 | 575,600 | 1,249,565 | 1,352,513 | 2,591,619 | 2,600,573 |
| B | 1,288,257 | 2,199,227 | 1,431,799 | 1,662,701 | 2,105,347 | 2,113,812 | 1,672,422 | 1,317,460 | 319,294 | 318,069 |
| C | 1,234,875 | 977,061 | 538,817 | 882,212 | 533,236 | 532,907 | 317,955 | 0 | 0 | 0 |
| D | 641,681 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 8,850 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 3,274,626 | 3,296,407 | 2,679,898 | 3,267,666 | 3,378,724 | 3,222,319 | 3,239,942 | 2,669,973 | 2,910,913 | 2,918,642 |
| NM | 2,400,199 | 2,412,996 | 3,067,843 | 2,522,634 | 2,463,980 | 2,665,293 | 2,683,974 | 3,291,115 | 3,078,014 | 3,092,046 |
| Total | 5,674,825 | 5,709,403 | 5,747,741 | 5,790,300 | 5,842,704 | 5,887,612 | 5,923,916 | 5,961,088 | 5,988,927 | 6,010,688 |

NM – Not Monitored

Figure MO-1

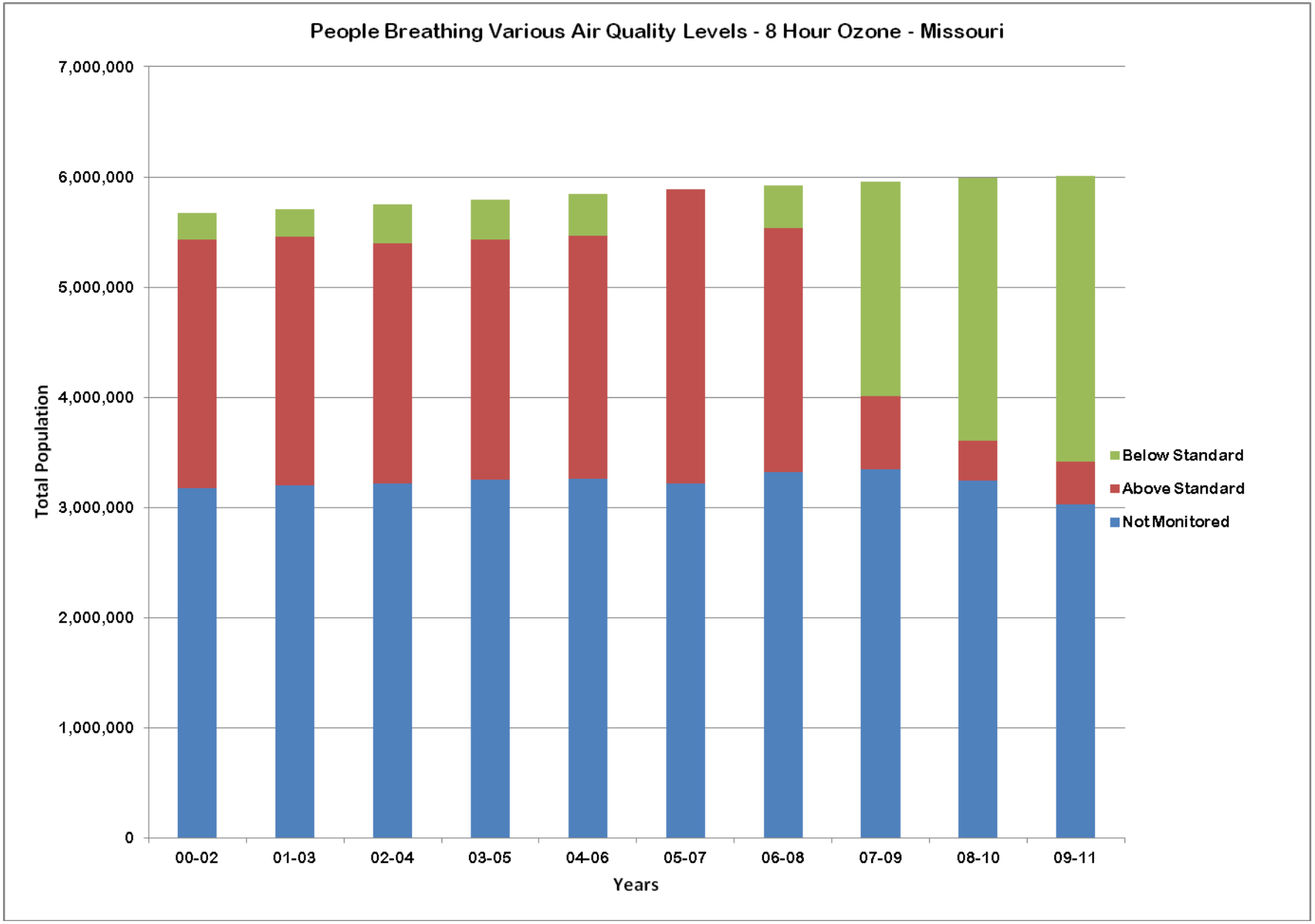

People Breathing Various Air Quality Levels - 8 Hour Ozone - Missouri
7,000,000
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure MO-2

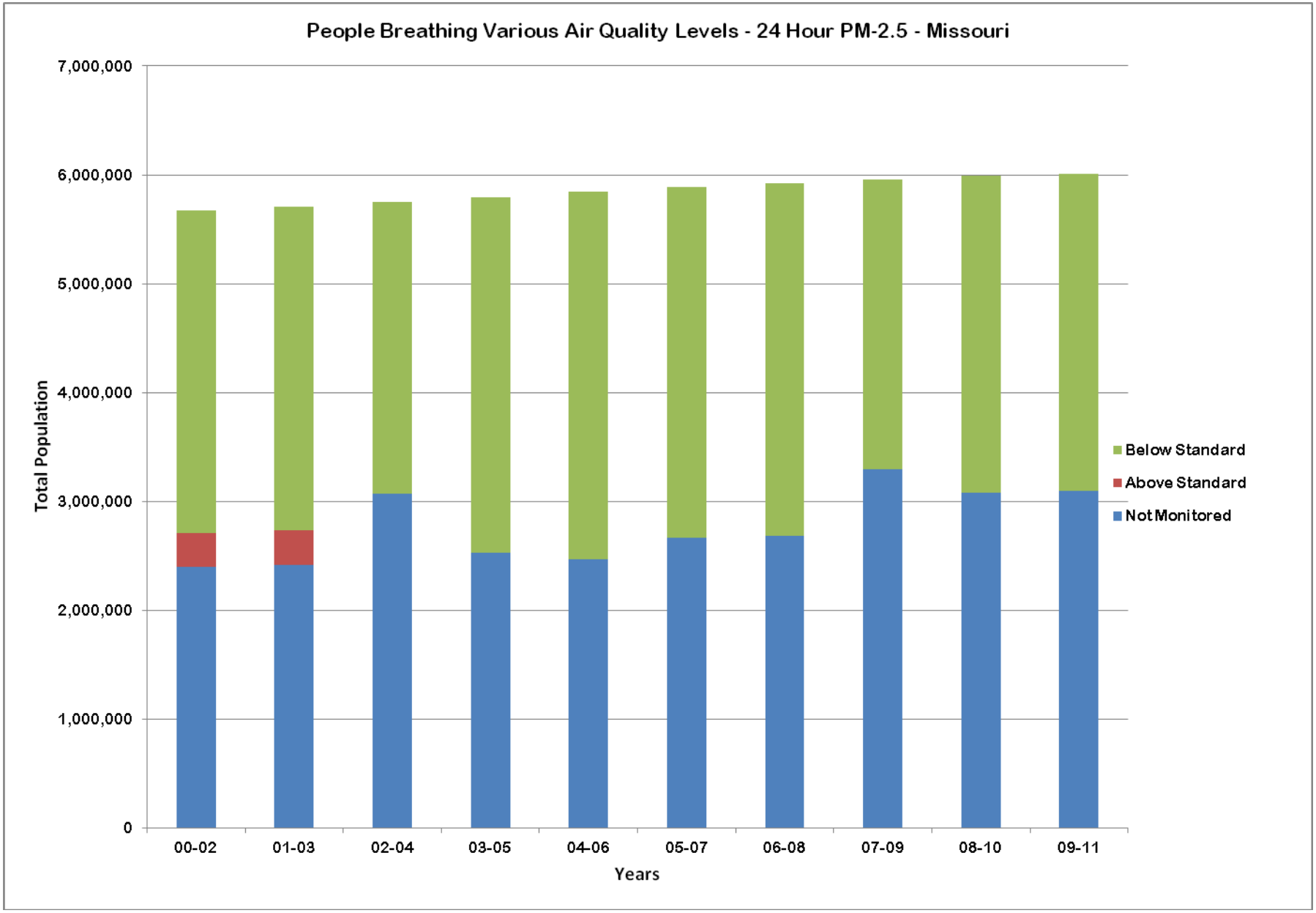
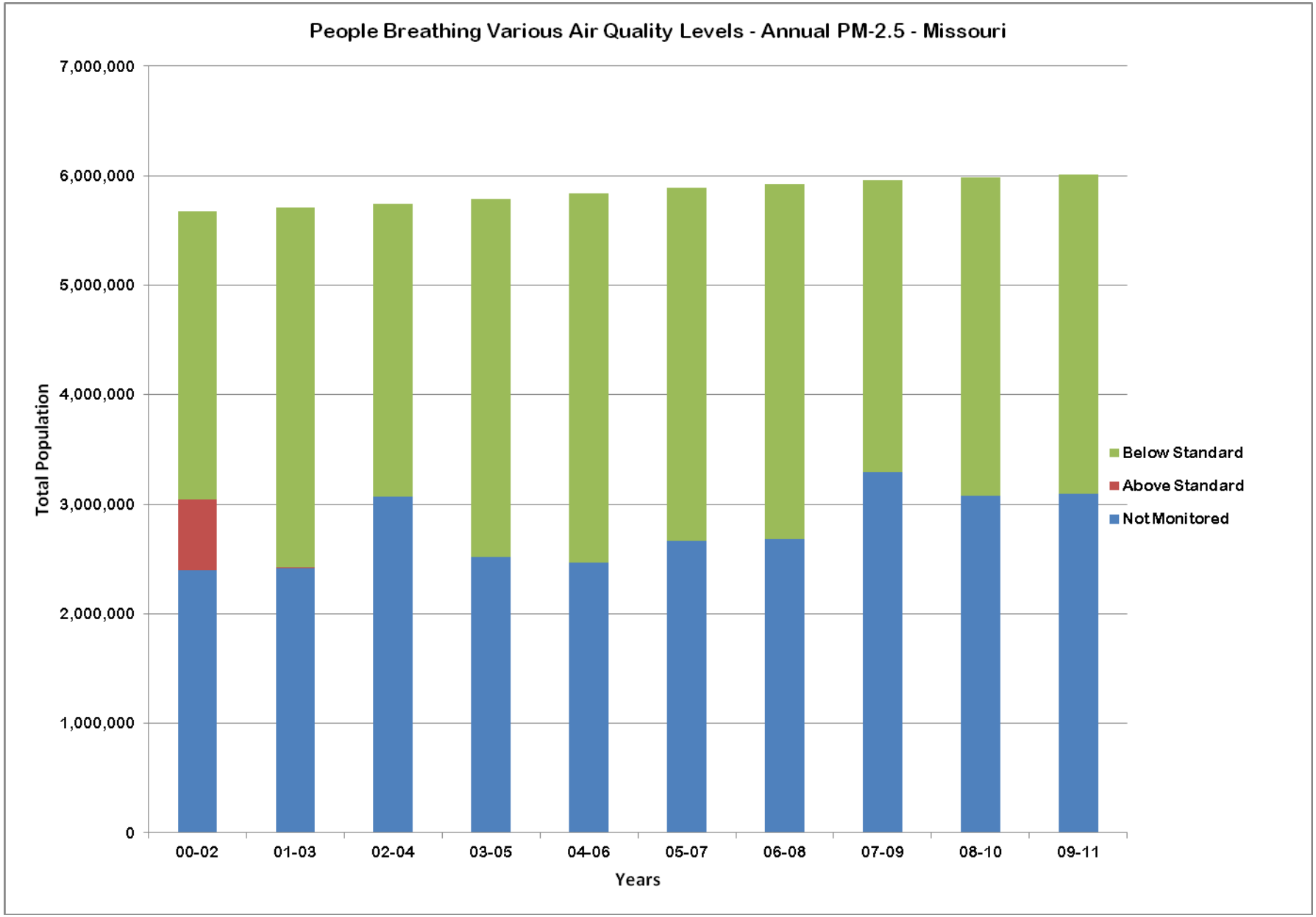

People Breathing Various Air Quality Levels - 24 Hour PM-2.5 - Missouri
7,000,000
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure MO-3


People Breathing Various Air Quality Levels - Annual PM-2.5 - Missouri
7,000,000
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# MONTANA

## Ozone

**Ozone levels in Montana have historically been better than the standard. In the 2000 – 2002 time period, approximately 78 thousand people (8.5%) lived in counties that met the ozone standard. By 2009 – 2011 this had increased to approximately 91 thousand people (9.1%). The remainder of the population lived in counties where ozone was not measured. Figure MT-1 shows the distribution of people by year.**

## 24-Hour PM-2.5

**Progress has been made in 24-hour PM-2.5 levels in Montana. In the 2000 – 2002 time period, approximately 0.6 million people (69.6%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 -2011 this was approximately 0.4 million people (44.0%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure MT-2 shows the distribution of people by year.**

## Annual PM-2.5

**Annual PM-2.5 levels in Montana have historically been better than the standard. In the 2000 – 2002 time period, approximately 0.6 million people (69.6%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this was approximately 0.4 million people (44.0%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure MT-3 shows the distribution of people by year.**

Table MT-1

2009 – 2011

| | | OZONE | | PARTICLE POLLUTION (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg. 24-Hr DV | Grade | Avg. Ann DV | Grade |
| Flathead | 91,301 | 0.055 | A | 25 | A | 8.6 | A |
| Gallatin | 91,377 | ND | --- | 26 | A | 6.8 | A |
| **Lewis & Clark** | **64,318** | ND | --- | **38** | **D** | 8.6 | A |
| Lincoln | 19,566 | ND | --- | 31 | B | 10.0 | A |
| Missoula | 110,138 | ND | --- | 25 | A | 8.3 | A |
| Ravalli | 40,450 | ND | --- | 27 | B | 7.2 | A |
| Richland | 10,128 | ND | --- | 14 | A | 6.0 | A |
| Sanders | 11,440 | ND | --- | 15 | A | 5.7 | A |
| | | | | | | | |
| Subtotal | 438,718 | | | | | | |
| Not Monitored | 559,481 | | | | | | |
| Total | 998,199 | | | | | | |

DV – Design Value ND - No Data

# MONTANA

## Table MT-2

### People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 77,583 | 79,643 | 81,247 | 83,320 | 85,759 | 229,763 | 90,260 | 90,910 | 90,928 | 91,301 |
| B | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 77,583 | 79,643 | 81,247 | 83,320 | 85,759 | 229,763 | 90,260 | 90,910 | 90,928 | 91,301 |
| NM | 834,084 | 839,987 | 848,762 | 856,782 | 866,933 | 734,943 | 886,155 | 893,072 | 898,487 | 906,898 |
| Total | 911,667 | 919,630 | 930,009 | 940,102 | 952,692 | 964,706 | 976,415 | 983,982 | 989,415 | 998,199 |

### People Breathing Short-term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 342,894 | 391,843 | 398,469 | 211,517 | 400,487 | 468,492 | 477,156 | 630,054 | 260,183 | 354,834 |
| B | 192,217 | 151,301 | 114,663 | 138,839 | 59,529 | 0 | 147,970 | 19,657 | 110,615 | 19,566 |
| C | 98,968 | 99,976 | 139,673 | 33,414 | 33,441 | 139,599 | 53,353 | 34,008 | 0 | 64,318 |
| D | 0 | 0 | 0 | 176,635 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 18,669 | 18,861 | 18,991 | 121,478 | 123,600 | 19,440 | 0 | 0 | 0 | 0 |
| Subtotal | 652,748 | 661,981 | 671,796 | 681,883 | 617,057 | 627,531 | 678,479 | 683,719 | 370,798 | 438,718 |
| NM | 258,919 | 257,649 | 258,213 | 258,219 | 335,635 | 337,175 | 297,936 | 300,263 | 618,617 | 559,481 |
| Total | 911,667 | 919,630 | 930,009 | 940,102 | 952,692 | 964,706 | 976,415 | 983,982 | 989,415 | 998,199 |

### People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 634,079 | 643,120 | 652,805 | 662,703 | 597,829 | 608,091 | 658,938 | 683,719 | 370,798 | 438,718 |
| B | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C | 0 | 0 | 0 | 0 | 19,228 | 19,440 | 19,541 | 0 | 0 | 0 |
| D | 18,669 | 18,861 | 18,991 | 19,180 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 652,748 | 661,981 | 671,796 | 681,883 | 617,057 | 627,531 | 678,479 | 683,719 | 370,798 | 438,718 |
| NM | 258,919 | 257,649 | 358,213 | 258,219 | 335,635 | 337,175 | 297,936 | 300,263 | 618,617 | 559,481 |
| Total | 911,667 | 919,630 | 930,009 | 940,102 | 952,692 | 964,706 | 976,415 | 983,982 | 989,415 | 998,199 |

NM – Not Monitored

Figure MT-1

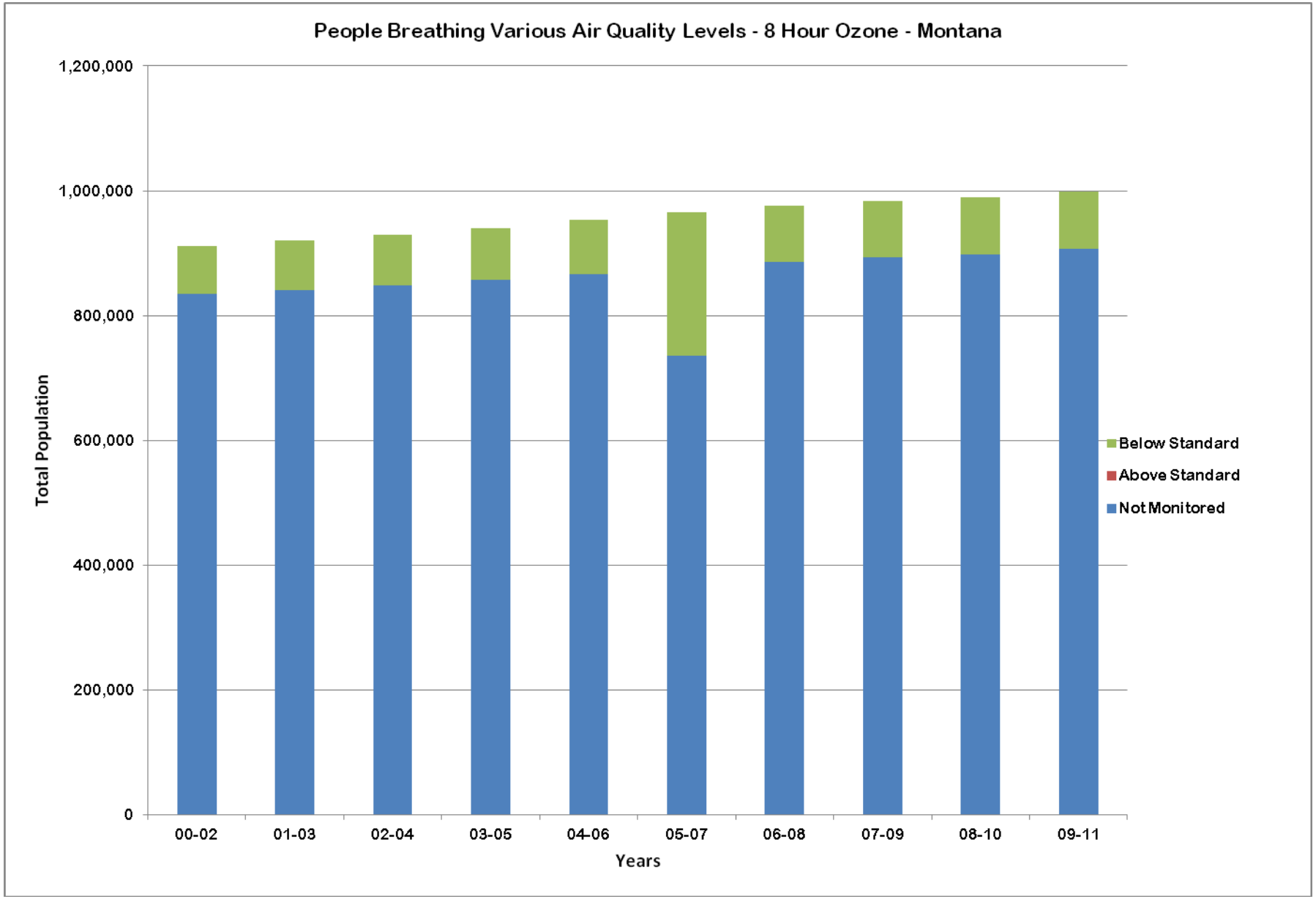

People Breathing Various Air Quality Levels - 8 Hour Ozone - Montana
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure MT-2

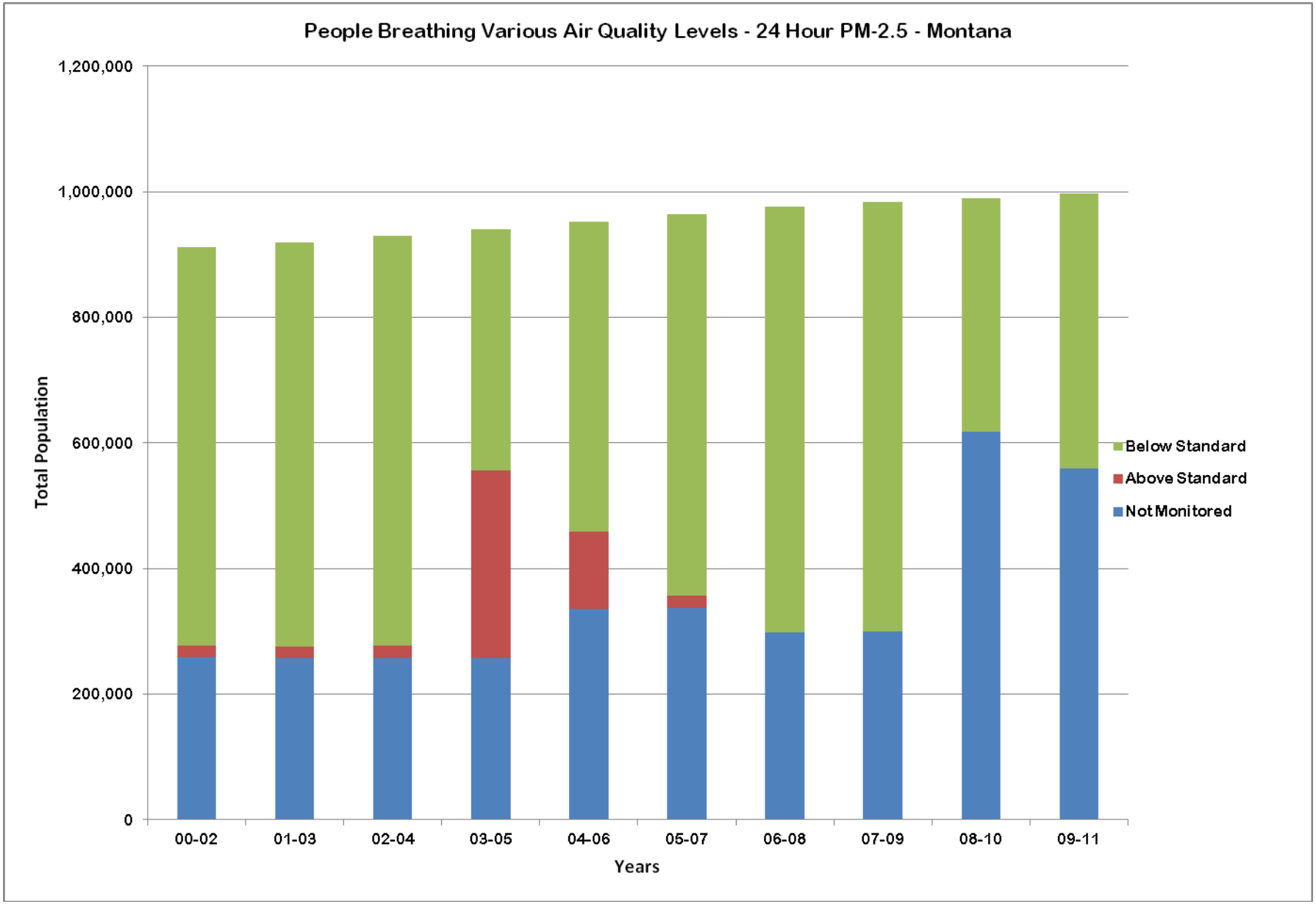
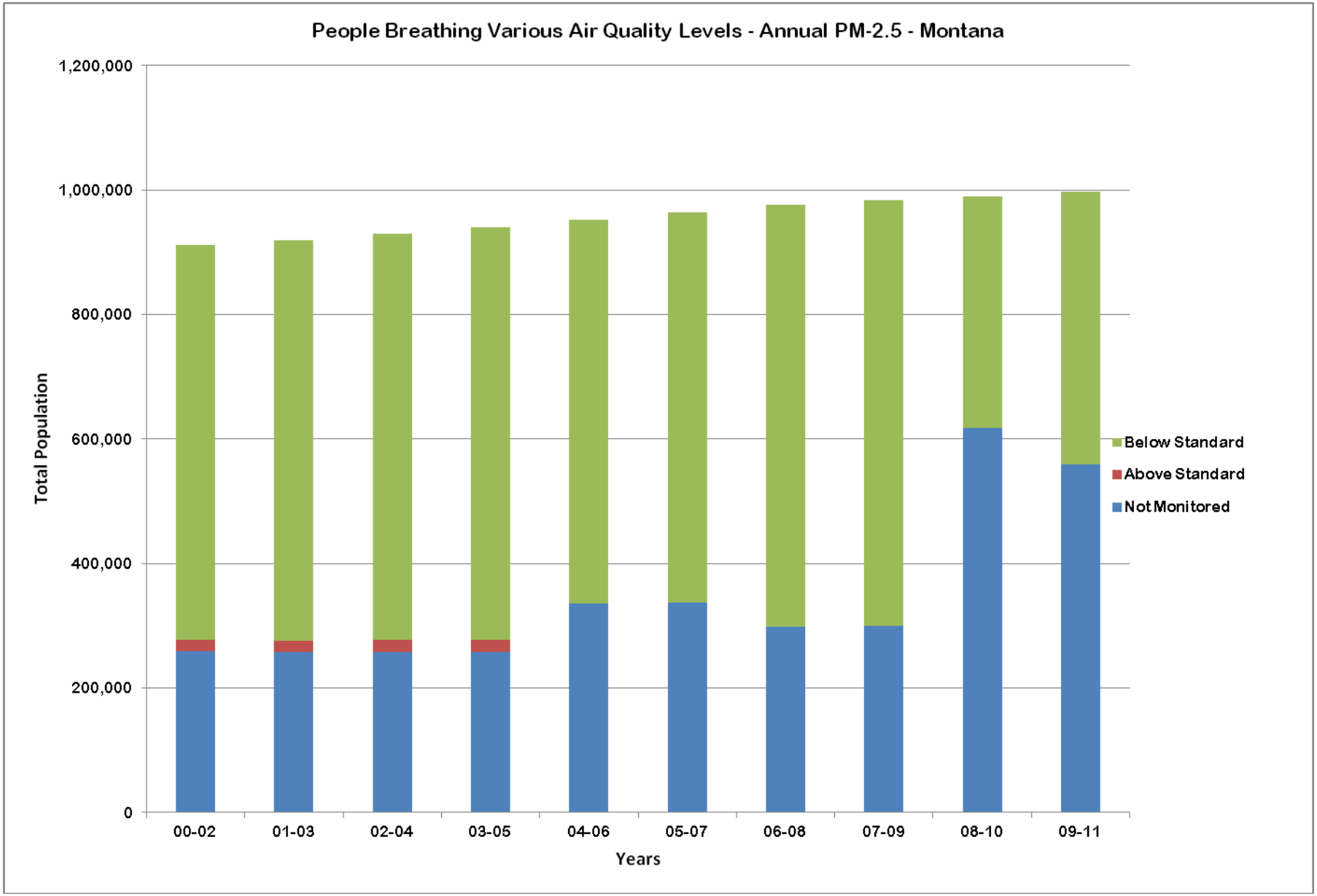

People Breathing Various Air Quality Levels - 24 Hour PM-2.5 - Montana
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure MT-3


People Breathing Various Air Quality Levels - Annual PM-2.5 - Montana
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# NEBRASKA

## Ozone

**Ozone levels in Nebraska have historically been better than the standard. In the 2000 – 2002 time period, approximately 0.7 million people (42.3%) lived in counties that met the ozone standard. By 2009 – 2011 this had increased to approximately 0.8 million people (44.2%). The remainder of the population lived in counties where ozone was not measured. Figure NE-1 shows the distribution of people by year.**

## 24-Hour PM-2.5

**24-hour PM-2.5 levels in Nebraska have historically been better than the standard. In the 2000 – 2002 time period, approximately 1.0 million people (60.5%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 -2011 this was approximately 0.9 million people (48.5%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure NE-2 shows the distribution of people by year.**

## Annual PM-2.5

**Annual PM-2.5 levels in Nebraska have historically been better than the standard. In the 2000 – 2002 time period, approximately 1.0 million people (60.5%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this had increased to approximately 0.9 million people (48.5%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure NE-3 shows the distribution of people by year.**

Table NE-1

2009 – 2011

| | | OZONE | | PARTICLE POLLUTION (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg. 24-Hr DV | Grade | Avg. Ann DV | Grade |
| Douglas | 524,861 | 0.059 | A | 23 | A | 9.6 | A |
| Hall | 59,477 | ND | --- | 19 | A | 7.1 | A |
| Lancaster | 289,800 | 0.052 | A | 22 | A | 8.5 | A |
| Washington | 20,295 | ND | --- | 22 | A | 9.1 | A |
| | | | | | | | |
| Subtotal | 894,433 | | | | | | |
| Not Monitored | 948,208 | | | | | | |
| Total | 1,842,641 | | | | | | |

DV – Design Value ND - No Data

# NEBRASKA

## Table NE-2

### People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 258,398 | 262,667 | 265,087 | 268,868 | 272,286 | 276,012 | 279,605 | 794,999 | 802,517 | 814,661 |
| B | 471,866 | 476,701 | 482,075 | 488,114 | 0 | 498,743 | 504,547 | 0 | 0 | 0 |
| C | 0 | 0 | 0 | 0 | 493,757 | 0 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 730,264 | 739,368 | 747,162 | 756,982 | 766,043 | 774,755 | 784,152 | 794,999 | 802,517 | 814,661 |
| NM | 998,028 | 999,275 | 1,002,208 | 1,004,515 | 1,006,650 | 1,008,685 | 1,012,226 | 1,017,684 | 1,023,824 | 1,027,980 |
| Total | 1,728,292 | 1,738,643 | 1,749,370 | 1,761,497 | 1,772,693 | 1,783,440 | 1,796,378 | 1,812,683 | 1,826,341 | 1,842,641 |

### People Breathing Short-term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 1,045,919 | 1,036,788 | 974,545 | 500,822 | 1,021,582 | 1,035,252 | 1,050,346 | 1,029,225 | 1,040,198 | 894,433 |
| B | 0 | 0 | 25,074 | 513,284 | 0 | 0 | 0 | 0 | 0 | 0 |
| C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 1,045,919 | 1,036,788 | 999,619 | 1,014,106 | 1,021,582 | 1,035,252 | 1,050,346 | 1,029,225 | 1,040,198 | 894,433 |
| NM | 682,373 | 701,855 | 749,751 | 747,391 | 751,111 | 748,188 | 746,032 | 783,458 | 786,143 | 948,208 |
| Total | 1,728,292 | 1,738,643 | 1,749,370 | 1,761,497 | 1,772,693 | 1,783,440 | 1,796,378 | 1,812,683 | 1,826,341 | 1,842,641 |

### People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 1,045,919 | 1,036,788 | 999,619 | 1,014,106 | 1,021,582 | 1,035,252 | 1,050,346 | 1,029,225 | 1,040,198 | 894,433 |
| B | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 1,045,919 | 1,036,788 | 999,619 | 1,014,106 | 1,021,582 | 1,035,252 | 1,050,346 | 1,029,225 | 1,040,198 | 894,433 |
| NM | 682,373 | 701,855 | 749,751 | 747,391 | 751,111 | 748,188 | 746,032 | 783,458 | 786,143 | 948,208 |
| Total | 1,728,292 | 1,738,643 | 1,749,370 | 1,761,497 | 1,772,693 | 1,783,440 | 1,796,378 | 1,812,683 | 1,826,341 | 1,842,641 |

NM – Not Monitored

Figure NE-1

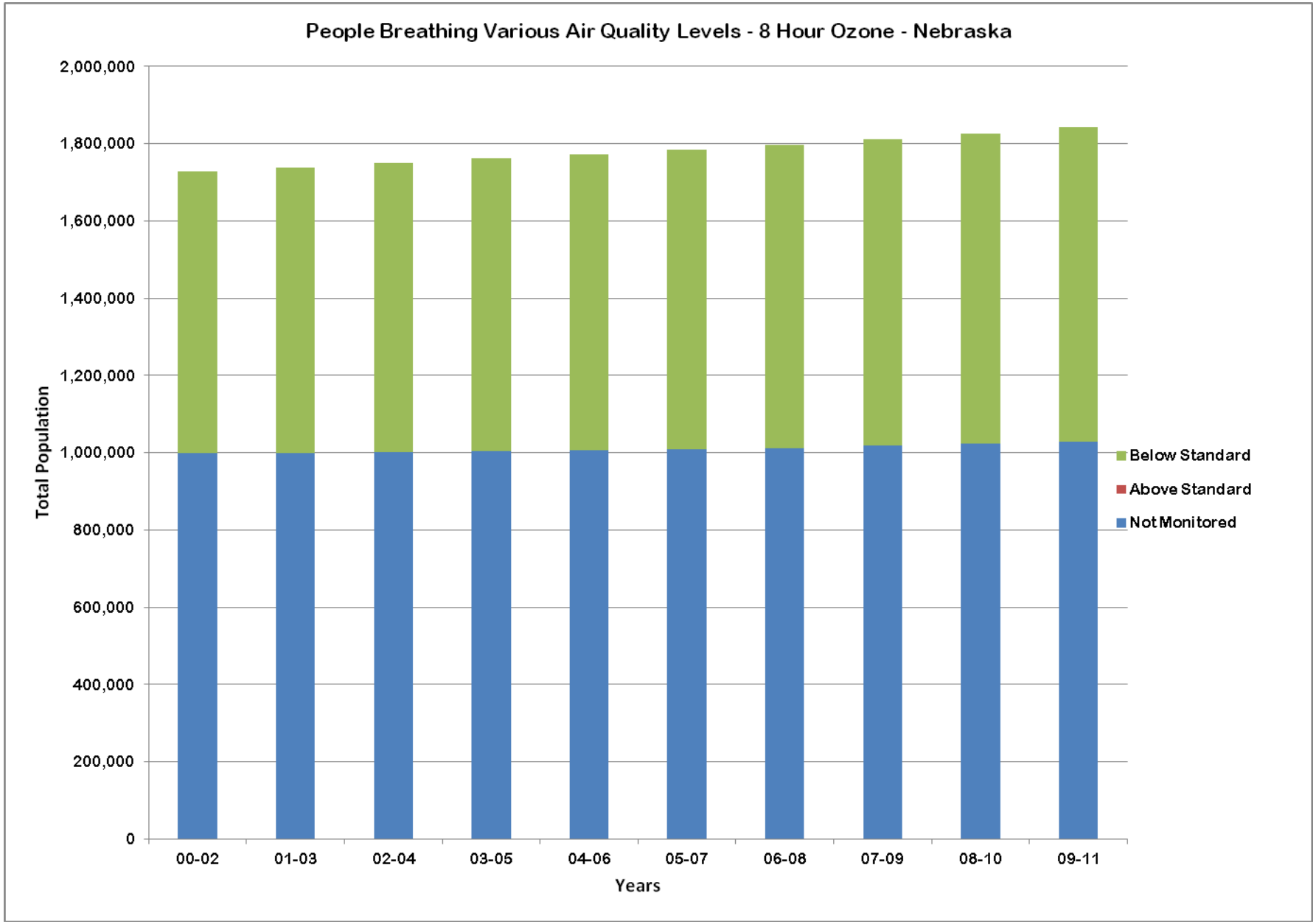

People Breathing Various Air Quality Levels - 8 Hour Ozone - Nebraska
Total Population
2,000,000
1,800,000
1,600,000
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure NE-2

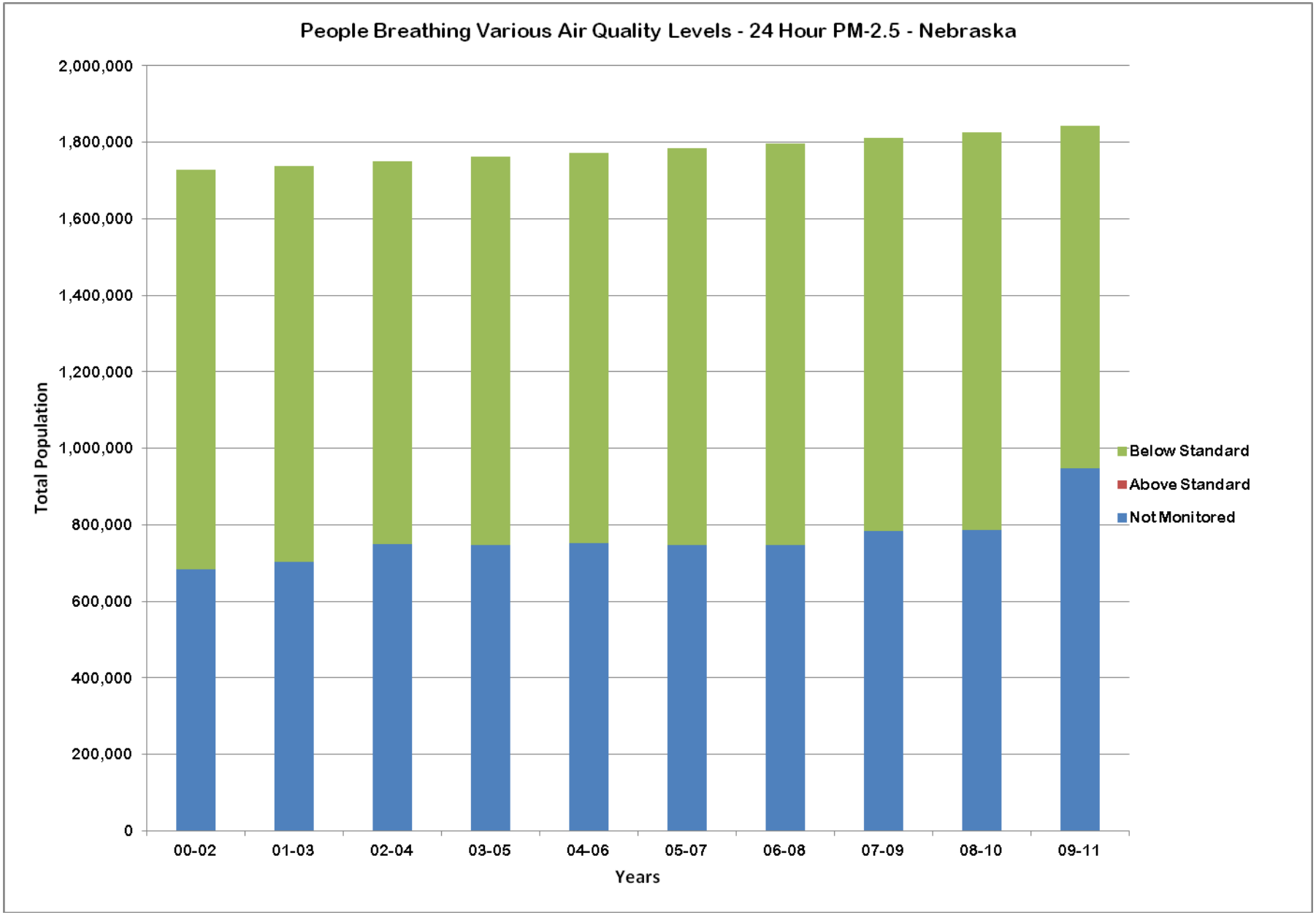
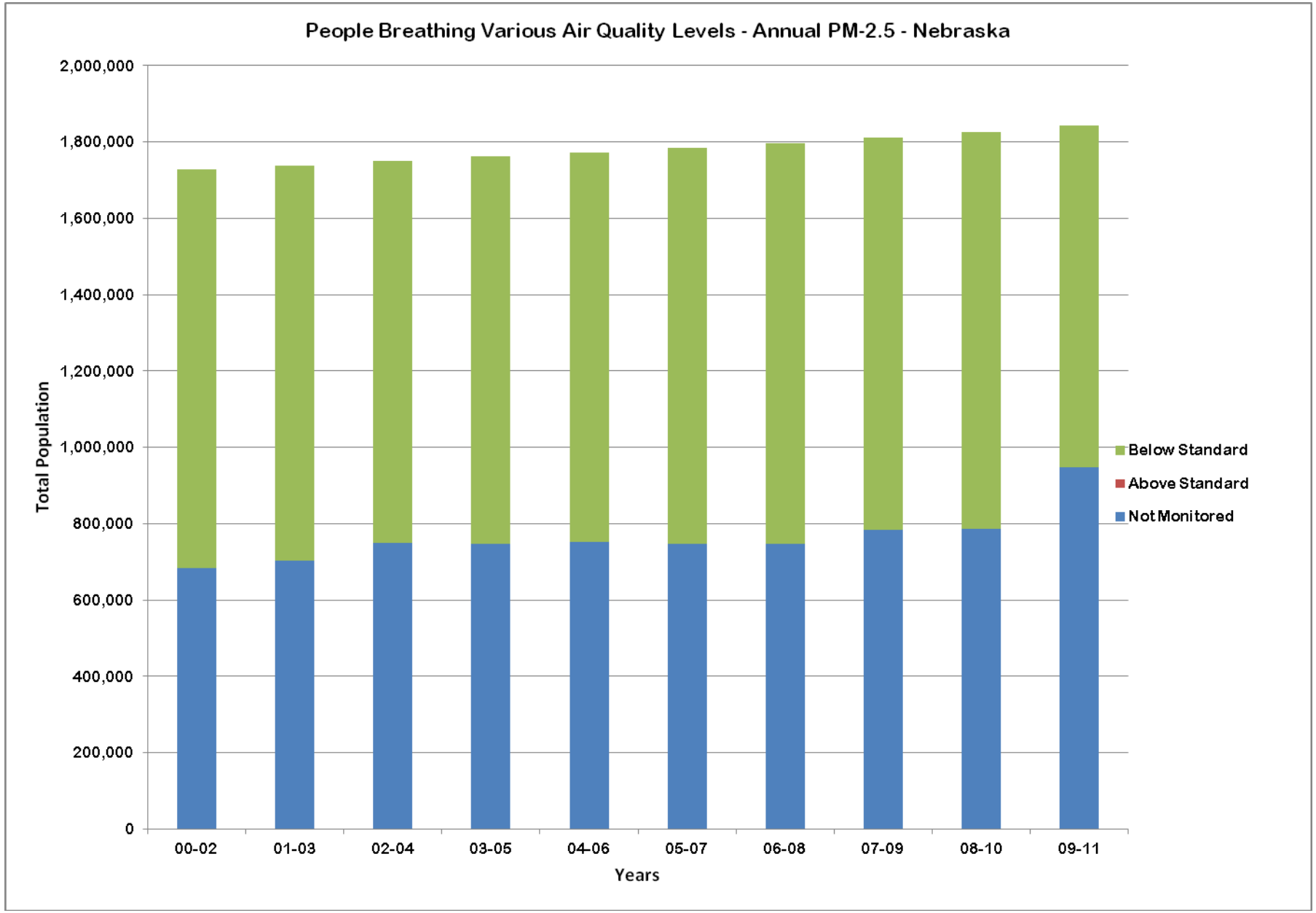

People Breathing Various Air Quality Levels - 24 Hour PM-2.5 - Nebraska
Total Population
2,000,000
1,800,000
1,600,000
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure NE-3


People Breathing Various Air Quality Levels - Annual PM-2.5 - Nebraska
2,000,000
1,800,000
1,600,000
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# NEVADA

## Ozone

**Significant progress has been made in ozone levels in Nevada. In the 2000 – 2002 time period, approximately 0.5 million people (21.6%) lived in counties that met the ozone standard. By 2009 – 2011 this had increased to approximately 2.5 million people (91.1%). The remainder of the population lived in counties where ozone was not measured. Figure NV-1 shows the distribution of people by year.**

## 24-Hour PM-2.5

**24-hour PM-2.5 levels in Nevada have historically been better than the standard. In the 2000 – 2002 time period, approximately 1.9 million people (86.7%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 -2011 this was approximately 2.4 million people (88.0%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure NV-2 shows the distribution of people by year.**

## Annual PM-2.5

**Annual PM-2.5 levels in Nevada have historically been better than the standard. In the 2000 – 2002 time period, approximately 1.9 million people (86.7%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this had increased to approximately 2.4 million people (88.0%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure NV-3 shows the distribution of people by year.**

Table NV-1

2009 – 2011

| | | OZONE | | PARTICLE POLLUTION (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg. 24-Hr DV | Grade | Avg. Ann DV | Grade |
| Churchill | 24,637 | 0.059 | A | ND | --- | ND | --- |
| Clark | 1,969,975 | 0.072 | C | 15 | A | 5.8 | A |
| Lyon | 51,871 | 0.064 | B | ND | --- | ND | --- |
| Washoe | 425,710 | 0.065 | B | 26 | A | 6.8 | A |
| White Pine | 10,098 | 0.070 | C | ND | --- | ND | --- |
| | | | | | | | |
| Subtotal | 2,482,291 | | | | | | |
| Not Monitored | 241,031 | | | | | | |
| Total | 2,723,322 | | | | | | |

DV – Design Value ND - No Data

# NEVADA

## Table NV-2

### People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24,637 |
| B | 0 | 0 | 55,995 | 55,982 | 55,410 | 55,288 | 0 | 25,067 | 76,857 | 477,581 |
| C | 469,006 | 480,711 | 391,485 | 401,882 | 409,964 | 418,350 | 424,525 | 2,367,029 | 2,427,950 | 1,980,073 |
| D | 1,522,962 | 1,584,166 | 1,662,773 | 1,729,522 | 1,803,774 | 1,867,817 | 1,912,349 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 1,991,968 | 2,064,877 | 2,110,253 | 2,187,386 | 2,269,148 | 2,341,455 | 2,336,874 | 2,392,096 | 2,504,807 | 2,482,291 |
| NM | 181,823 | 183,973 | 235,969 | 244,757 | 253,510 | 259,617 | 316,756 | 292,569 | 195,744 | 241,031 |
| Total | 2,173,791 | 2,248,850 | 2,346,222 | 2,432,143 | 2,522,658 | 2,601,072 | 2,653,630 | 2,684,665 | 2,700,551 | 2,723,322 |

### People Breathing Short-term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 1,522,962 | 1,956,468 | 2,045,550 | 1,729,522 | 1,803,774 | 1,867,817 | 2,327,142 | 1,939,407 | 1,951,269 | 2,395,685 |
| B | 362,374 | 0 | 0 | 392,716 | 0 | 408,724 | 0 | 0 | 421,407 | 0 |
| C | 0 | 0 | 0 | 0 | 400,453 | 0 | 0 | 417,722 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 1,885,336 | 1,956,468 | 2,045,550 | 2,122,238 | 2,204,227 | 2,276,541 | 2,327,142 | 2,357,129 | 2,372,676 | 2,395,685 |
| NM | 288,455 | 292,382 | 300,672 | 309,905 | 318,431 | 324,531 | 326,488 | 327,536 | 327,875 | 327,637 |
| Total | 2,173,791 | 2,248,850 | 2,346,222 | 2,432,143 | 2,522,658 | 2,601,072 | 2,653,630 | 2,684,665 | 2,700,551 | 2,723,322 |

### People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 1,885,336 | 1,956,468 | 2,045,550 | 2,122,238 | 2,204,227 | 2,276,541 | 2,327,142 | 2,357,129 | 2,372,676 | 2,395,685 |
| B | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 1,885,336 | 1,956,468 | 2,045,550 | 2,122,238 | 2,204,227 | 2,276,541 | 2,327,142 | 2,357,129 | 2,372,676 | 2,395,685 |
| NM | 288,455 | 292,382 | 300,672 | 309,905 | 318,431 | 324,531 | 326,488 | 327,536 | 327,875 | 327,637 |
| Total | 2,173,791 | 2,248,850 | 2,346,222 | 2,432,143 | 2,522,658 | 2,601,072 | 2,653,630 | 2,684,665 | 2,700,551 | 2,723,322 |

NM – Not Monitored

Figure NV-1

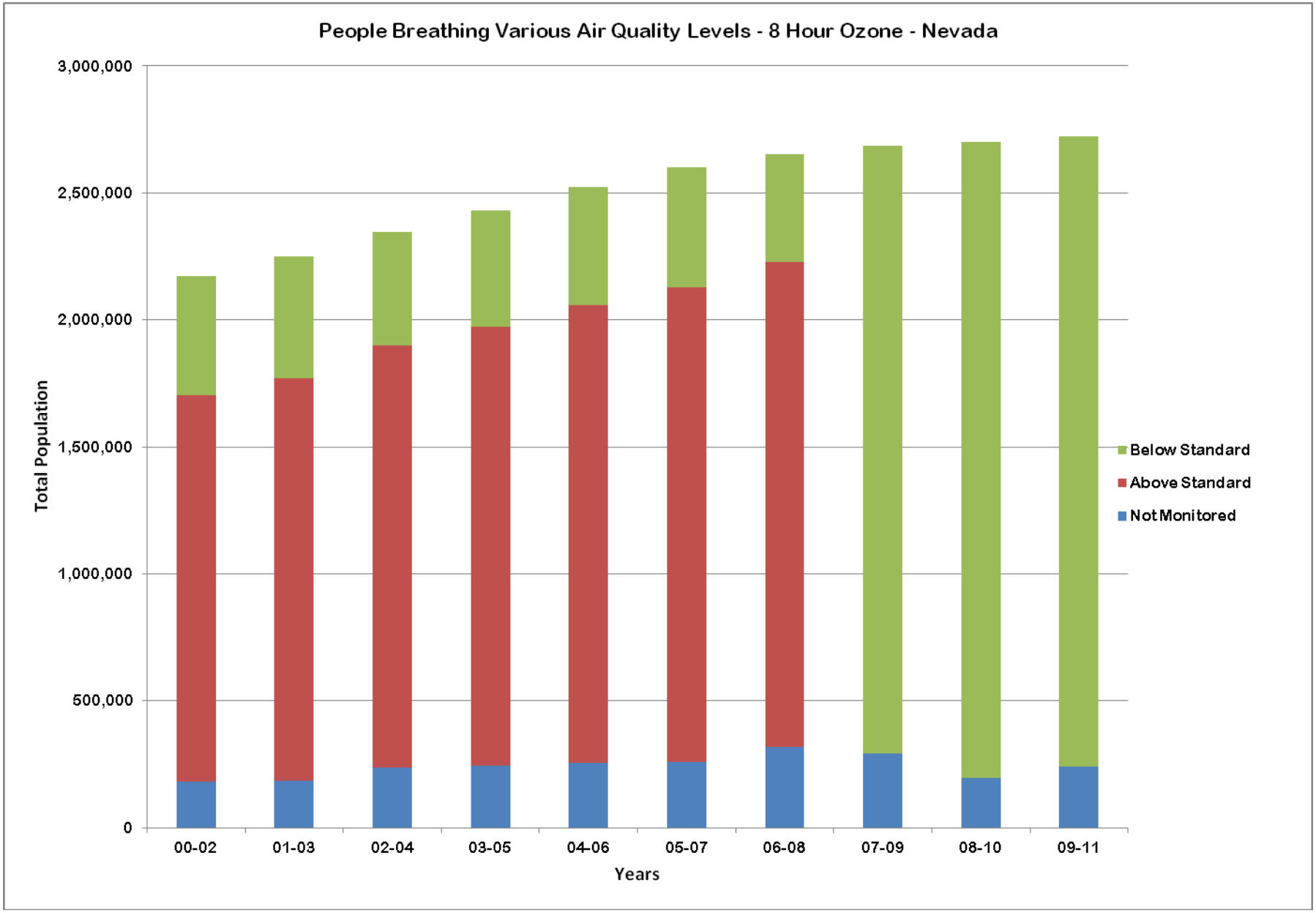

People Breathing Various Air Quality Levels - 8 Hour Ozone - Nevada
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure NV-2

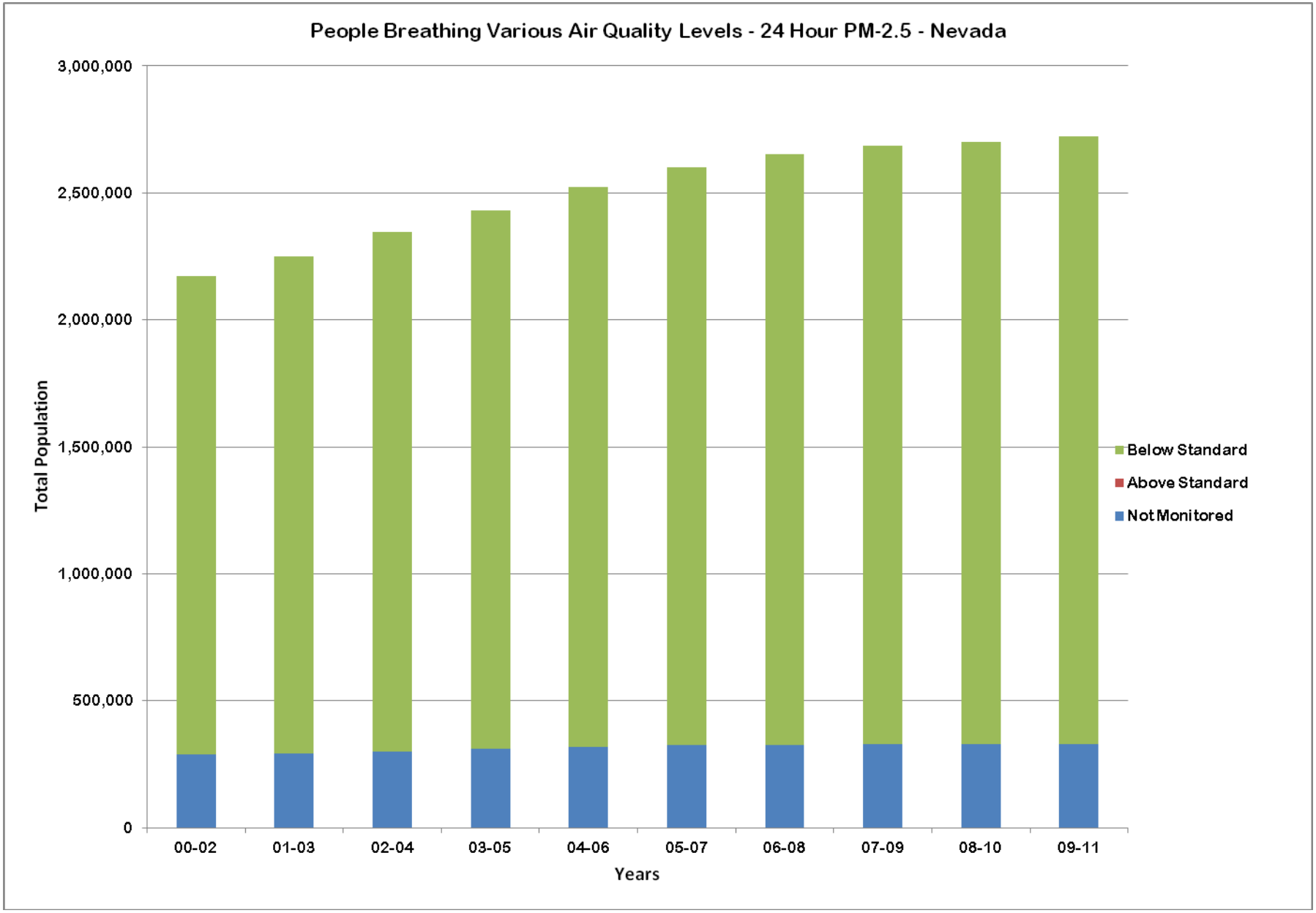
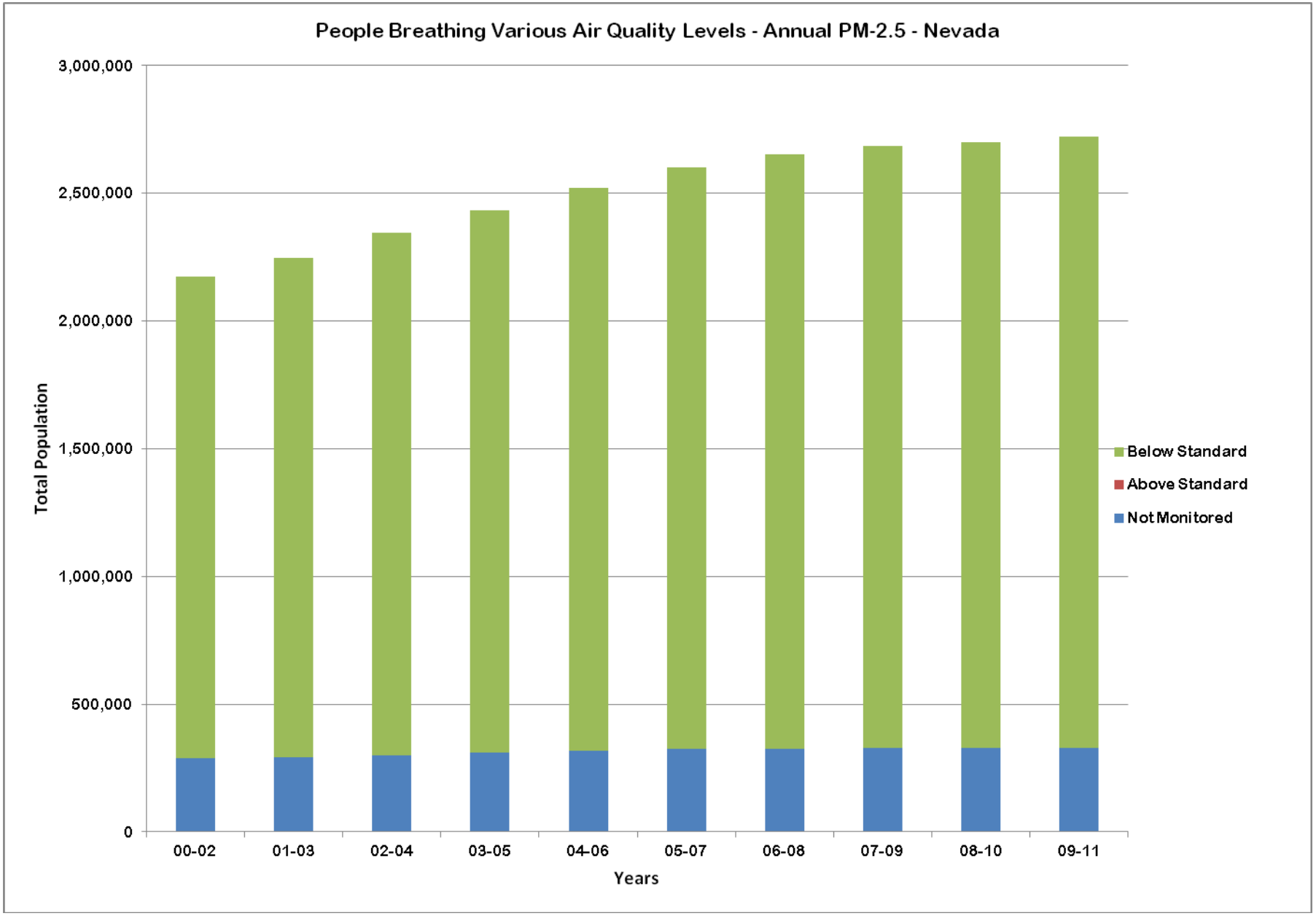

People Breathing Various Air Quality Levels - 24 Hour PM-2.5 - Nevada
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure NV-3


People Breathing Various Air Quality Levels - Annual PM-2.5 - Nevada
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# NEW HAMPSHIRE

## Ozone

**Significant progress has been made in ozone levels in New Hampshire. In the 2000 – 2002 time period, approximately 0.4 million people (30.3%) lived in counties that met the ozone standard. By 2009 – 2011 this had increased to approximately 1.1 million people (83.7%). The remainder of the population lived in counties where ozone was not measured. Figure NH-1 shows the distribution of people by year.**

## 24-Hour PM-2.5

**24-hour PM-2.5 levels in New Hampshire have historically been better than the standard. In the 2000 – 2002 time period, approximately 0.2 million people (13.7%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 -2011 this was approximately 1.1 million people (81.2%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure NH-2 shows the distribution of people by year.**

## Annual PM-2.5

**Annual PM-2.5 levels in New Hampshire have historically been better than the standard. In the 2000 – 2002 time period, approximately 0.2 million people (13.7%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this had increased to approximately 1.1 million people (81.2%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure NH-3 shows the distribution of people by year.**

Table NH-1

2009 – 2011

| | | OZONE | | PARTICLE POLLUTION (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg. 24-Hr DV | Grade | Avg. Ann DV | Grade |
| Belknap | 60,223 | 0.062 | B | 17 | A | 5.7 | A |
| Cheshire | 76,918 | 0.063 | B | 24 | A | 9.1 | A |
| Coos | 32,688 | 0.065 | B | ND | --- | ND | --- |
| Grafton | 88,923 | 0.060 | B | 20 | A | 6.9 | A |
| Hillsborough | 401,696 | 0.068 | C | 22 | A | 7.8 | A |
| Merrimack | 146,579 | 0.065 | B | 23 | A | 8.6 | A |
| Rockingham | 296,207 | 0.067 | B | 18 | A | 6.9 | A |
| | | | | | | | |
| Subtotal | 1,103,234 | | | | | | |
| Not Monitored | 214,960 | | | | | | |
| Total | 1,318,194 | | | | | | |

DV – Design Value ND - No Data

# NEW HAMPSHIRE

## Table NH-2

### People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| B | 45,074 | 0 | 33,589 | 33,845 | 33,814 | 33,751 | 33,488 | 88,926 | 405,823 | 701,538 |
| C | 340,478 | 226,759 | 760,460 | 1,099,314 | 1,106,791 | 416,250 | 816,949 | 1,012,821 | 295,223 | 401,696 |
| D | 791,694 | 294,568 | 42,547 | 0 | 0 | 692,975 | 294,996 | 0 | 0 | 0 |
| F | 0 | 679,354 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 1,177,246 | 1,200,681 | 836,596 | 1,133,159 | 1,140,605 | 1,142,976 | 1,145,433 | 1,101,747 | 701,046 | 1,103,234 |
| NM | 91,843 | 79,159 | 453,525 | 165,333 | 167,784 | 169,564 | 170,473 | 214,355 | 615,424 | 214,960 |
| Total | 1,269,089 | 1,279,840 | 1,290,121 | 1,298,492 | 1,308,389 | 1,312,540 | 1,315,906 | 1,316,102 | 1,316,470 | 1,318,194 |

### People Breathing Short-term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 33,234 | 0 | 204,011 | 325,614 | 1,019,551 | 1,031,480 | 1,034,473 | 902,125 | 1,068,712 | 1,070,546 |
| B | 140,880 | 973,589 | 980,217 | 807,545 | 121,054 | 77,745 | 77,472 | 77,302 | 0 | 0 |
| C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 174,114 | 973,589 | 1,184,228 | 1,133,159 | 1,140,605 | 1,109,225 | 1,111,945 | 979,427 | 1,068,712 | 1,070,546 |
| NM | 1,094,975 | 306,251 | 105,893 | 165,333 | 167,784 | 203,315 | 203,961 | 336,675 | 247,758 | 247,648 |
| Total | 1,269,089 | 1,279,840 | 1,290,121 | 1,298,492 | 1,308,389 | 1,312,540 | 1,315,906 | 1,316,102 | 1,316,470 | 1,318,194 |

### People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 174,114 | 973,589 | 1,184,228 | 1,133,159 | 1,140,605 | 1,109,225 | 1,111,945 | 979,427 | 1,068,712 | 1,070,546 |
| B | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 174,114 | 973,589 | 1,184,228 | 1,133,159 | 1,140,605 | 1,109,225 | 1,111,945 | 979,427 | 1,068,712 | 1,070,546 |
| NM | 1,094,975 | 306,251 | 105,893 | 165,333 | 167,784 | 203,315 | 203,961 | 336,675 | 247,758 | 247,648 |
| Total | 1,269,089 | 1,279,840 | 1,290,121 | 1,298,492 | 1,308,389 | 1,312,540 | 1,315,906 | 1,316,102 | 1,316,470 | 1,318,194 |

NM – Not Monitored

Figure NH-1

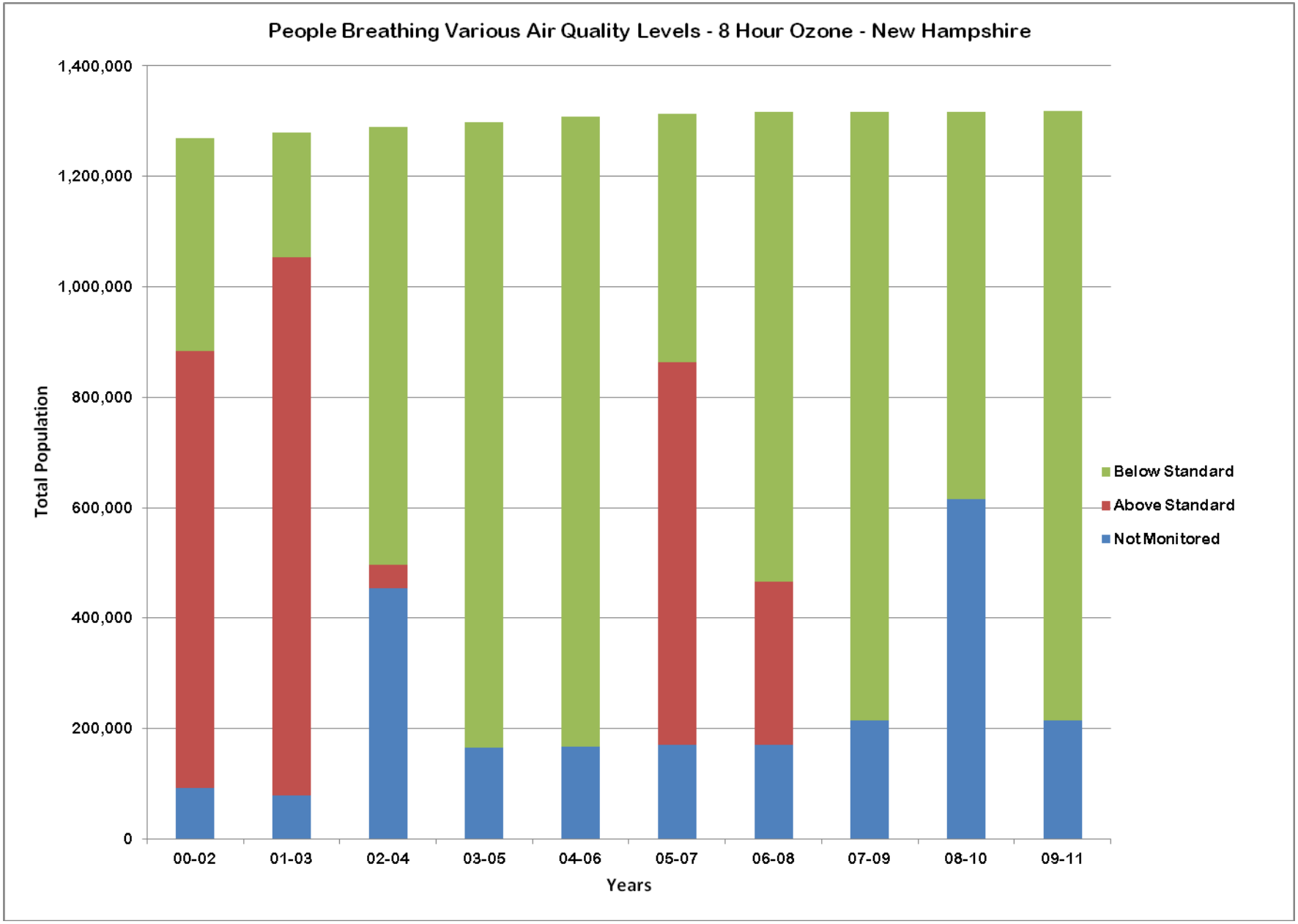

People Breathing Various Air Quality Levels - 8 Hour Ozone - New Hampshire
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure NH-2

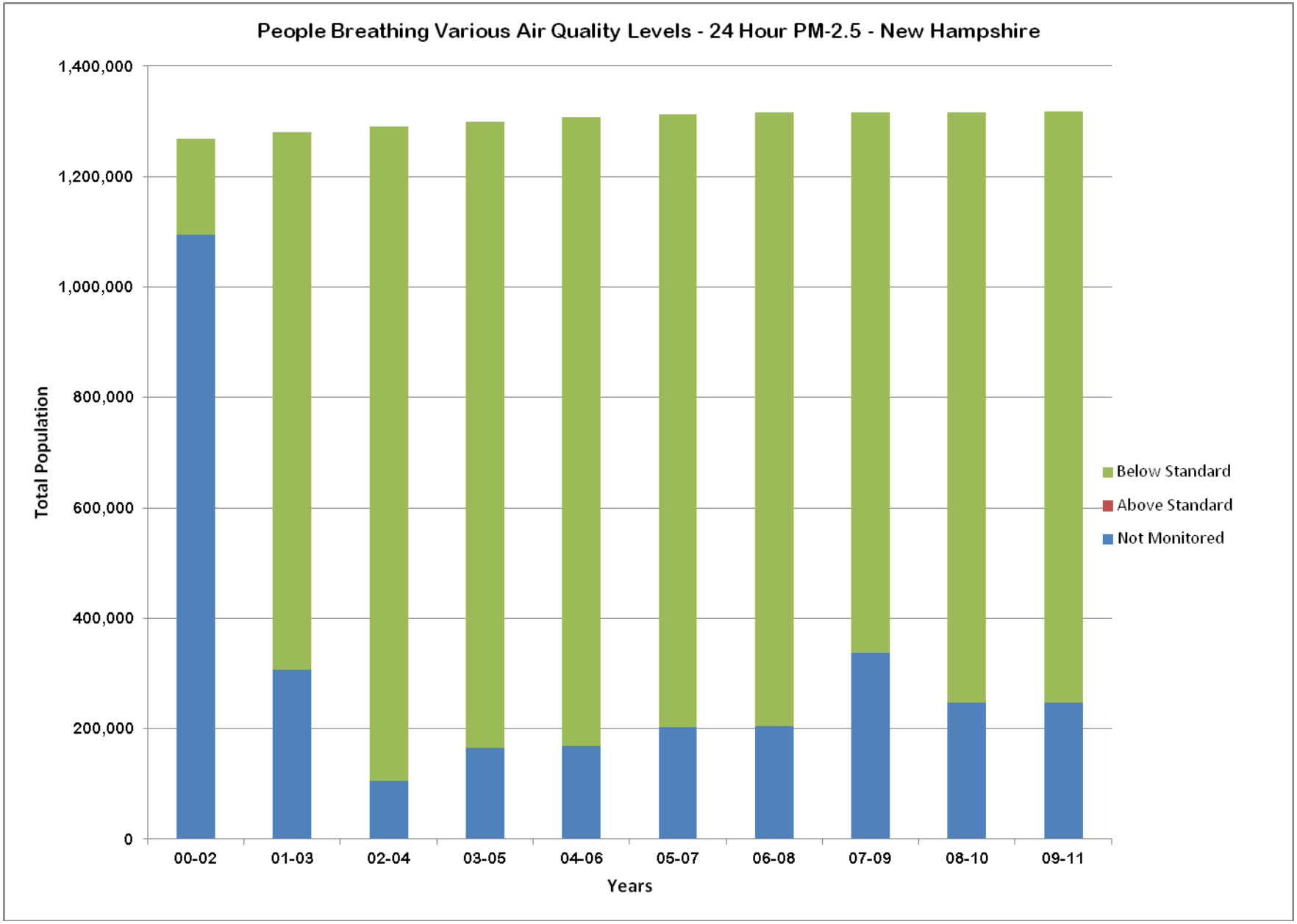
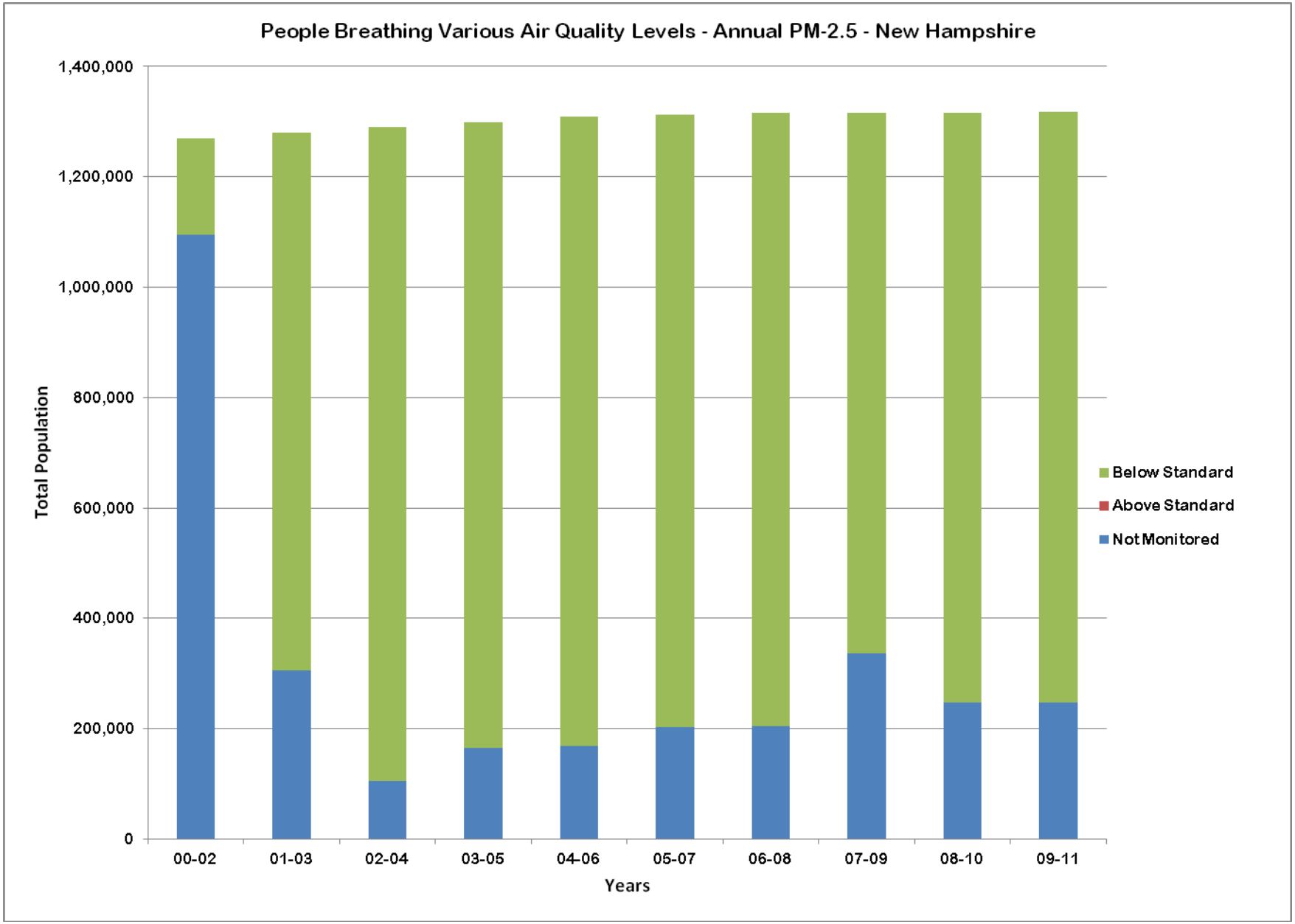

People Breathing Various Air Quality Levels - 24 Hour PM-2.5 - New Hampshire
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure NH-3


People Breathing Various Air Quality Levels - Annual PM-2.5 - New Hampshire
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# NEW JERSEY

## Ozone

**Progress has been made in ozone levels in New Jersey. In the 2000 – 2002 time period, no people lived in counties that met the ozone standard. By 2009 – 2011 this had increased to approximately 0.8 million people (8.8%). Figure NJ-1 shows the distribution of people by year.**

## 24-Hour PM-2.5

**Significant progress has been made in 24-hour PM-2.5 levels in New Jersey. In the 2000 – 2002 time period, approximately 3.6 million people (41.5%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 -2011 this was approximately 6.8 million people (77.3%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure NJ-2 shows the distribution of people by year.**

## Annual PM-2.5

**Progress has been made in annual PM-2.5 levels in New Jersey. In the 2000 – 2002 time period, approximately 5.7 million people (66.9%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this had increased to approximately 6.8 million people (77.3%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure NJ-3 shows the distribution of people by year.**

Table NJ-1

2009 – 2011

| | | Ozone | | Particle Pollution (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg. 24-Hr DV | Grade | Avg. Ann DV | Grade |
| Atlantic | 274,338 | 0.075 | C | 22 | A | 8.8 | A |
| Bergen | 911,004 | 0.077 | D | 25 | A | 9.2 | A |
| Camden | 513,241 | ND | -- | 24 | A | 9.7 | A |
| Cumberland | 157,095 | 0.077 | D | ND | --- | ND | --- |
| Essex | 785,137 | ND | --- | 24 | A | 9.3 | A |
| Gloucester | 289,104 | 0.082 | D | 22 | A | 9.3 | A |
| Hudson | 641,224 | 0.076 | D | 28 | B | 10.7 | A |
| Hunterdon | 128,038 | 0.077 | D | ND | --- | ND | --- |
| Mercer | 367,063 | ND | --- | 23 | A | 8.9 | A |
| Middlesex | 814,217 | 0.080 | D | 20 | A | 7.9 | A |
| Monmouth | 631,020 | 0.080 | D | ND | --- | ND | --- |
| Morris | 494,976 | 0.076 | D | 23 | A | 8.0 | A |
| Ocean | 579,369 | 0.081 | D | 23 | A | 8.6 | A |
| Passaic | 502,007 | 0.074 | C | 25 | A | 9.3 | A |
| Union | 539,494 | ND | --- | 26 | A | 10.2 | A |
| Warren | 108,339 | ND | --- | 26 | B | 9.2 | A |
| | | | | | | | |
| Subtotal | 7,735,666 | | | | | | |
| Not Monitored | 1,085,489 | | | | | | |
| Total | 8,821,155 | | | | | | |

DV – Design Value ND - No Data

# NEW JERSEY

## Table NJ-2

### People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| B | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C | 0 | 0 | 0 | 0 | 0 | 0 | 273,014 | 274,049 | 775,775 | 776,345 |
| D | 0 | 0 | 0 | 1,249,404 | 1,251,975 | 272,303 | 650,642 | 4,788,939 | 4,988,511 | 4,646,047 |
| F | 5,176,432 | 6,104,810 | 6,135,654 | 4,906,502 | 4,916,065 | 5,022,792 | 4,397,793 | 287,362 | 0 | 0 |
| Subtotal | 5,176,432 | 6,104,810 | 6,135,654 | 6,155,906 | 6,168,040 | 5,295,095 | 5,321,449 | 5,350,350 | 5,764,286 | 5,422,392 |
| NM | 3,376,211 | 2,496,592 | 2,498,907 | 2,496,068 | 2,493,639 | 3,382,790 | 3,389,641 | 3,405,252 | 3,027,608 | 3,398,763 |
| Total | 8,552,643 | 8,601,402 | 8,634,561 | 8,651,974 | 8,661,679 | 8,677,885 | 8,711,090 | 8,755,602 | 8,791,894 | 8,821,155 |

### People Breathing Short-term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2,430,517 | 3,931,626 | 6,178,289 |
| B | 0 | 0 | 271,714 | 270,332 | 1,320,547 | 1,728,476 | 2,604,816 | 2,919,143 | 2,075,881 | 641,224 |
| C | 3,551,630 | 3,570,523 | 3,051,589 | 1,787,476 | 1,751,519 | 1,752,759 | 3,209,778 | 628,572 | 0 | 0 |
| D | 2,788,492 | 2,290,595 | 2,718,431 | 3,484,877 | 2,183,628 | 2,310,388 | 619,533 | 0 | 0 | 0 |
| F | 0 | 771,848 | 614,607 | 1,126,646 | 1,138,730 | 613,637 | 0 | 0 | 0 | 0 |
| Subtotal | 6,340,122 | 6,632,966 | 6,656,341 | 6,669,331 | 6,394,424 | 6,405,260 | 6,434,127 | 5,978,232 | 6,007,507 | 6,819,513 |
| NM | 2,212,521 | 1,968,436 | 1,978,220 | 1,982,643 | 2,267,255 | 2,272,625 | 2,276,963 | 2,777,370 | 2,784,387 | 2,001,642 |
| Total | 8,552,643 | 8,601,402 | 8,634,561 | 8,651,974 | 8,661,679 | 8,677,885 | 8,711,090 | 8,755,602 | 8,791,894 | 8,821,155 |

### People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 1,013,303 | 2,181,592 | 2,084,564 | 1,311,816 | 2,470,277 | 1,689,102 | 2,604,816 | 5,349,660 | 6,007,507 | 6,819,513 |
| B | 1,619,786 | 1,737,775 | 2,128,812 | 2,643,245 | 2,785,417 | 3,014,015 | 3,209,778 | 628,572 | 0 | 0 |
| C | 3,091,479 | 2,098,786 | 2,442,965 | 2,714,270 | 1,138,730 | 1,652,143 | 619,533 | 0 | 0 | 0 |
| D | 615,554 | 614,813 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 6,340,122 | 6,632,966 | 6,656,341 | 6,669,331 | 6,394,424 | 6,405,260 | 6,434,127 | 5,978,232 | 3,007,507 | 6,819,513 |
| NM | 2,212,521 | 1,968,436 | 1,978,220 | 1,982,643 | 2,267,255 | 2,272,625 | 2,276,963 | 2,777,370 | 5,784,387 | 2,001,642 |
| Total | 8,552,643 | 8,601,402 | 8,634,561 | 8,651,974 | 8,661,679 | 8,677,885 | 8,711,090 | 8,755,602 | 8,791,894 | 8,821,155 |

NM – Not Monitored

Figure NJ-1

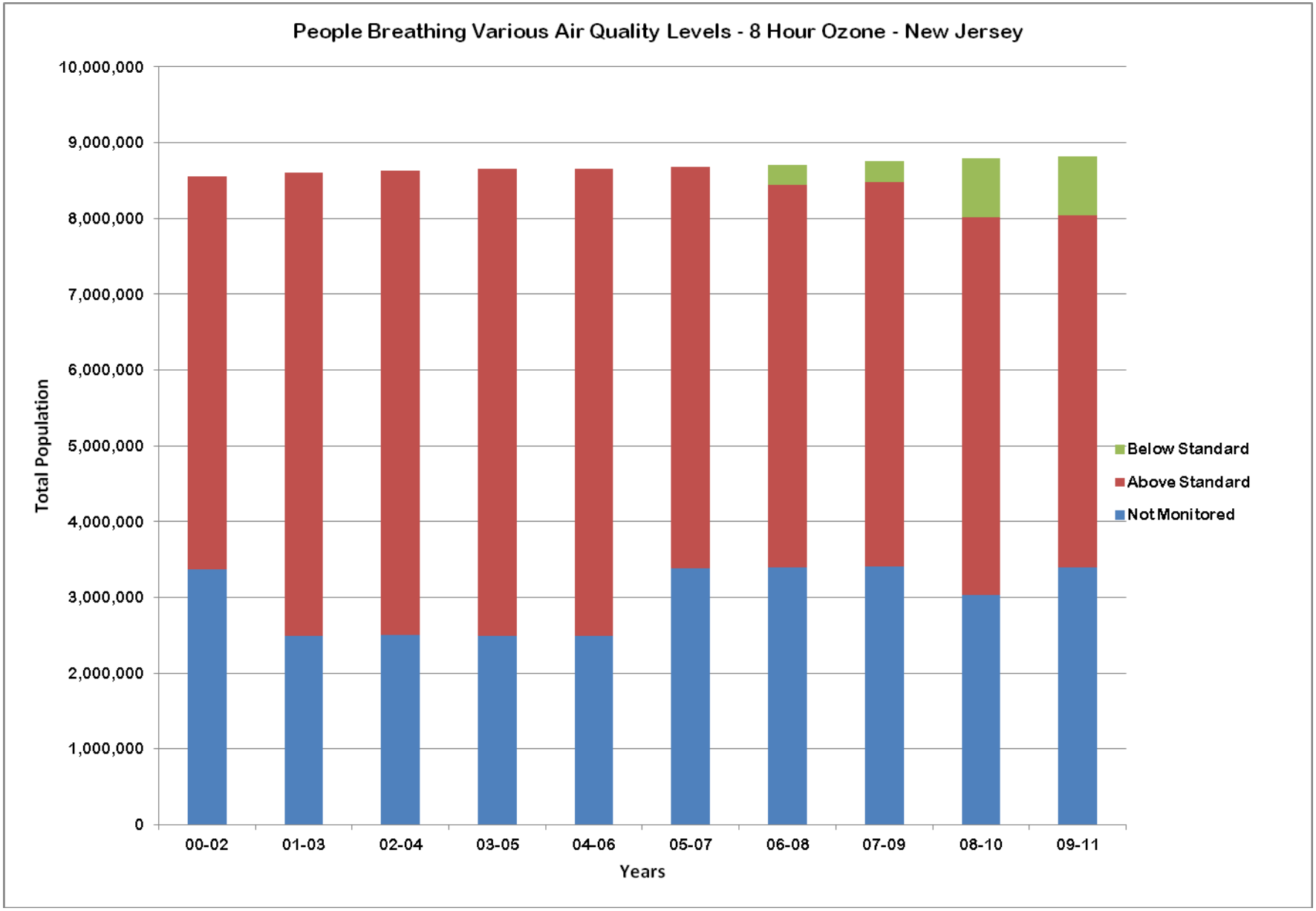

People Breathing Various Air Quality Levels - 8 Hour Ozone - New Jersey
10,000,000
9,000,000
8,000,000
7,000,000
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure NJ-2

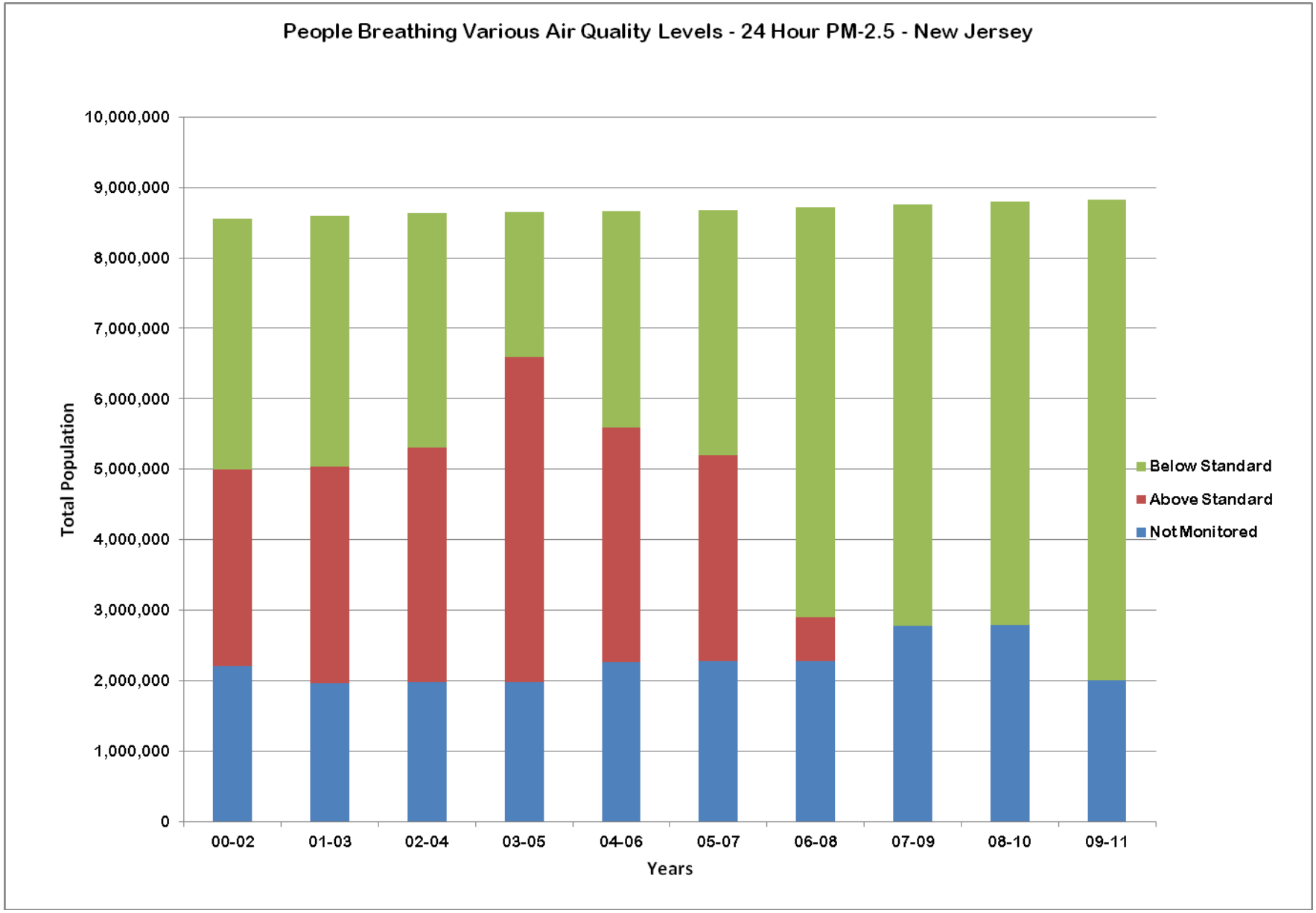
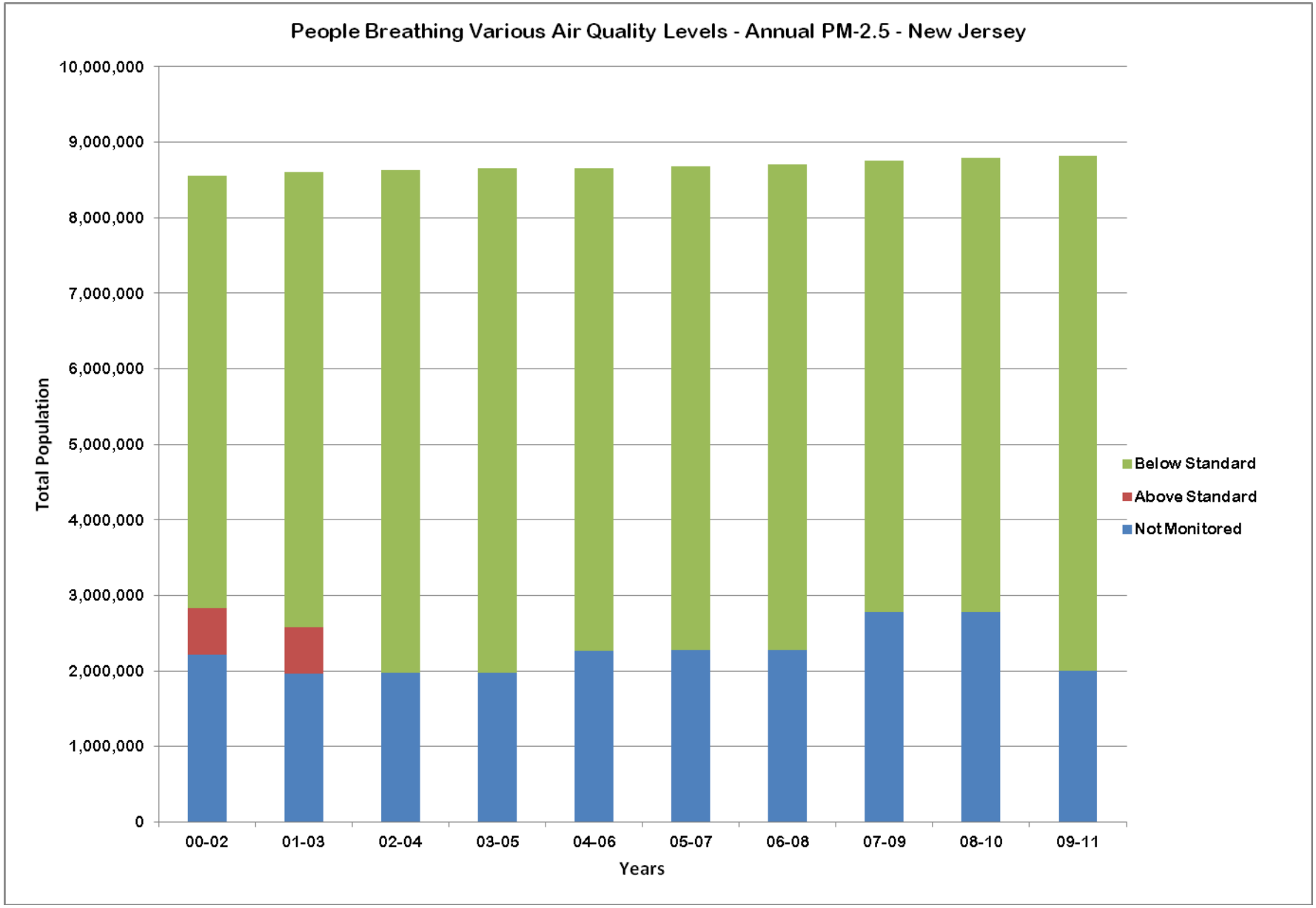

People Breathing Various Air Quality Levels - 24 Hour PM-2.5 - New Jersey
10,000,000
9,000,000
8,000,000
7,000,000
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure NJ-3


People Breathing Various Air Quality Levels - Annual PM-2.5 - New Jersey
10,000,000
9,000,000
8,000,000
7,000,000
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# NEW MEXICO

## Ozone

**Ozone levels in New Mexico have historically been better than the standard. In the 2000 – 2002 time period, 1.1 million people (58.8%) lived in counties that met the ozone standard. By 2009 – 2011 this had increased to approximately 1.3 million people (64.4%). The remainder of the population lived in counties where ozone was not measured. Figure NM-1 shows the distribution of people by year.**

### 24-Hour PM-2.5

**24-hour PM-2.5 levels in New Mexico have historically been better than the standard. In the 2000 – 2002 time period, approximately 1.1 million people (58.0%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 -2011 this was approximately 1.3 million people (63.4%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure NM-2 shows the distribution of people by year.**

## Annual PM-2.5

**Annual PM-2.5 levels in New Mexico have historically been better than the standard. In the 2000 – 2002 time period, approximately 1.1 million people (58.0%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this had increased to approximately 1.3 million people (63.4%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure NM-3 shows the distribution of people by year.**

Table NM-1
2009 – 2011

| | | OZONE | | PARTICLE POLLUTION (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg.24-Hr DV | Grade | Avg. Ann DV | Grade |
| Bernalillo | 670,968 | 0.067 | B | 16 | A | 5.7 | A |
| Chaves | 65,890 | ND | --- | 14 | A | 6.4 | A |
| Dona Ana | 213,598 | 0.066 | B | 22 | A | 8.3 | A |
| Eddy | 54,152 | 0.069 | C | ND | --- | ND | --- |
| Grant | 29,380 | 0.065 | B | 11 | A | 4.9 | A |
| Lea | 65,423 | 0.061 | B | 15 | A | 5.7 | A |
| Luna | 25,281 | 0.059 | A | ND | --- | ND | --- |
| Sandoval | 134,259 | 0.063 | B | ND | --- | ND | --- |
| San Juan | 128,200 | ND | --- | 13 | A | 4.5 | A |
| Santa Fe | 145,648 | 0.062 | B | 9 | A | 4.1 | A |
| | | | | | | | |
| Subtotal | 1,686,939 | | | | | | |
| Not Monitored | 549,425 | | | | | | |
| Total | 2,082,224 | | | | | | |

DV – Design Value ND - No Data

# NEW MEXICO

Table NM-2

People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25,119 | 89,822 | 25,281 |
| B | 0 | 0 | 0 | 0 | 0 | 0 | 155,289 | 406,270 | 1,266,864 | 1,259,276 |
| C | 1,090,092 | 989,997 | 1,011,150 | 1,036,764 | 1,102,161 | 1,196,016 | 1,089,942 | 860,680 | 53,829 | 54,152 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 1,090,092 | 989,997 | 1,011,150 | 1,036,764 | 1,102,161 | 1,196,016 | 1,245,231 | 1,292,069 | 1,410,515 | 1,338,709 |
| NM | 765,217 | 887,577 | 892,658 | 895,510 | 859,976 | 794,054 | 765,431 | 744,733 | 648,664 | 743,515 |
| Total | 1,855,309 | 1,877,574 | 1,903,808 | 1,932,274 | 1,962,137 | 1,990,070 | 2,010,662 | 2,036,802 | 2,059,179 | 2,082,224 |

People Breathing Short-term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 897,283 | 1,151,033 | 1,295,528 | 1,265,827 | 1,292,367 | 1,378,077 | 1,398,747 | 1,292,328 | 1,305,897 | 1,319,107 |
| B | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C | 178,464 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 1,075,747 | 1,151,033 | 1,295,528 | 1,265,827 | 1,292,367 | 1,378,077 | 1,398,747 | 1,292,328 | 1,305,897 | 1,319,107 |
| NM | 779,562 | 726,541 | 608,280 | 666,447 | 669,770 | 611,993 | 611,915 | 744,474 | 753,282 | 763,117 |
| Total | 1,855,309 | 1,877,574 | 1,903,808 | 1,932,274 | 1,962,137 | 1,990,070 | 2,010,662 | 2,036,802 | 2,059,179 | 2,082,224 |

People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 1,075,747 | 1,151,033 | 1,295,528 | 1,265,827 | 1,292,367 | 1,378,077 | 1,398,747 | 1,292,328 | 1,305,897 | 1,319,107 |
| B | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 1,075,747 | 1,151,033 | 1,295,528 | 1,265,827 | 1,292,367 | 1,378,077 | 1,398,747 | 1,292,328 | 1,305,897 | 1,319,107 |
| NM | 779,562 | 726,541 | 608,280 | 666,447 | 669,770 | 611,993 | 611,915 | 744,474 | 753,282 | 763,117 |
| Total | 1,855,309 | 1,877,574 | 1,903,808 | 1,932,274 | 1,962,137 | 1,990,070 | 2,010,662 | 2,036,802 | 2,059,179 | 2,082,224 |

NM – Not Monitored

Figure NM-1

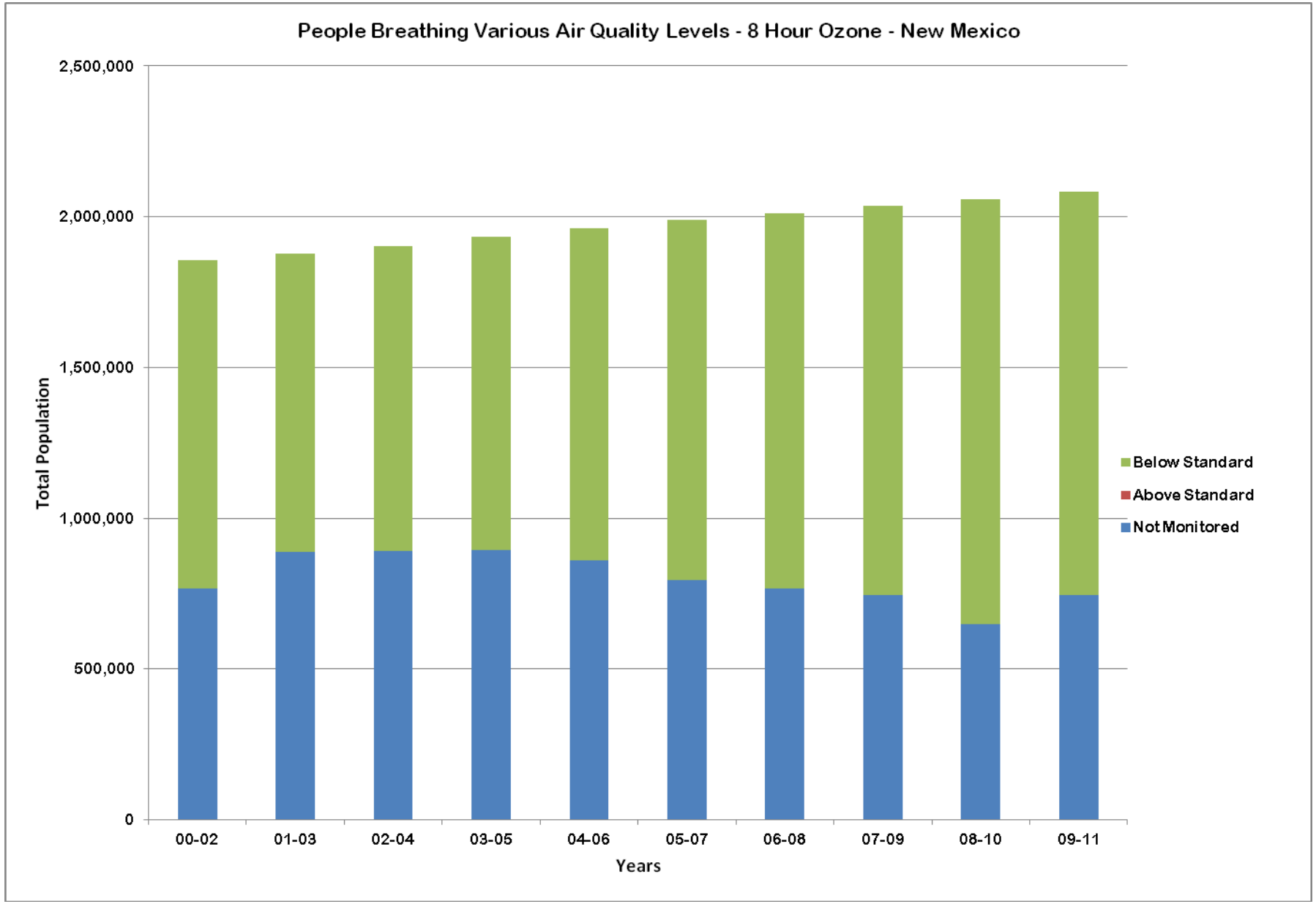

People Breathing Various Air Quality Levels - 8 Hour Ozone - New Mexico
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure NM-2

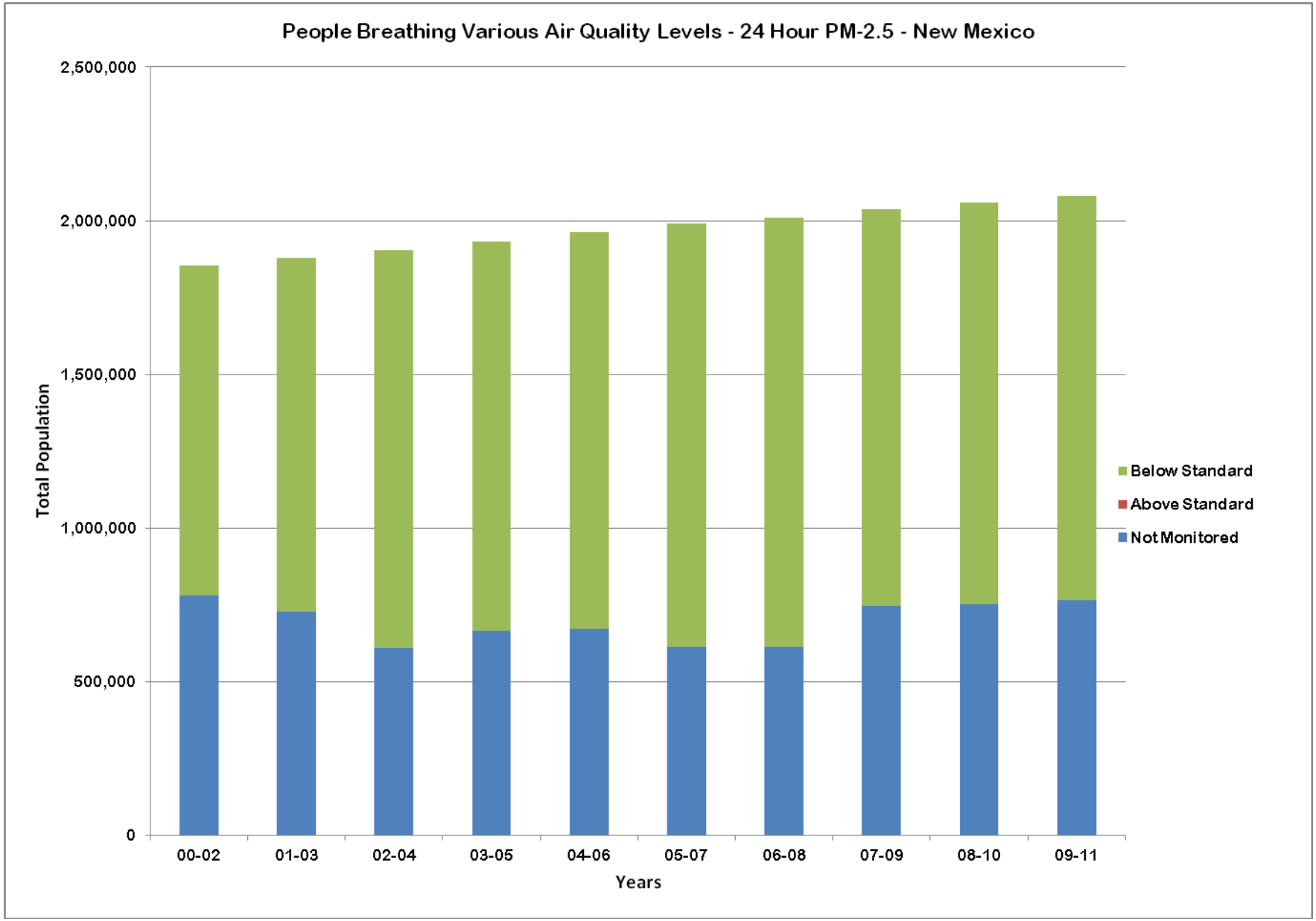
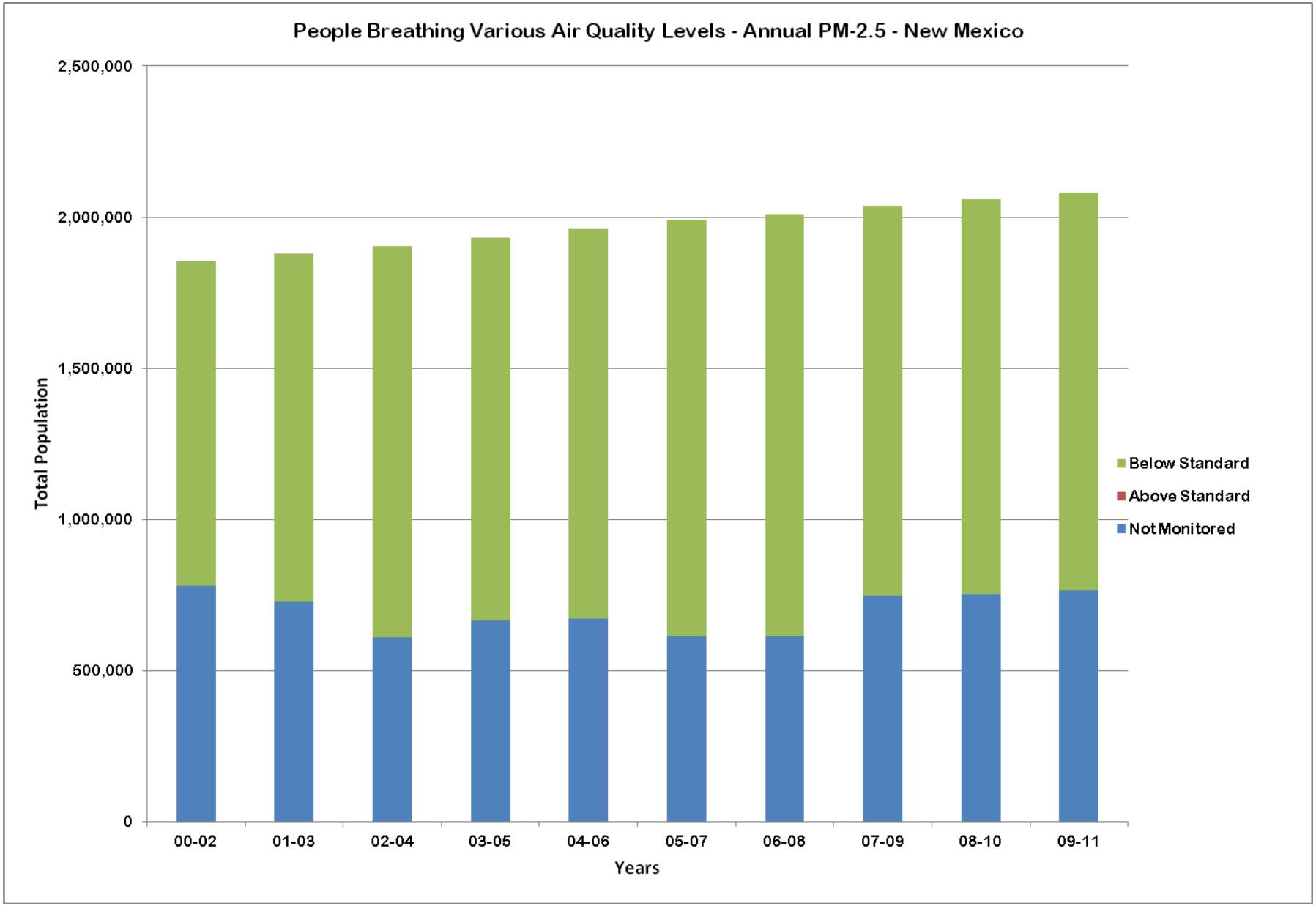

People Breathing Various Air Quality Levels - 24 Hour PM-2.5 - New Mexico
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure NM-3


People Breathing Various Air Quality Levels - Annual PM-2.5 - New Mexico
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# NEW YORK

## Ozone

**Significant progress has been made in ozone levels in New York. In the 2000 – 2002 time period, 2.3 million people (12.0%) lived in counties that met the ozone standard. By 2009 – 2011 this had increased to approximately 8.7 million people (42.7%). Figure NY-1 shows the distribution of people by year.**

## 24-Hour PM-2.5

**Significant progress has been made in 24-hour PM-2.5 levels in New York. In the 2000 – 2002 time period, approximately 9.7 million people (50.9%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 -2011 this was approximately 15.3 million people (78.8%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure NY-2 shows the distribution of people by year.**

## Annual PM-2.5

**Progress has been made in annual PM-2.5 levels in New York. In the 2000 – 2002 time period, approximately 14.5 million people (75.8%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this had increased to approximately 15.3 million people (78.8%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure NY-3 shows the distribution of people by year.**

# NEW YORK

Table NY-1

2009 – 2011

| | | OZONE | | PARTICLE POLLUTION (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg. 24-Hr DV | Grade | Avg. Ann DV | Grade |
| Albany | 303,565 | 0.067 | B | 23 | A | 7.9 | A |
| Bronx | 1,392,002 | 0.072 | C | 27 | A | 11.0 | A |
| Chautauqua | 134,368 | 0.072 | C | 20 | A | 7.3 | A |
| Chemung | 88,840 | 0.066 | B | ND | --- | ND | --- |
| Dutchess | 297,999 | 0.072 | C | ND | --- | ND | --- |
| Erie | 918,028 | 0.069 | C | 25 | A | 9.7 | A |
| Essex | 39,181 | 0.068 | C | 14 | A | 4.4 | A |
| Franklin | 51,551 | 0.045 | A | ND | --- | ND | --- |
| Hamilton | 4,793 | 0.067 | B | ND | --- | ND | --- |
| Herkimer | 64,160 | 0.063 | B | ND | --- | ND | --- |
| Jefferson | 117,910 | 0.071 | C | ND | --- | ND | --- |
| Kings | 2,532,645 | ND | --- | 25 | A | 10.3 | A |
| Madison | 73,365 | 0.067 | C | ND | --- | ND | --- |
| Monroe | 745,625 | ND | --- | 23 | A | 8.3 | A |
| Nassau | 1,344,436 | ND | --- | 23 | A | 8.9 | A |
| New York | 1,601,948 | 0.073 | C | 27 | A | 11.3 | A |
| Niagara | 216,011 | 0.069 | C | 22 | A | 8.3 | A |
| Oneida | 234,287 | 0.059 | A | ND | --- | ND | --- |
| Onondaga | 466,960 | 0.068 | C | 22 | A | 7.7 | A |
| Orange | 374,872 | 0.069 | C | 23 | A | 8.2 | A |
| Oswego | 122,228 | 0.068 | C | ND | --- | ND | --- |
| Putnam | 99,933 | 0.072 | C | ND | --- | ND | --- |
| **Queens** | **2,247,848** | **0.076** | **D** | 26 | A | 9.4 | A |
| Rensselaer | 159,395 | 0.067 | B | ND | --- | ND | --- |
| Richmond | **470,467** | **0.083** | **F** | 24 | A | 9.2 | A |
| Saratoga | 220,882 | 0.068 | C | ND | --- | ND | --- |
| Steuben | 99,033 | 0.066 | B | 20 | A | 7.0 | A |
| **Suffolk** | **1,498,816** | **0.079** | **D** | 23 | A | 8.4 | A |
| Ulster | 182,448 | 0.069 | C | ND | --- | ND | --- |
| Wayne | 93,436 | 0.063 | B | ND | --- | ND | --- |
| Westchester | 955,899 | 0.075 | C | 26 | A | 9.1 | A |
| | | | | | | | |
| Subtotal | 17,264,621 | | | | | | |
| Not Monitored | 2,200,576 | | | | | | |
| Total | 19,465,197 | | | | | | |

DV – Design Value ND - No Data

# NEW YORK

## Table NY-2

### People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 136,139 | 0 | 0 | 0 | 0 | 51,599 | 285,838 |
| B | 0 | 0 | 0 | 0 | 480,585 | 0 | 439,749 | 393,527 | 398,387 | 886,587 |
| C | 2,288,478 | 2,214,608 | 64,332 | 1,168,835 | 3,528,064 | 2,715,972 | 3,469,325 | 6,879,228 | 10,012,546 | 7,140,669 |
| D | 1,906,122 | 398,094 | 5,075,260 | 4,838,435 | 3,569,696 | 4,931,127 | 5,356,955 | 3,529,021 | 2,911,193 | 3,746,664 |
| F | 7,013,513 | 8,623,300 | 5,506,640 | 4,603,416 | 3,889,550 | 3,889,652 | 2,417,667 | 944,201 | 0 | 470,467 |
| Subtotal | 11,208,113 | 11,236,002 | 10,646,232 | 10,746,825 | 11,467,895 | 11,536,751 | 11,683,696 | 11,745,977 | 13,373,725 | 12,530,225 |
| NM | 7,929,687 | 7,939,937 | 8,525,335 | 8,385,785 | 7,636,736 | 7,595,584 | 7,528,740 | 7,561,089 | 6,004,377 | 6,934,972 |
| Total | 19,137,800 | 19,175,939 | 19,171,567 | 19,132,610 | 19,104,631 | 19,132,335 | 19,212,436 | 19,307,066 | 19,378,102 | 19,465,197 |

### People Breathing Short-Term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 39,195 | 39,334 | 39,295 | 150,927 | 151,046 | 249,500 | 1,805,357 | 5,194,263 | 11,334,195 | 15,344,704 |
| B | 1,351,271 | 569,247 | 2,727,672 | 1,060,439 | 1,701,802 | 1,704,481 | 2,919,640 | 6,735,417 | 3,920,094 | 0 |
| C | 8,347,481 | 5,760,639 | 2,870,518 | 6,905,265 | 7,809,105 | 6,333,991 | 6,055,134 | 2,959,692 | 0 | 0 |
| D | 4,979,492 | 4,687,607 | 5,898,116 | 3,377,554 | 5,362,467 | 5,376,782 | 2,950,510 | 0 | 0 | 0 |
| F | 1,358,739 | 3,866,373 | 2,928,910 | 2,925,309 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 16,076,178 | 14,923,200 | 14,464,511 | 14,419,494 | 15,024,420 | 13,664,754 | 13,730,641 | 14,889,372 | 15,254,289 | 15,344,704 |
| NM | 3,061,622 | 4,252,739 | 4,707,056 | 4,713,116 | 4,080,211 | 5,467,581 | 5,481,795 | 4,417,694 | 4,123,813 | 4,120,493 |
| Total | 19,137,800 | 19,175,939 | 19,171,567 | 19,132,610 | 19,104,631 | 19,132,335 | 19,212,436 | 19,307,066 | 19,378,102 | 19,465,197 |

### People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 3,110,964 | 4,163,408 | 5,180,639 | 3,925,245 | 8,278,812 | 6,906,443 | 8,319,770 | 9,441,929 | 15,254,289 | 15,344,704 |
| B | 4,402,476 | 4,420,420 | 3,895,868 | 5,123,131 | 1,383,141 | 1,381,529 | 3,823,849 | 5,447,443 | 0 | 0 |
| C | 7,007,356 | 4,777,518 | 3,818,057 | 2,445,809 | 5,362,467 | 5,376,782 | 1,587,022 | 0 | 0 | 0 |
| D | 1,555,382 | 1,562,154 | 1,569,947 | 2,925,309 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 16,076,178 | 14,923,500 | 14,464,511 | 14,419,494 | 15,024,420 | 13,664,754 | 13,730,641 | 14,889,372 | 15,754,289 | 15,344,704 |
| NM | 3,061,622 | 4,252,739 | 4,707,056 | 4,713,116 | 4,080,211 | 5,467,581 | 5,481,795 | 4,417,694 | 4,123,813 | 4,120,493 |
| Total | 19,137,800 | 19,175,939 | 19,171,567 | 19,132,610 | 19,104,631 | 19,132,335 | 19,212,436 | 19,307,066 | 19,378,102 | 19,465,197 |

NM – Not Monitored

Figure NY-1

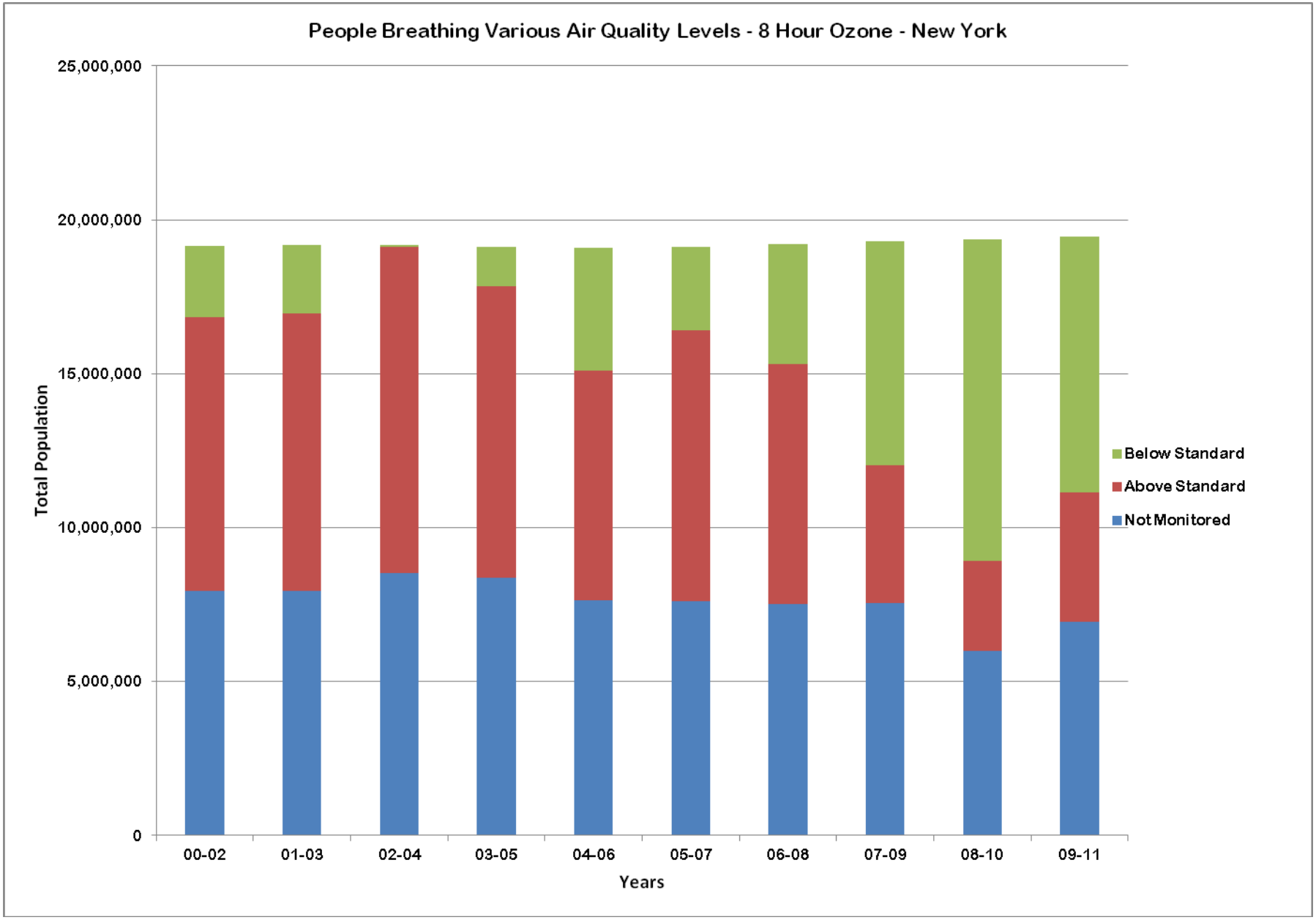

People Breathing Various Air Quality Levels - 8 Hour Ozone - New York
25,000,000
20,000,000
15,000,000
10,000,000
5,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure NY-2

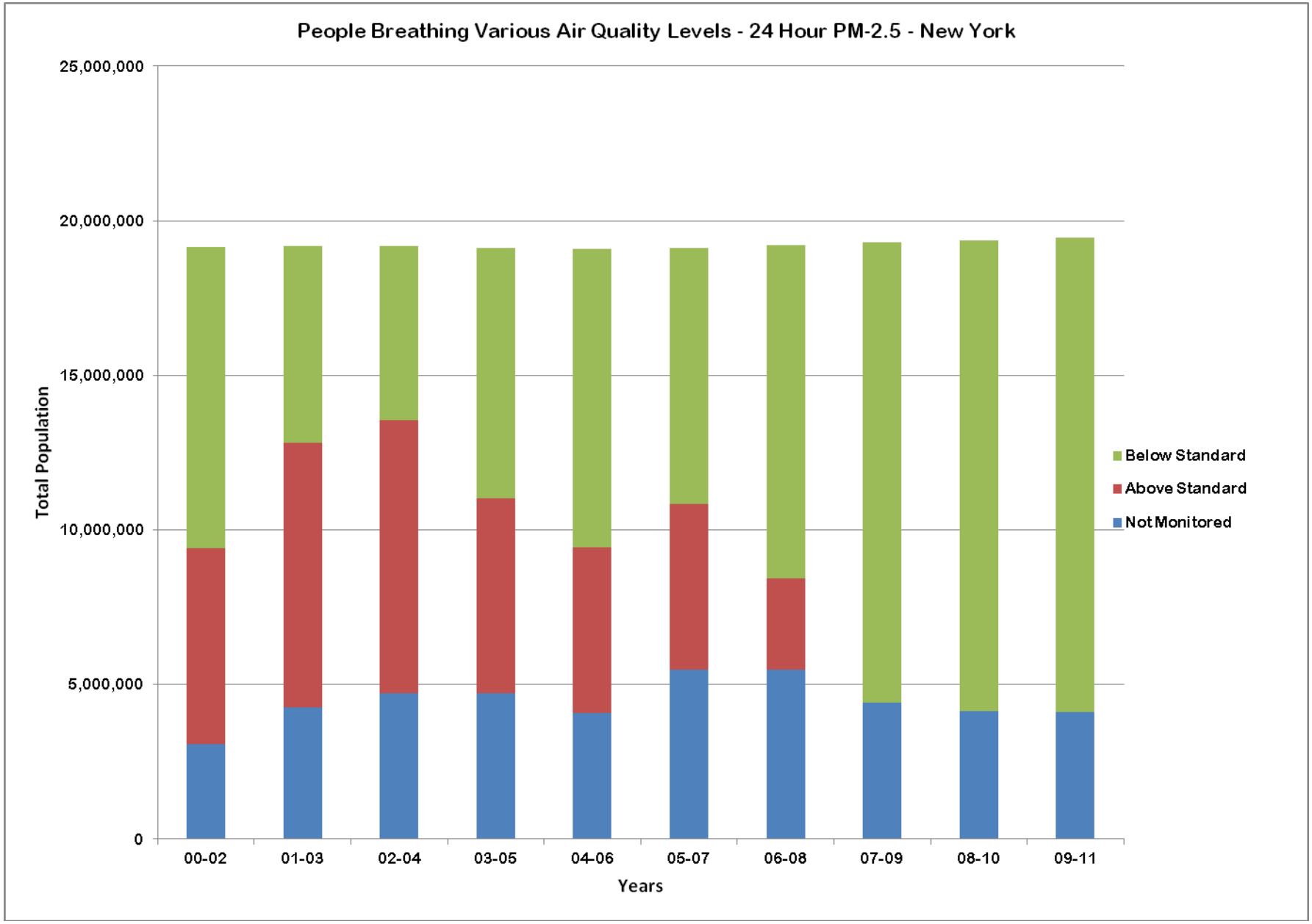
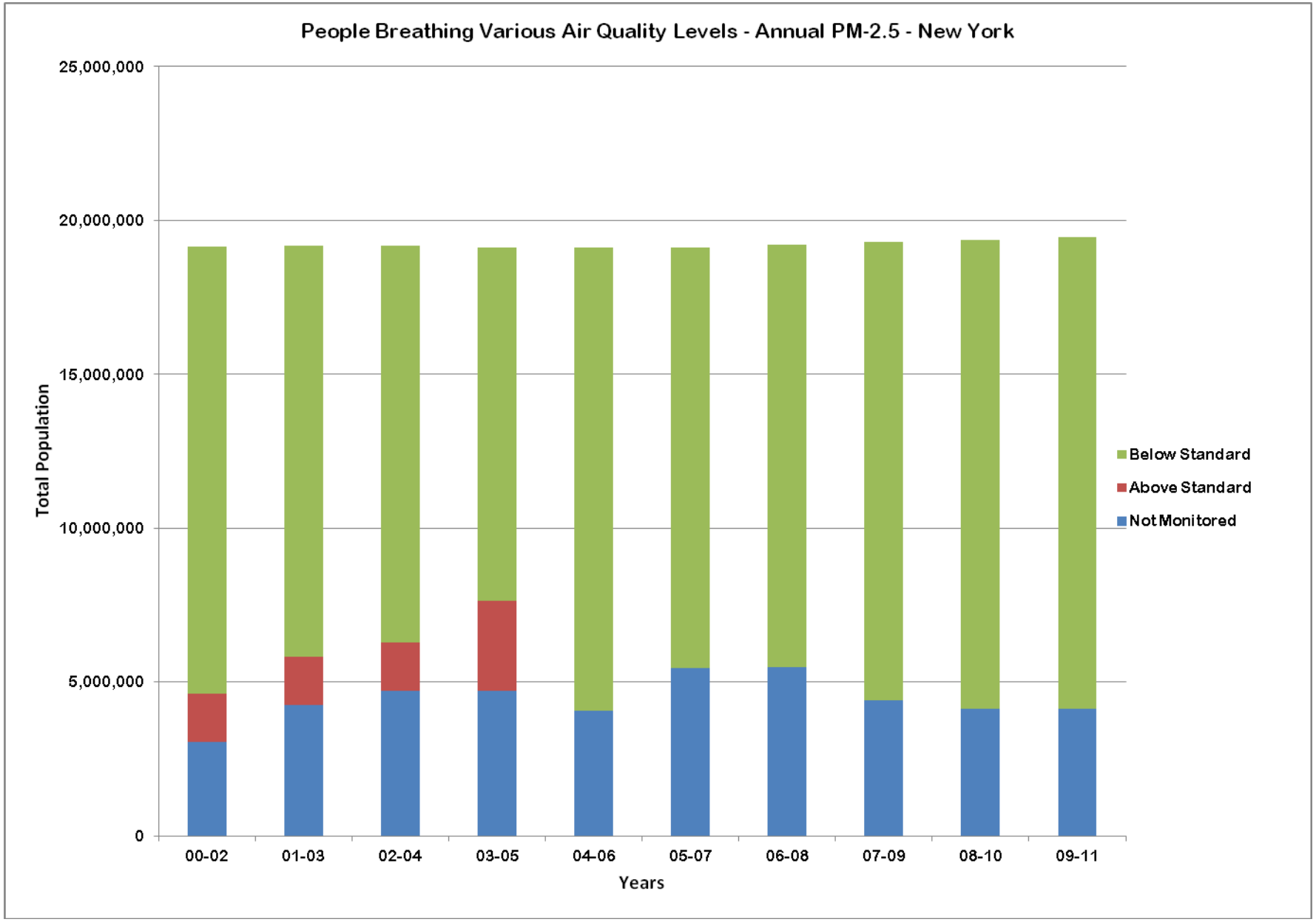

People Breathing Various Air Quality Levels - 24 Hour PM-2.5 - New York
25,000,000
20,000,000
15,000,000
10,000,000
5,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure NY-3


People Breathing Various Air Quality Levels - Annual PM-2.5 - New York
25,000,000
20,000,000
15,000,000
10,000,000
5,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# NORTH CAROLINA

## Ozone

**Significant progress has been made in ozone levels in North Carolina. In the 2000 – 2002 time period, 13 thousand people (0.2%) lived in counties that met the ozone standard. By 2009 – 2011 this had increased to approximately 4.3 million people (44.0%). Figure NC-1 shows the distribution of people by year.**

## 24-Hour PM-2.5

**Progress has been made in 24-hour PM-2.5 levels in North Carolina. In the 2000 – 2002 time period, approximately 4.3 million people (51.5%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 -2011 this was approximately 5.3 million people (55.4%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure NC-2 shows the distribution of people by year.**

## Annual PM-2.5

**Progress has been made in annual PM-2.5 levels in North Carolina. In the 2000 – 2002 time period, approximately 3.4 million people (40.4%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this had increased to approximately 5.3 million people (55.4%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure NC-3 shows the distribution of people by year.**

# NORTH CAROLINA

Table NC-1

2009 – 2011

| | | OZONE | | PARTICLE POLLUTION (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg. 24-Hr DV | Grade | Avg. Ann DV | Grade |
| Alamance | 153,291 | ND | --- | 20 | A | 10.1 | A |
| Alexander | 37,087 | 0.067 | B | ND | --- | ND | --- |
| Avery | 17,572 | 0.065 | B | ND | --- | ND | --- |
| Buncombe | 241,419 | 0.067 | B | 19 | A | 9.3 | A |
| Caldwell | 82,395 | 0.067 | B | ND | --- | ND | --- |
| Caswell | 23,403 | 0.070 | C | 18 | A | 8.9 | A |
| Catawba | 154,181 | ND | --- | 22 | A | 10.6 | A |
| Chatham | 64,195 | 0.067 | B | 19 | A | 8.5 | A |
| Cumberland | 324,885 | 0.071 | C | 22 | A | 10.2 | A |
| Davidson | 162,697 | ND | --- | 22 | A | 11.1 | A |
| Davie | 41,552 | 0.071 | C | ND | --- | ND | --- |
| Duplin | 59,542 | ND | --- | 19.0 | A | 8.9 | A |
| Durham | 273,392 | 0.070 | C | 20 | A | 9.7 | A |
| Edgecombe | 56,041 | 0.070 | C | 20 | A | 9.1 | A |
| Forsyth | 354,952 | 0.073 | C | 21 | A | 10.0 | A |
| Franklin | 61,140 | 0.069 | C | ND | --- | ND | --- |
| Gaston | 207,031 | ND | --- | 23 | A | 10.5 | A |
| Graham | 8,802 | 0.072 | C | ND | --- | ND | --- |
| Granville | 59,976 | 0.071 | C | ND | --- | ND | --- |
| Guilford | 495,279 | 0.075 | C | 21 | A | 9.7 | A |
| Haywood | 58,855 | 0.068 | C | 23 | A | 10.0 | A |
| Jackson | 40,285 | 0.068 | C | 19 | A | 9.4 | A |
| Johnston | 172,595 | 0.071 | C | ND | --- | ND | --- |
| Lenoir | 59,339 | 0.067 | B | 22 | A | 9.3 | A |
| Lincoln | 78,932 | 0.071 | C | ND | --- | ND | --- |
| McDowell | 45,104 | ND | --- | 19 | A | 9.8 | A |
| Martin | 24,180 | 0.067 | B | 23 | A | 8.7 | A |
| **Mecklenburg** | **944,373** | **0.078** | **D** | 23 | A | 10.8 | A |
| Mitchell | 15,445 | ND | --- | 18 | A | 9.3 | A |
| Montgomery | 27,667 | ND | --- | 20 | A | 9.3 | A |
| New Hanover | 206,189 | 0.062 | B | ND | --- | ND | --- |
| Person | 39,637 | 0.070 | C | ND | --- | ND | --- |
| Pitt | 171,134 | 0.070 | C | 21 | A | 8.7 | A |
| Robeson | 135,517 | ND | --- | 22 | A | 10.0 | A |
| Rockingham | 93,329 | 0.071 | C | ND | --- | ND | --- |
| **Rowan** | **138,019** | **0.076** | **D** | 20 | A | 10.5 | A |
| Swain | 14,043 | 0.062 | B | 21 | A | 10.1 | A |
| Union | 205,463 | 0.070 | C | ND | --- | ND | --- |
| Wake | 929,780 | 0.072 | C | 21 | A | 9.6 | A |
| Watauga | 51,333 | ND | --- | 18 | A | 8.3 | A |
| Wayne | 123,697 | ND | --- | 20 | A | 9.9 | A |
| Yancey | 17,701 | 0.070 | C | ND | --- | ND | --- |
| | | | | | | | |
| Subtotal | 6,471,449 | | | | | | |
| Not Monitored | 3,184,952 | | | | | | |
| Total | 9,656,401 | | | | | | |

DV – Design Value ND - No Data

# NORTH CAROLINA

## Table NC-2

### People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| B | 0 | 0 | 0 | 0 | 13,693 | 13,819 | 13,872 | 232,036 | 234,445 | 746,419 |
| C | 13,120 | 13,199 | 191,602 | 575,725 | 946,706 | 527,499 | 880,111 | 1,832,774 | 3,422,182 | 3,507,133 |
| D | 321,483 | 595,857 | 881,332 | 1,909,670 | 2,354,802 | 3,249,577 | 2,945,187 | 2,770,332 | 1,546,462 | 1,082,392 |
| F | 4,164,280 | 4,094,433 | 3,641,465 | 1,677,276 | 965,552 | 1,112,202 | 1,025,712 | 138,562 | 0 | 0 |
| Subtotal | 4,498,883 | 4,703,489 | 4,714,399 | 4,162,671 | 4,280,753 | 4,903,097 | 4,864,882 | 4,973,704 | 5,203,089 | 5,335,944 |
| NM | 3,827,318 | 3,719,012 | 3,838,753 | 4,542,736 | 4,636,517 | 4,214,940 | 4,444,567 | 4,475,862 | 4,332,394 | 4,320,457 |
| Total | 8,326,201 | 8,422,501 | 8,553,152 | 8,705,407 | 8,917,270 | 9,118,037 | 9,309,449 | 9,449,566 | 9,535,483 | 9,656,401 |

### People Breathing Short-term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 431,958 | 414,394 | 744,247 | 728,099 | 730,843 | 1,574,513 | 3,037,689 | 4,780,069 | 5,261,874 | 5,349,079 |
| B | 2,521,314 | 2,201,102 | 2,943,339 | 3,331,014 | 3,806,518 | 3,267,867 | 1,956,160 | 0 | 0 | 0 |
| C | 1,333,043 | 1,741,938 | 1,300,165 | 861,586 | 667,990 | 650,212 | 0 | 0 | 0 | 0 |
| D | 465,511 | 0 | 0 | 148,629 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 4,751,826 | 4,357,434 | 5,037,751 | 5,069,328 | 5,205,351 | 5,492,592 | 4,993,849 | 4,780,069 | 5,261,874 | 5,349,079 |
| NM | 3,574,375 | 4,065,067 | 3,515,401 | 3,636,079 | 3,711,919 | 3,625,445 | 4,315,600 | 4,669,497 | 4,273,609 | 4,307,322 |
| Total | 8,326,201 | 8,422,501 | 8,553,152 | 8,705,407 | 8,917,270 | 9,118,037 | 9,309,449 | 9,449,566 | 9,535,483 | 9,656,401 |

### People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 356,825 | 297,176 | 587,288 | 660,231 | 666,565 | 747,257 | 787,419 | 3,209,903 | 5,098,996 | 5,349,079 |
| B | 351,106 | 827,868 | 1,550,636 | 1,611,112 | 1,672,710 | 2,314,119 | 3,753,341 | 1,570,166 | 162,878 | 0 |
| C | 2,653,708 | 2,933,980 | 2,598,632 | 2,493,931 | 2,708,867 | 2,278,768 | 453,089 | 0 | 0 | 0 |
| D | 1,390,187 | 298,410 | 301,195 | 304,054 | 157,209 | 152,448 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 4,751,826 | 4,357,434 | 5,037,751 | 5,069,328 | 5,205,351 | 5,492,592 | 4,993,849 | 4,780,069 | 5,261,874 | 5,349,079 |
| NM | 3,574,375 | 4,065,067 | 3,515,401 | 3,636,079 | 3,711,919 | 3,625,445 | 4,315,600 | 4,669,497 | 4,273,609 | 4,307,322 |
| Total | 8,326,201 | 8,422,501 | 8,553,152 | 8,705,407 | 8,917,270 | 9,118,037 | 9,309,449 | 9,449,566 | 9,535,483 | 9,656,401 |

NM – Not Monitored

Figure NC-1

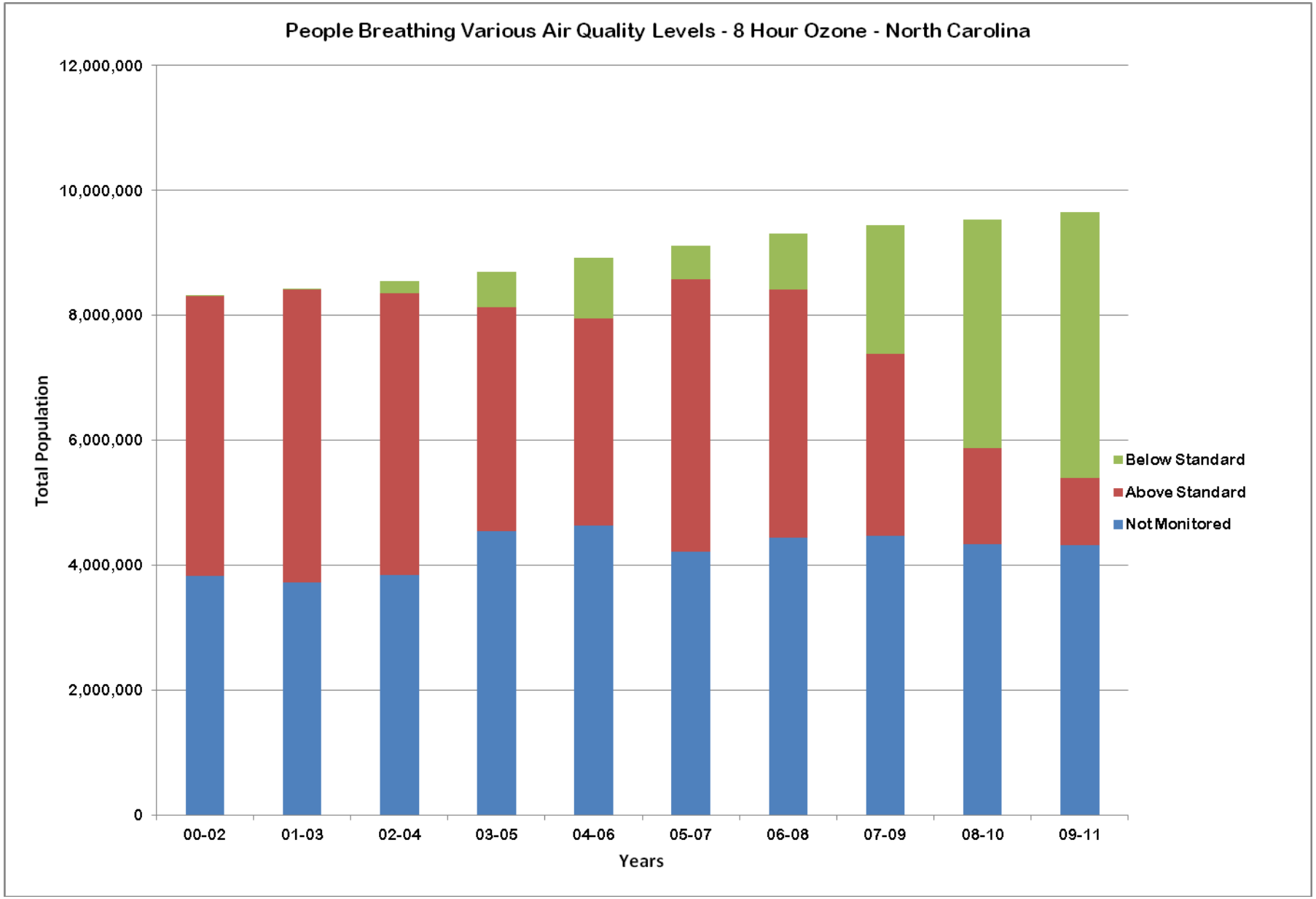

People Breathing Various Air Quality Levels - 8 Hour Ozone - North Carolina
12,000,000
10,000,000
8,000,000
6,000,000
4,000,000
2,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure NC-2

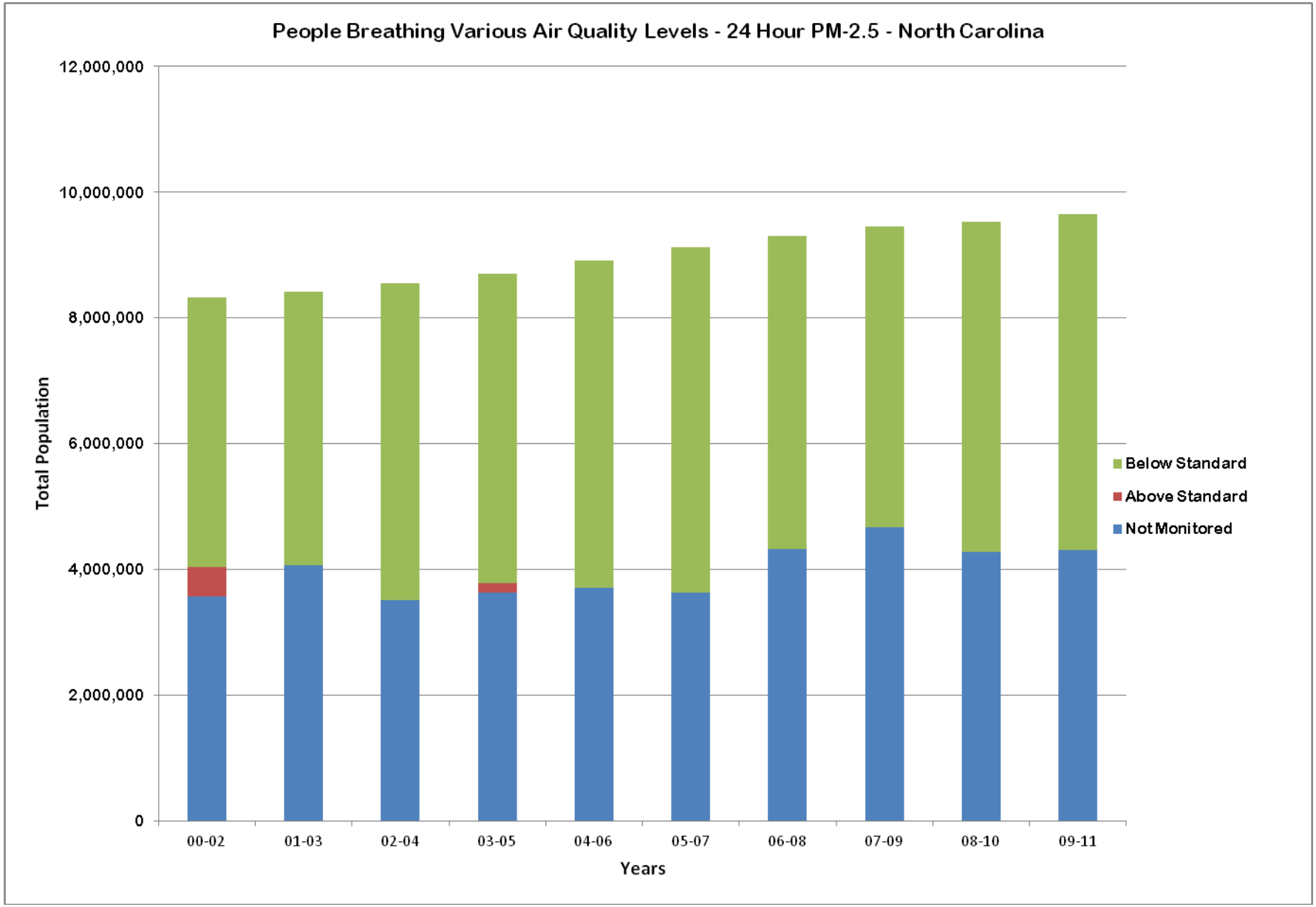
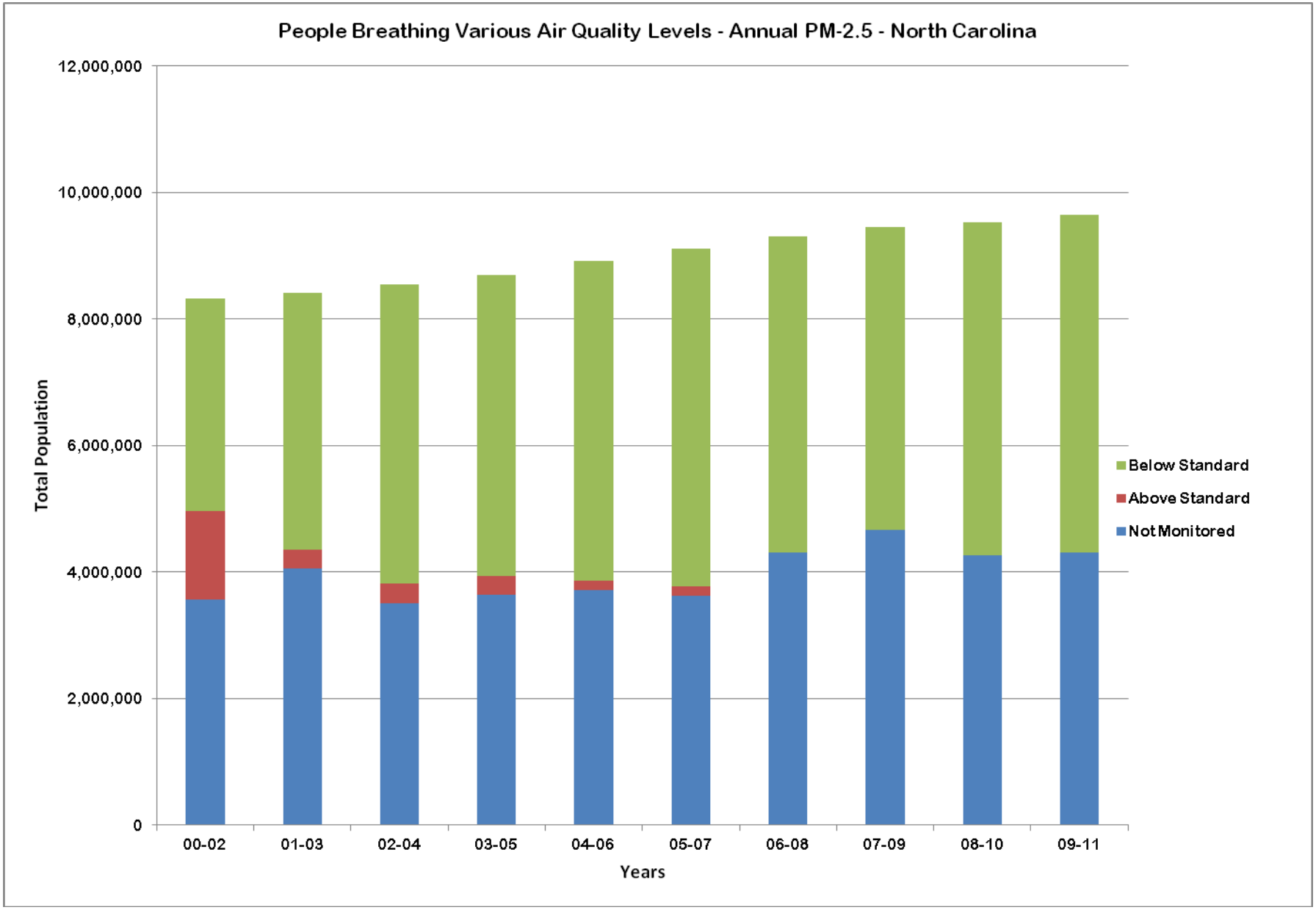

People Breathing Various Air Quality Levels - 24 Hour PM-2.5 - North Carolina
12,000,000
10,000,000
8,000,000
6,000,000
4,000,000
2,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure NC-3


People Breathing Various Air Quality Levels - Annual PM-2.5 - North Carolina
12,000,000
10,000,000
8,000,000
6,000,000
4,000,000
2,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# NORTH DAKOTA

## Ozone

**Ozone levels in North Dakota have historically been better than the standard. In the 2000 – 2002 time period, 0.14 million people (21.4%) lived in counties that met the ozone standard. By 2009 – 2011 this had increased to approximately 0.26 million people (37.4%). The remainder of the population lived in counties where ozone was not measured. Figure ND-1 shows the distribution of people by year.**

## 24-Hour PM-2.5

**24-hour PM-2.5 levels in North Dakota have historically been better than the standard. In the 2000 – 2002 time period, approximately 0.21 million people (32.7%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 -2011 this was approximately 0.24 million people (35.8%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure ND-2 shows the distribution of people by year.**

## Annual PM-2.5

**Annual PM-2.5 levels in North Dakota have historically been better than the standard. In the 2000 – 2002 time period, approximately 0.21 million people (32.7%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this had decreased to approximately 0.24 million people (35.8%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure ND-3 shows the distribution of people by year.**

Table ND-1

2009 – 2011

| | | OZONE | | PARTICLE POLLUTION (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg. 24-Hr DV | Grade | Avg. Ann DV | Grade |
| Billings | 816 | 0.058 | A | 11 | A | 4.3 | A |
| Burke | 2,033 | 0.061 | B | ND | --- | ND | --- |
| Burleigh | 83,145 | 0.057 | A | 15 | A | 6.6 | A |
| Cass | 152,368 | 0.059 | A | 23 | A | 7.9 | A |
| McKenzie | 7,019 | 0.059 | A | ND | --- | ND | --- |
| Mercer | 8,449 | 0.058 | A | 13 | A | 5.7 | A |
| Oliver | 1,830 | 0.059 | A | ND | --- | ND | --- |
| | | | | | | | |
| Subtotal | 255,660 | | | | | | |
| Not Monitored | 428,272 | | | | | | |
| Total | 683,932 | | | | | | |

DV – Design Value ND - No Data

# NORTH DAKOTA

Table ND-2

People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 8,536 | 0 | 5,368 | 13,695 | 13,604 | 5,362 | 146,192 | 243,703 | 242,139 | 253,627 |
| B | 127,973 | 141,383 | 147,245 | 140,902 | 144,808 | 158,106 | 98,955 | 6,955 | 8,328 | 2,033 |
| C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 136,509 | 141,383 | 152,613 | 154,597 | 158,412 | 163,468 | 245,147 | 250,658 | 250,467 | 255,660 |
| NM | 501,659 | 497,434 | 492,092 | 491,492 | 491,010 | 489,354 | 412,422 | 414,310 | 422,124 | 428,272 |
| Total | 638,168 | 638,817 | 644,705 | 646,089 | 649,422 | 652,822 | 657,569 | 664,968 | 672,591 | 683,932 |

People Breathing Short-term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 208,882 | 212,772 | 222,955 | 226,458 | 229,057 | 227,902 | 232,031 | 237,180 | 240,293 | 244,778 |
| B | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 208,882 | 212,772 | 222,955 | 226,458 | 228,057 | 227,902 | 232,031 | 237,180 | 240,293 | 244,778 |
| NM | 429,286 | 426,045 | 421,750 | 419,631 | 420,365 | 424,920 | 425,538 | 427,788 | 432,298 | 439,154 |
| Total | 638,168 | 638,817 | 644,705 | 646,089 | 649,422 | 652,822 | 657,569 | 664,968 | 672,591 | 683,932 |

People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 208,882 | 212,772 | 222,955 | 226,458 | 229,057 | 227,902 | 232,031 | 237,180 | 240,293 | 244,778 |
| B | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 208,882 | 212,772 | 222,955 | 226,458 | 229,057 | 227,902 | 232,031 | 237,180 | 240,293 | 244,778 |
| NM | 429,286 | 426,045 | 421,750 | 419,631 | 420,365 | 424,920 | 425,538 | 427,788 | 432,298 | 439,154 |
| Total | 638,168 | 638,817 | 644,705 | 646,089 | 649,422 | 652,822 | 657,569 | 664,968 | 672,591 | 683,932 |

NM – Not Monitored

Figure ND-1

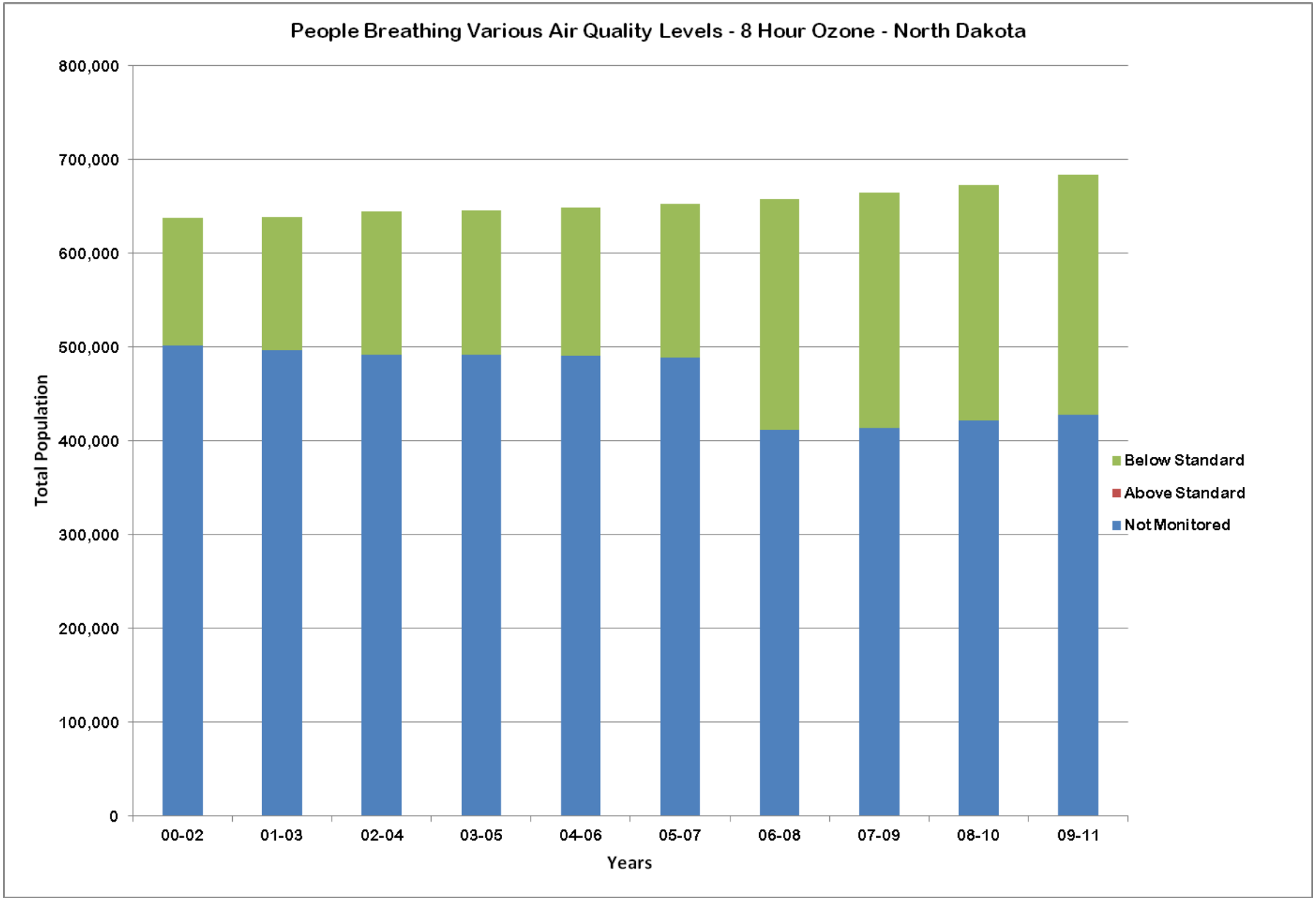

People Breathing Various Air Quality Levels - 8 Hour Ozone - North Dakota
800,000
700,000
600,000
500,000
400,000
300,000
200,000
100,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure ND-2

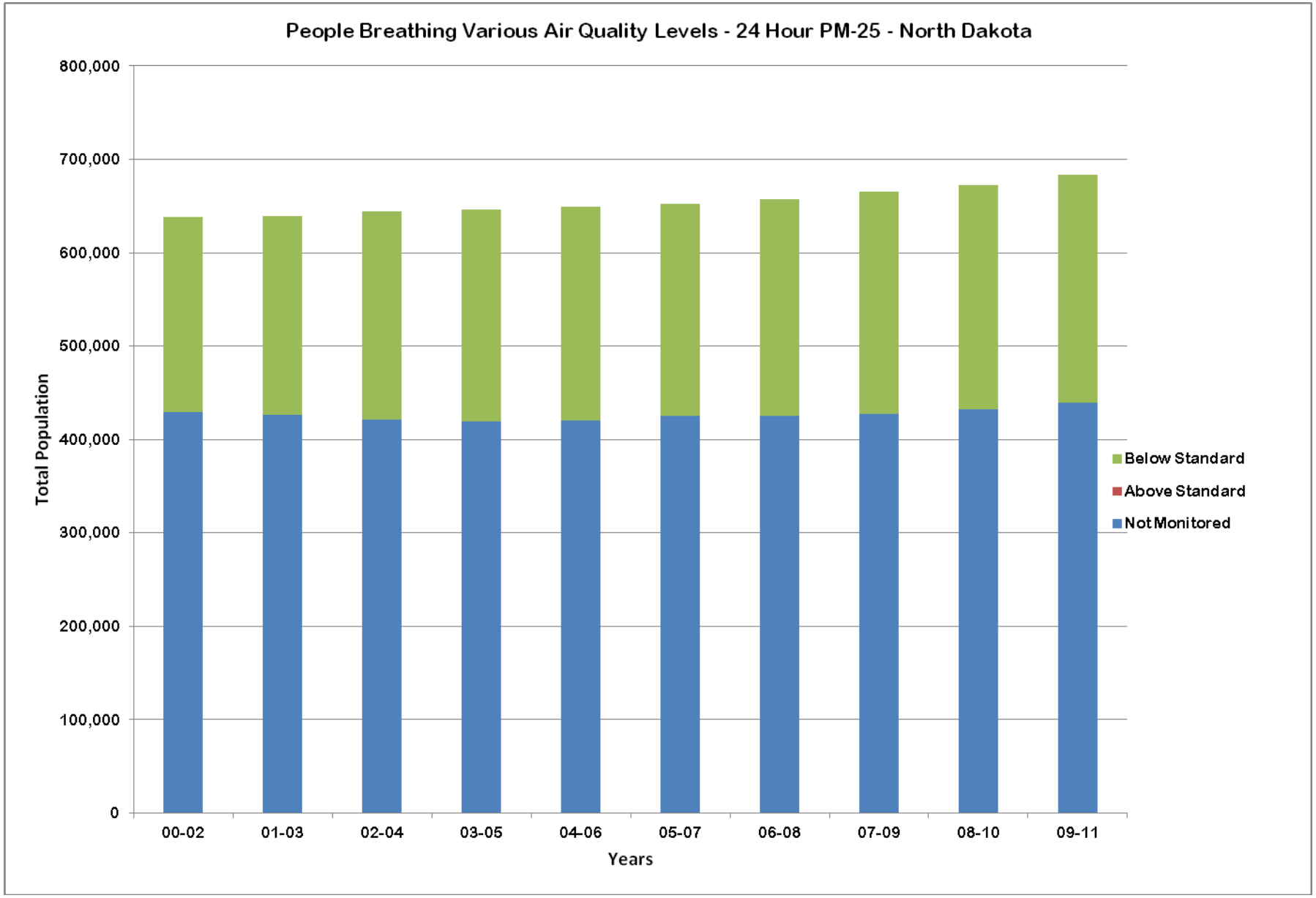
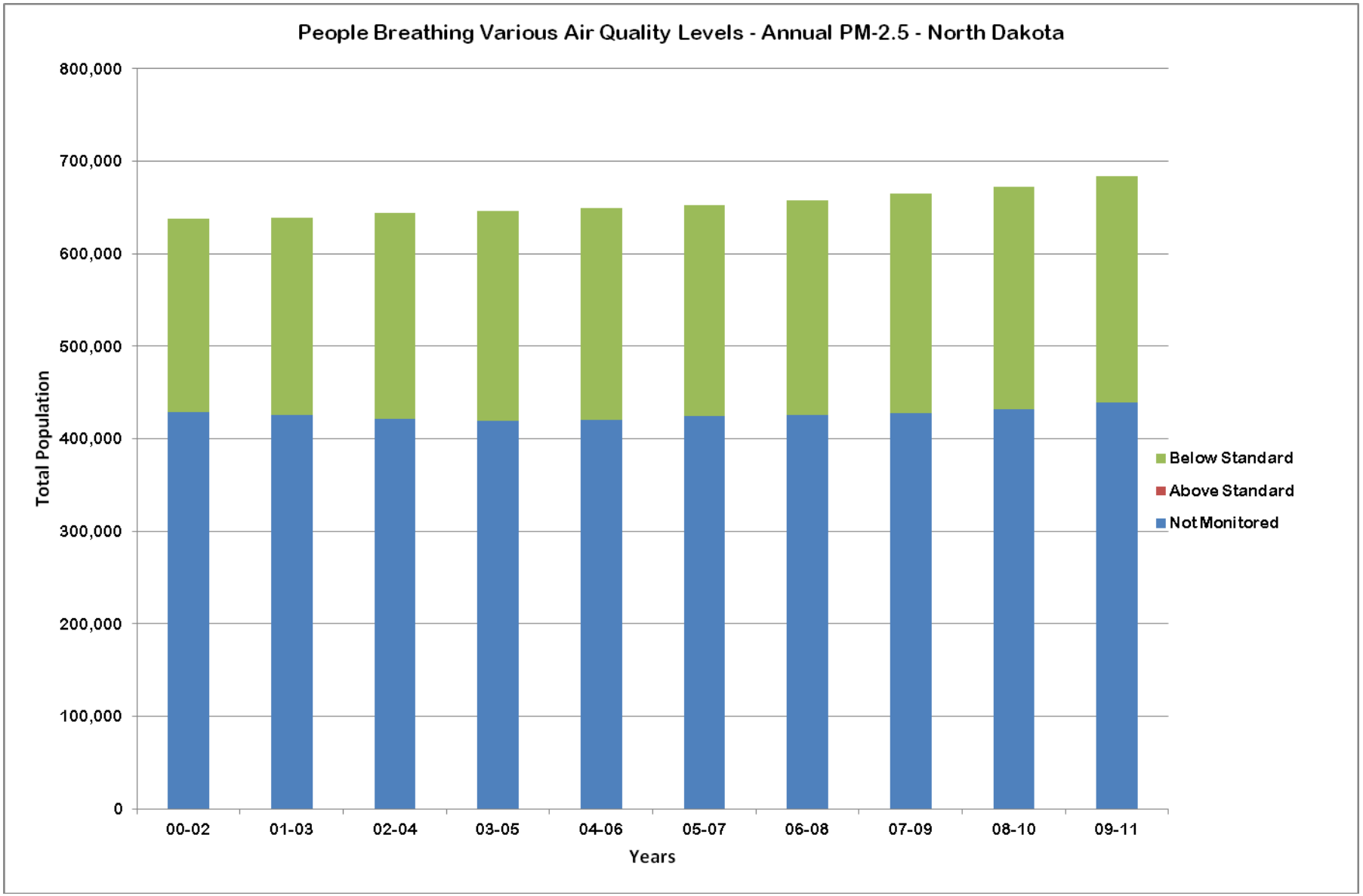

People Breathing Various Air Quality Levels - 24 Hour PM-25 - North Dakota
800,000
700,000
600,000
500,000
400,000
300,000
200,000
100,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure ND-3


People Breathing Various Air Quality Levels - Annual PM-2.5 - North Dakota
800,000
700,000
600,000
500,000
400,000
300,000
200,000
100,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# OHIO

## Ozone

**Significant progress has been made in ozone levels in Ohio. In the 2000 – 2002 time period, no people lived in counties that met the ozone standard. By 2009 – 2011 this had increased to approximately 6.0 million people (51.8%). Figure OH-1 shows the distribution of people by year.**

## 24-Hour PM-2.5

**Significant progress has been made in 24-hour PM-2.5 levels in Ohio. In the 2000 – 2002 time period, approximately 0.1 million people (0.9%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 -2011 this was approximately 7.6 million people (66.2%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure OH-2 shows the distribution of people by year.**

## Annual PM-2.5

**Significant progress has been made in annual PM-2.5 levels in Ohio. The remainder of the population lived in counties where PM-2.5 was not measured. In the 2000 – 2002 time period, approximately 0.6 million people (5.4%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this had increased to approximately 7.6 million people (66.2%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure OH-3 shows the distribution of people by year.**

# OHIO

Table OH-1
2009 – 2011

| | | OZONE | | PARTICLE POLLUTION (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg. 24-Hr DV | Grade | Avg. Ann DV | Grade |
| **Ashtabula** | **101,345** | **0.078** | **D** | ND | --- | ND | --- |
| Athens | 64,769 | 0.069 | C | 18 | A | 9.0 | A |
| **Butler** | **369,999** | **0.076** | **D** | 29 | B | 13.0 | B |
| Clark | 137,691 | 0.074 | C | 28 | B | 12.6 | B |
| Clermont | 199,139 | 0.075 | C | 27 | A | 11.3 | A |
| **Clinton** | **41,927** | **0.077** | **D** | ND | --- | ND | --- |
| Cuyahoga | 1,270,294 | 0.072 | C | 27 | A | 12.1 | B |
| Delaware | 178,341 | 0.072 | C | ND | --- | ND | --- |
| Franklin | 1,178,799 | 0.074 | C | 26 | A | 11.7 | A |
| Geauga | 93,228 | 0.074 | C | ND | --- | ND | --- |
| Greene | 162,846 | 0.072 | C | 26 | A | 12.0 | B |
| **Hamilton** | **800,362** | **0.077** | **D** | 28 | B | 13.1 | B |
| Jefferson | 68,828 | 0.068 | C | 26 | A | 12.1 | B |
| Knox | 61,275 | 0.073 | C | ND | --- | ND | --- |
| Lake | 229,885 | 0.074 | C | 23 | A | 10.1 | A |
| Lawrence | 62,489 | 0.064 | B | 23 | A | 11.4 | A |
| Licking | 167,248 | 0.074 | C | ND | --- | ND | --- |
| Lorain | 301,614 | 0.070 | C | 23 | A | 9.9 | A |
| Lucas | 440,005 | 0.068 | C | 27 | A | 11.1 | A |
| Madison | 43,401 | 0.073 | C | ND | --- | ND | --- |
| Mahoning | 237,270 | 0.070 | C | 28 | B | 11.7 | A |
| Medina | 173,262 | ND | -- | 25 | A | 10.7 | A |
| Miami | 102,857 | 0.072 | C | ND | --- | ND | --- |
| **Montgomery** | **537,602** | **0.077** | **D** | 29 | B | 12.9 | B |
| Portage | 161,624 | 0.068 | C | 26 | A | 10.9 | A |
| Preble | 42,083 | 0.071 | C | 25 | A | 11.3 | A |
| Scioto | 79,277 | ND | --- | 22 | A | 11.0 | A |
| Stark | 375,087 | 0.074 | C | 29 | B | 12.9 | B |
| Summit | 539,832 | 0.074 | C | 28 | B | 12.1 | B |
| Trumbull | 209,264 | 0.073 | C | 26 | A | 11.5 | A |
| **Warren** | **214,910** | **0.078** | **D** | ND | --- | ND | --- |
| Washington | 61,755 | 0.071 | C | ND | --- | ND | --- |
| Wood | 126,355 | 0.071 | C | ND | --- | ND | --- |
| | | | | | | | |
| Subtotal | 9,104,821 | | | | | | |
| Not Monitored | 2,710,288 | | | | | | |
| Total | 11,544,951 | | | | | | |

DV – Design Value ND - No Data

# OHIO

## Table OH-2

### People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| B | 0 | 0 | 0 | 62,476 | 62,798 | 0 | 0 | 0 | 0 | 62,489 |
| C | 0 | 0 | 62,169 | 1,373,196 | 2,196,346 | 301,181 | 2,488,138 | 6,321,421 | 6,226,638 | 5,913,658 |
| D | 1,414,080 | 104,837 | 1,461,101 | 2,356,230 | 5,943,870 | 6,140,349 | 5,961,931 | 2,348,985 | 1,975,147 | 2,066,145 |
| F | 6,990,468 | 8,423,491 | 7,007,302 | 4,932,762 | 531,173 | 2,305,879 | 310,466 | 0 | 0 | 0 |
| Subtotal | 8,404,548 | 8,528,328 | 8,530,572 | 8,724,664 | 8,734,187 | 8,747,409 | 8,760,535 | 8,670,406 | 8,201,785 | 8,042,292 |
| NM | 3,003,341 | 2,906,460 | 2,921,679 | 2,738,656 | 2,747,026 | 2,753,059 | 2,754,856 | 2,858,490 | 3,334,719 | 3,502,659 |
| Total | 11,407,889 | 11,434,788 | 11,452,251 | 11,463,320 | 11,481,213 | 11,500,468 | 11,515,391 | 11,528,896 | 11,536,504 | 11,544,951 |

### People Breathing Short-Term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 450,226 | 2,818,147 | 4,644,178 |
| B | 0 | 63,827 | 42,613 | 0 | 157,850 | 0 | 3,735,646 | 5,161,791 | 3,673,057 | 2,997,843 |
| C | 105,988 | 184,398 | 1,841,201 | 840,770 | 1,290,400 | 1,593,826 | 3,821,277 | 1,731,125 | 917,367 | 0 |
| D | 597,469 | 1,214,269 | 3,835,691 | 3,785,130 | 5,517,101 | 5,368,701 | 69,989 | 0 | 0 | 0 |
| F | 6,465,293 | 5,695,487 | 1,418,488 | 2,493,871 | 70,656 | 431,306 | 0 | 0 | 0 | 0 |
| Subtotal | 7,168,750 | 7,157,981 | 7,137,993 | 7,119,771 | 7,036,047 | 7,394,833 | 7,626,912 | 7,343,142 | 7,408,571 | 7,642,021 |
| NM | 4,239,139 | 4,276,807 | 4,314,258 | 4,343,549 | 4,445,166 | 4,105,635 | 3,888,479 | 4,185,754 | 4,127,933 | 3,902,930 |
| Total | 11,407,889 | 11,434,788 | 11,452,251 | 11,463,320 | 11,481,213 | 11,500,468 | 11,515,391 | 11,528,896 | 11,536,504 | 11,544,951 |

### People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 364,360 | 537,199 | 3,221,982 | 3,379,480 |
| B | 63,401 | 291,059 | 782,571 | 449,191 | 222,087 | 531,486 | 2,819,035 | 4,655,824 | 3,314,506 | 4,193,713 |
| C | 557,823 | 1,305,663 | 2,098,325 | 1,286,376 | 3,892,704 | 3,348,394 | 4,443,517 | 2,150,119 | 872,083 | 68,828 |
| D | 1,780,788 | 5,034,138 | 4,185,323 | 4,502,601 | 2,921,256 | 3,514,953 | 0 | 0 | 0 | 0 |
| F | 4,766,738 | 527,121 | 71,774 | 881,603 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 7,168,750 | 7,157,981 | 7,137,993 | 7,119,771 | 7,036,047 | 7,394,833 | 7,626,912 | 7,343,142 | 7,408,571 | 7,642,021 |
| NM | 4,239,139 | 4,276,807 | 4,314,258 | 4,343,549 | 4,445,166 | 4,105,635 | 3,888,479 | 4,185,754 | 4,127,933 | 3,902,930 |
| Total | 11,407,889 | 11,434,788 | 11,452,251 | 11,463,320 | 11,481,213 | 11,500,468 | 11,515,391 | 11,528,896 | 11,536,504 | 11,544,951 |

NM – Not Monitored

Figure OH-1

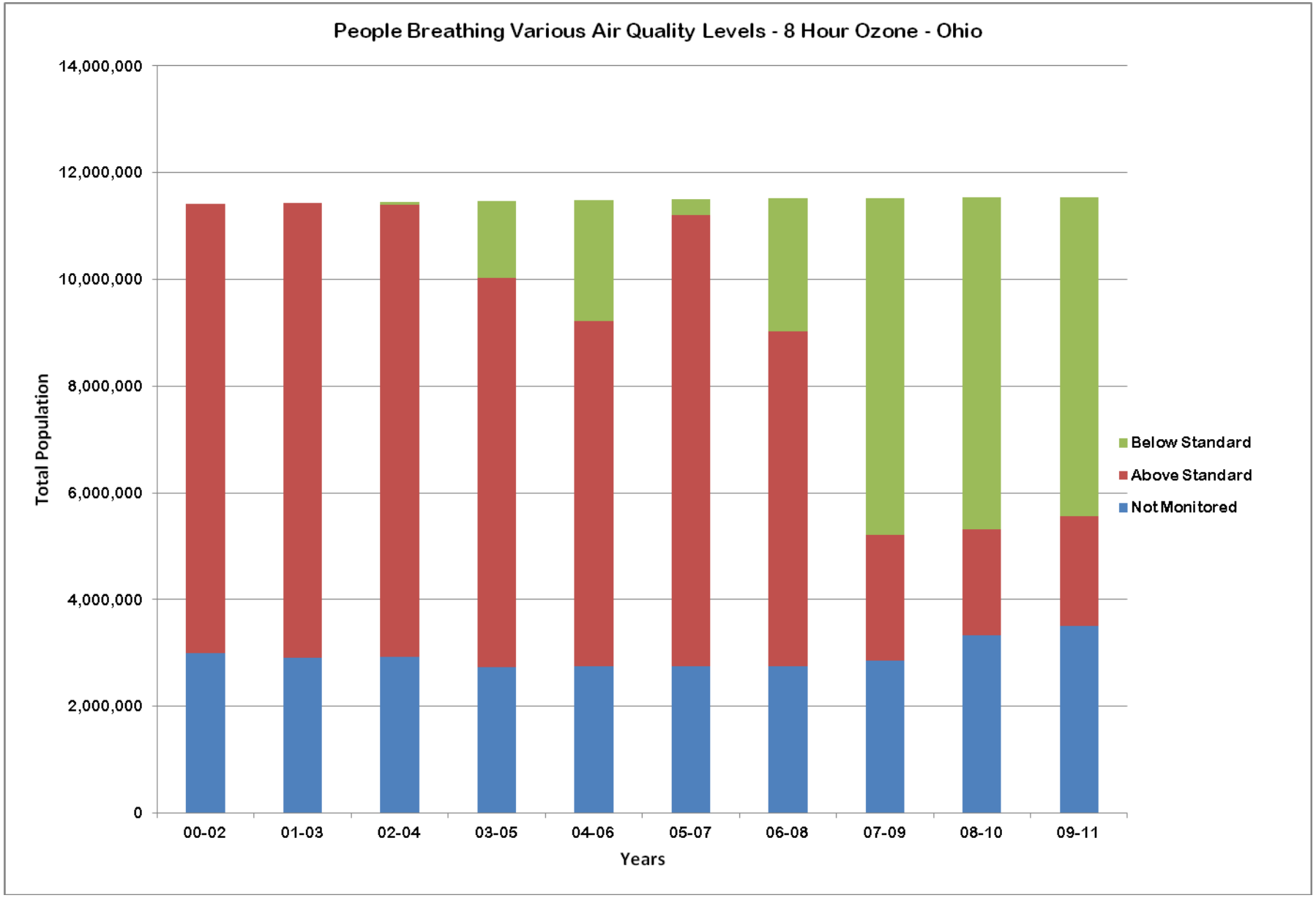

People Breathing Various Air Quality Levels - 8 Hour Ozone - Ohio
14,000,000
12,000,000
10,000,000
8,000,000
6,000,000
4,000,000
2,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure OH-2

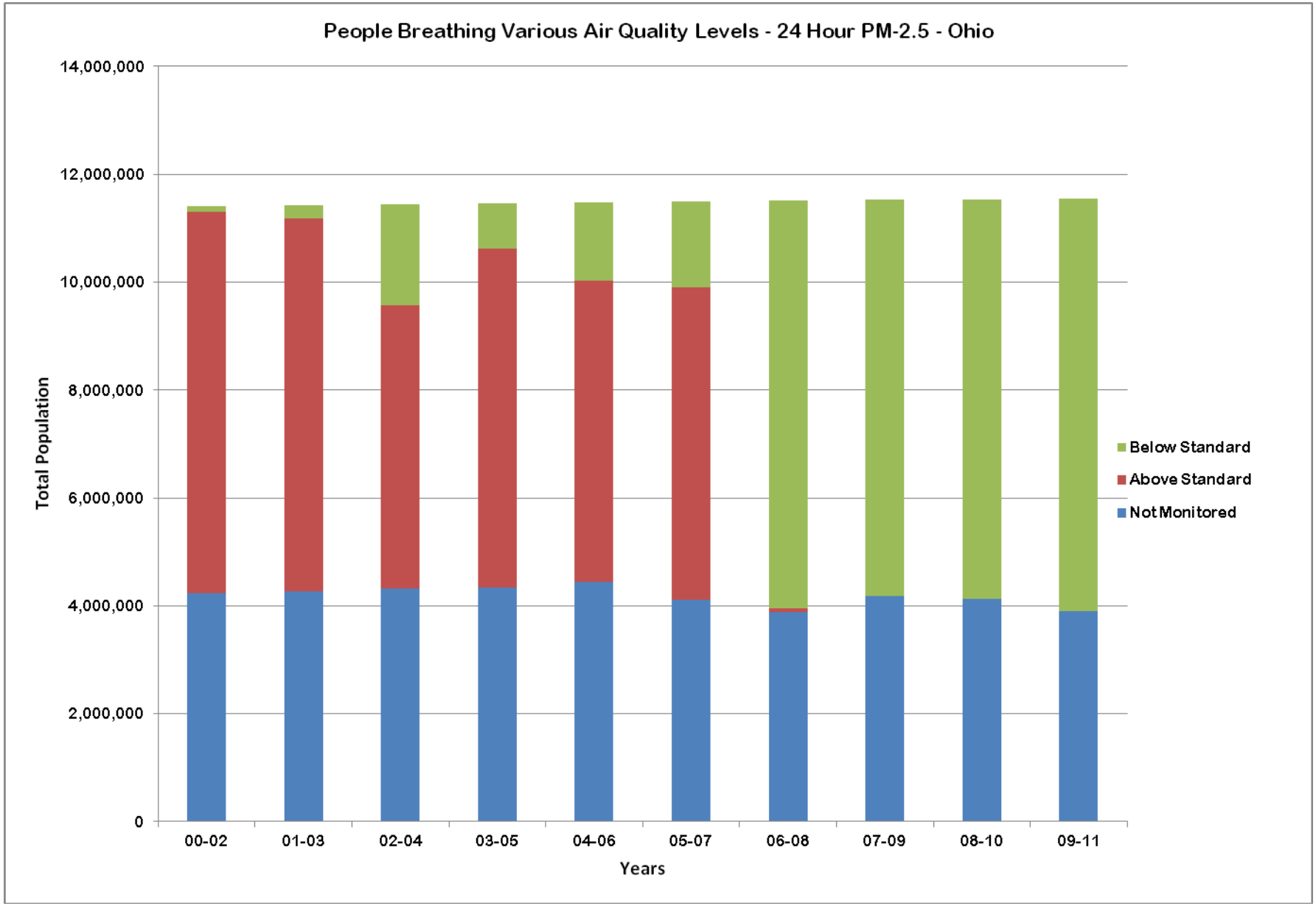
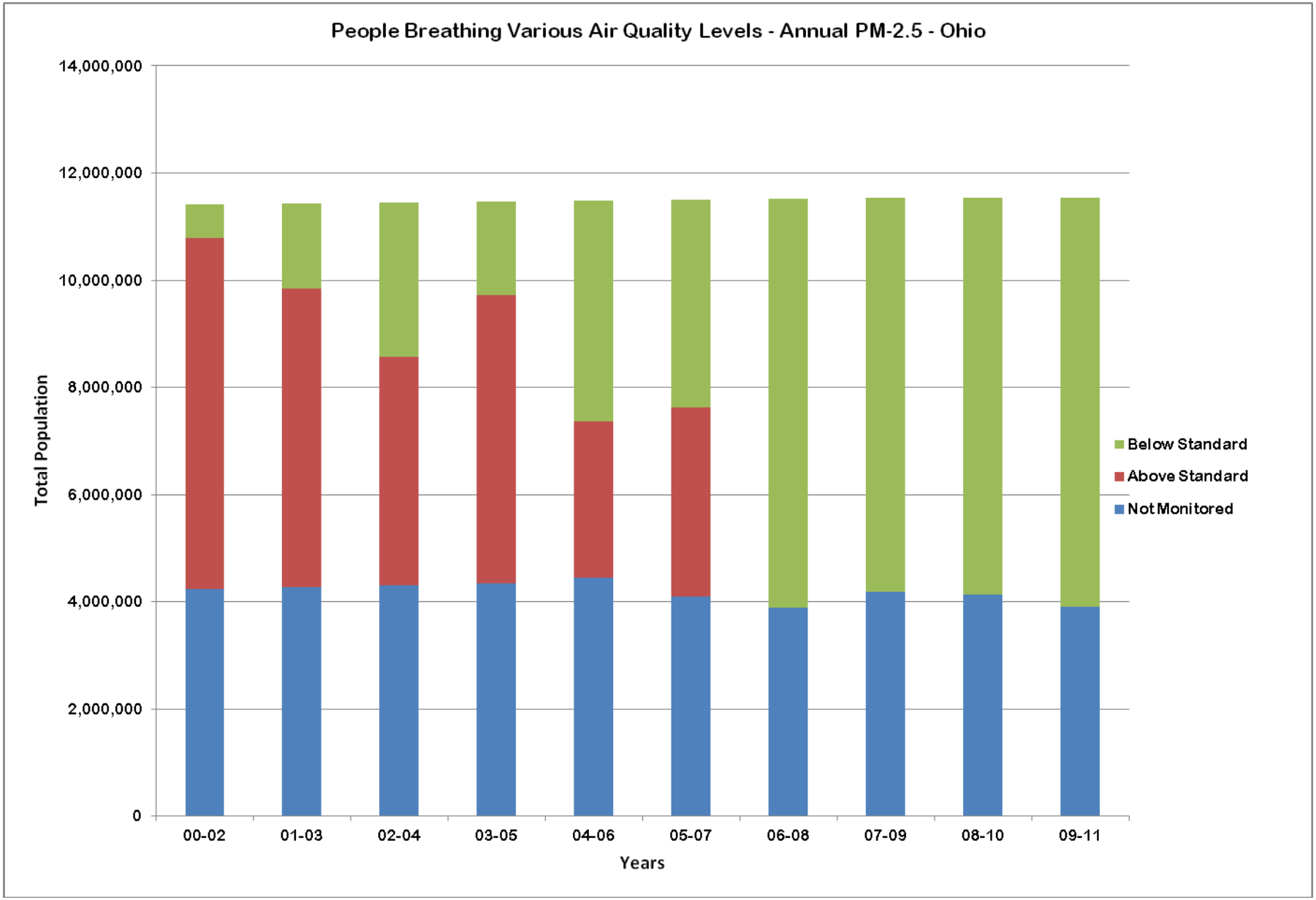

People Breathing Various Air Quality Levels - 24 Hour PM-2.5 - Ohio
14,000,000
12,000,000
10,000,000
8,000,000
6,000,000
4,000,000
2,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure OH-3


People Breathing Various Air Quality Levels - Annual PM-2.5 - Ohio
14,000,000
12,000,000
10,000,000
8,000,000
6,000,000
4,000,000
2,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# OKLAHOMA

## Ozone

**Significant progress has been made in ozone levels in Oklahoma. In the 2000 – 2002 time period, no people lived in counties that met the ozone standard. By 2009 – 2011 this had increased to approximately 1.2 million people (32.4%). Figure OK-1 shows the distribution of people by year.**

## 24-Hour PM-2.5

**24-hour PM-2.5 levels in Oklahoma have historically been better than the standard. In the 2000 – 2002 time period, approximately 1.9 million people (55.4%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 -2011 this was approximately 1.3 million people (34.6%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure OK-2 shows the distribution of people by year.**

## Annual PM-2.5

**Annual PM-2.5 levels in Oklahoma have historically been better than the standard. In the 2000 – 2002 time period, approximately 1.9 million people (55.4%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this had decreased to approximately 1.3 million people (34.6%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure OK-3 shows the distribution of people by year.**

# OKLAHOMA

Table OK-1
2009 – 2011

| | | OZONE | | PARTICLE POLLUTION (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg. 24-Hr DV | Grade | Avg. Ann DV | Grade |
| Adair | 22,612 | 0.070 | C | 27 | A | 12.7 | B |
| Caddo | 29,537 | 0.072 | C | 25 | A | 9.2 | A |
| Canadian | 119,492 | 0.075 | C | ND | --- | ND | --- |
| Cherokee | 47,845 | 0.072 | C | ND | --- | ND | --- |
| Comanche | 125,815 | 0.072 | C | ND | --- | ND | --- |
| Creek | 70,467 | 0.075 | C | ND | --- | ND | --- |
| Dewey | 4,867 | 0.071 | C | ND | --- | ND | --- |
| Kay | 46,159 | 0.070 | C | ND | --- | ND | --- |
| McClain | 35,235 | 0.073 | C | ND | --- | ND | --- |
| Mayes | 41,389 | 0.074 | C | ND | --- | ND | --- |
| Muskogee | 71,003 | ND | --- | ND | --- | ND | --- |
| **Oklahoma** | **732,371** | **0.076** | **D** | 20 | A | 9.5 | A |
| Ottawa | 31,860 | 0.070 | C | ND | --- | ND | --- |
| Pittsburg | 45,625 | 0.071 | C | 20 | A | 10.0 | A |
| Tulsa | 610,599 | 0.075 | C | 23 | A | 10.9 | A |
| | | | | | | | |
| Subtotal | 2,034,876 | | | | | | |
| Not Monitored | 1,756,632 | | | | | | |
| Total | 3,791,508 | | | | | | |

DV – Design Value ND - No Data

# OKLAHOMA

## Table OK-2

### People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| B | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 78,861 | 151,740 | 0 |
| C | 0 | 47,363 | 265,256 | 309,088 | 318,128 | 82,192 | 1,403,176 | 1,980,452 | 2,010,149 | 1,231,502 |
| D | 1,121,386 | 1,727,018 | 1,579,168 | 1,679,290 | 1,739,517 | 2,001,201 | 701,484 | 0 | 0 | 732,371 |
| F | 575,713 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 1,697,099 | 1,774,381 | 1,844,242 | 1,988,378 | 2,057,645 | 2,083,393 | 2,104,660 | 2,059,313 | 2,161,889 | 1,963,873 |
| NM | 1,791,981 | 1,730,511 | 1,680,809 | 1,560,219 | 1,536,445 | 1,550,956 | 1,564,316 | 1,658,259 | 1,589,462 | 1,827,635 |
| Total | 3,489,080 | 3,504,892 | 3,525,233 | 3,548,597 | 3,594,090 | 3,634,349 | 3,668,976 | 3,717,572 | 3,751,351 | 3,791,508 |

### People Breathing Short-term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 1,223,816 | 1,129,574 | 1,053,132 | 860,440 | 855,808 | 832,775 | 1,520,141 | 1,541,091 | 1,541,570 | 1,311,207 |
| B | 709,866 | 801,120 | 754,496 | 755,135 | 718,050 | 794,715 | 28,612 | 29,459 | 0 | 0 |
| C | 0 | 0 | 0 | 46,469 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 33,011 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 1,933,682 | 1,930,694 | 1,807,628 | 1,695,055 | 1,573,858 | 1,627,490 | 1,548,753 | 1,579,550 | 1,541,570 | 1,311,207 |
| NM | 1,555,398 | 1,574,198 | 1,717,605 | 1,853,542 | 2,020,232 | 2,006,859 | 2,120,223 | 2,147,022 | 2,209,781 | 2,480,301 |
| Total | 3,489,080 | 3,504,892 | 3,525,233 | 3,548,597 | 3,594,090 | 3,634,349 | 3,668,976 | 3,717,572 | 3,751,351 | 3,791,508 |

### People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 1,295,178 | 1,253,592 | 1,807,628 | 1,625,249 | 1,573,858 | 1,470,265 | 1,548,753 | 1,570,550 | 1,541,570 | 1,288,595 |
| B | 638,504 | 677,102 | 0 | 69,806 | 0 | 157,225 | 0 | 0 | 0 | 22,612 |
| C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 1,933,682 | 1,930,694 | 1,807,628 | 1,695,055 | 1,573,858 | 1,627,490 | 1,548,753 | 1,570,550 | 1,541,570 | 1,311,207 |
| NM | 1,555,398 | 1,574,198 | 1,717,605 | 1,853,542 | 2,020,232 | 2,006,859 | 2,120,223 | 2,147,022 | 2,209,781 | 2,480,301 |
| Total | 3,489,080 | 3,504,892 | 3,525,233 | 3,548,597 | 3,594,090 | 3,634,349 | 3,668,976 | 3,717,572 | 3,751,351 | 3,791,508 |

NM – Not Monitored

Figure OK-1

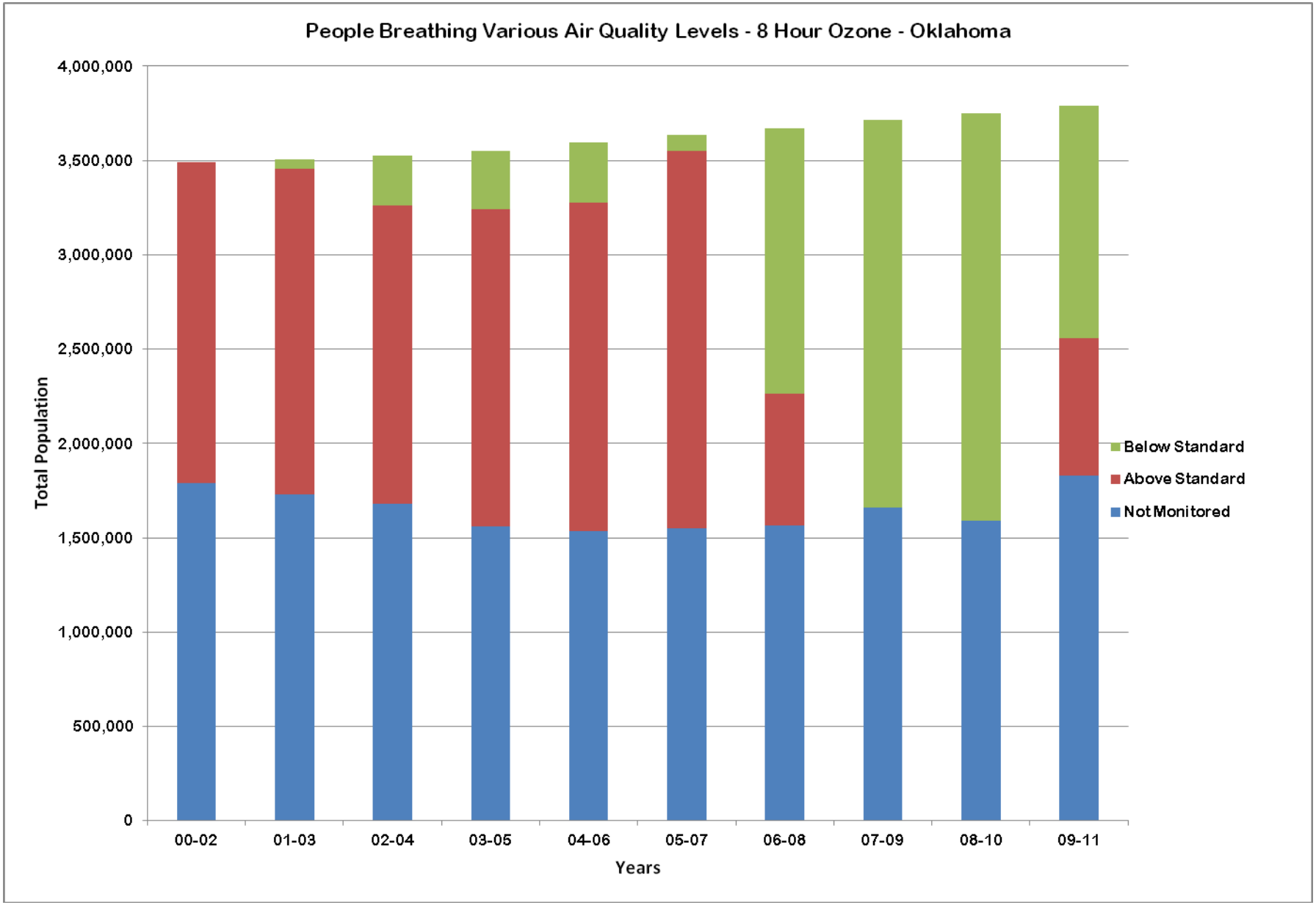

People Breathing Various Air Quality Levels - 8 Hour Ozone - Oklahoma
4,000,000
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure OK-2

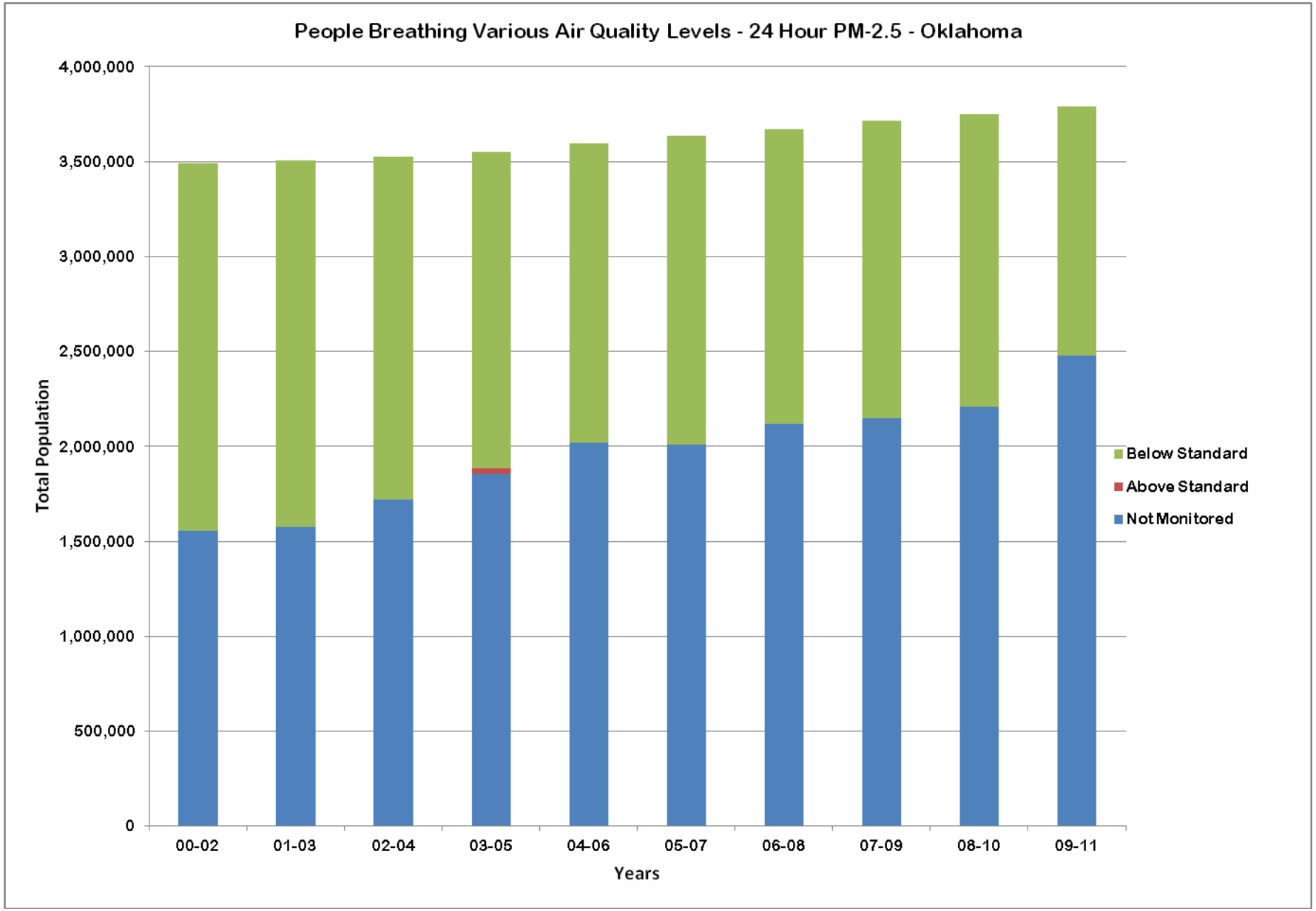
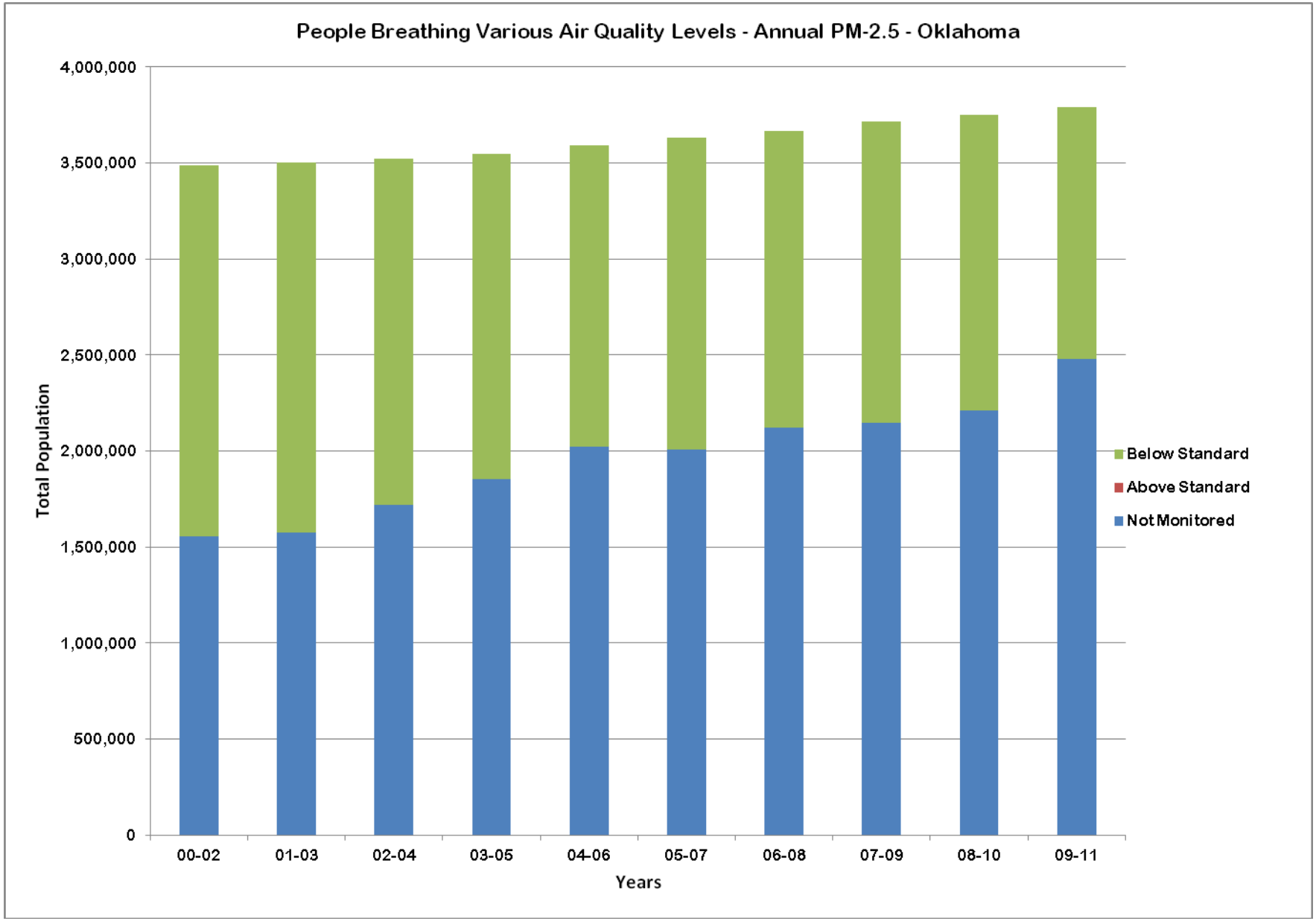

People Breathing Various Air Quality Levels - 24 Hour PM-2.5 - Oklahoma
4,000,000
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure OK-3


People Breathing Various Air Quality Levels - Annual PM-2.5 - Oklahoma
4,000,000
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# OREGON

## Ozone

**Ozone levels in Oregon have historically been better than the standard. In the 2000 – 2002 time period, approximately 1.2 million (34.2%) lived in counties that met the ozone standard. By 2009 – 2011 this had increased to approximately 2.8 million people (73.1%). The remainder of the population lived in counties where ozone was not measured. Figure OR-1 shows the distribution of people by year.**

## 24-Hour PM-2.5

**Progress has been made in 24-hour PM-2.5 levels in Oregon. In the 2000 – 2002 time period, approximately 2.6 million people (73.6%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 -2011 this was approximately 2.1 million people (54.3%). Figure OR-2 shows the distribution of people by year.**

## Annual PM-2.5

**Annual PM-2.5 levels in Oregon have historically been better than the standard. In the 2000 – 2002 time period, approximately 2.6 million people (73.6%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this had decreased to approximately 2.1 million people (54.3%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure OR-3 shows the distribution of people by year.**

Table OR-1

2009 – 2011

| | | OZONE | | PARTICLE POLLUTION (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg. 24-Hr DV | Grade | Avg. Ann DV | Grade |
| Clackamas | 380,207 | 0.066 | B | ND | --- | ND | --- |
| Columbia | 49,402 | 0.053 | A | ND | --- | ND | --- |
| Crook | 20,839 | ND | --- | 31 | B | 8.6 | A |
| Deschutes | 160,338 | 0.059 | A | ND | --- | ND | --- |
| Jackson | 204,822 | 0.061 | B | 27 | A | 8.7 | A |
| Josephine | 82,987 | ND | --- | 28 | B | 7.5 | A |
| **Klamath** | **66,299** | **ND** | **---** | **38** | **D** | 10.7 | A |
| **Lake** | **7,908** | **ND** | **---** | **36** | **D** | 9.0 | A |
| Lane | 353,416 | 0.061 | B | 25 | A | 7.4 | A |
| Marion | 318,872 | 0.061 | B | ND | --- | ND | --- |
| Multnomah | 748,031 | 0.057 | A | 25 | A | 7.4 | A |
| Umatilla | 76,725 | 0.061 | B | 22 | A | 7.4 | A |
| Washington | 540,410 | 0.059 | A | 28 | B | 8.0 | A |
| | | | | | | | |
| Subtotal | 3,010,256 | | | | | | |
| Not Monitored | 861,603 | | | | | | |
| Total | 3,871,859 | | | | | | |

DV – Design Value ND - No Data

# OREGON

## Table OR-2

### People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 45,104 | 0 | 0 | 0 | 731,951 | 746,697 | 49,209 | 77,115 | 784,685 | 1,498,181 |
| B | 968,990 | 692,985 | 699,089 | 705,724 | 666,798 | 1,217,768 | 1,741,997 | 1,315,824 | 1,322,137 | 1,334,042 |
| C | 186,704 | 520,683 | 524,512 | 530,532 | 536,784 | 0 | 201,162 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 1,200,798 | 1,213,668 | 1,223,601 | 1,236,256 | 1,935,533 | 1,964,465 | 1,992,368 | 2,092,939 | 2,106,822 | 2,832,223 |
| NM | 2,312,626 | 2,333,708 | 2,345,862 | 2,376,946 | 1,735,350 | 1,757,952 | 1,776,380 | 1,715,661 | 1,724,252 | 1,039,636 |
| Total | 3,513,424 | 3,547,376 | 3,569,463 | 3,613,202 | 3,670,883 | 3,722,417 | 3,768,748 | 3,808,600 | 3,831,074 | 3,871,859 |

### People Breathing Short-term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 1,195,230 | 1,376,906 | 1,222,742 | 869,563 | 905,379 | 922,214 | 939,624 | 1,030,801 | 2,162,048 | 1,382,994 |
| B | 840,017 | 310,811 | 631,311 | 108,132 | 0 | 0 | 348,176 | 957,864 | 0 | 644,236 |
| C | 484,785 | 777,761 | 0 | 335,831 | 339,926 | 344,844 | 0 | 7,432 | 0 | 0 |
| D | 0 | 64,582 | 0 | 0 | 0 | 15,207 | 66,732 | 0 | 7,895 | 74,207 |
| F | 64,150 | 0 | 64,841 | 65,553 | 66,294 | 66,767 | 0 | 74,361 | 66,380 | 0 |
| Subtotal | 2,584,182 | 2,530,060 | 1,918,894 | 1,379,079 | 1,311,599 | 1,333,825 | 1,354,532 | 2,070,458 | 2,236,323 | 2,101,437 |
| NM | 929,242 | 1,017,316 | 1,650,569 | 2,234,123 | 2,359,284 | 2,388,592 | 2,414,216 | 1,738,142 | 1,594,751 | 1,770,422 |
| Total | 3,513,424 | 3,547,376 | 3,569,463 | 3,613,202 | 3,670,883 | 3,722,417 | 3,768,748 | 3,808,600 | 3,831,074 | 3,871,859 |

### People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 2,584,182 | 2,530,060 | 1,918,894 | 1,379,079 | 1,245,305 | 1,333,825 | 1,354,532 | 2,070,458 | 2,236,323 | 2,101,437 |
| B | 0 | 0 | 0 | 0 | 66,294 | 0 | 0 | 0 | 0 | 0 |
| C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 2,584,182 | 2,530,060 | 1,918,894 | 1,379,079 | 1,311,599 | 1,333,825 | 1,354,532 | 2,070,458 | 2,236,323 | 2,101,437 |
| NM | 929,242 | 1,017,316 | 1,650,569 | 2,234,123 | 2,359,284 | 2,388,592 | 2,414,216 | 1,738,142 | 1,594,751 | 1,770,422 |
| Total | 3,513,424 | 3,547,376 | 3,569,463 | 3,613,202 | 3,670,883 | 3,722,417 | 3,768,748 | 3,808,600 | 3,831,074 | 3,871,859 |

NM – Not Monitored

Figure OR-1

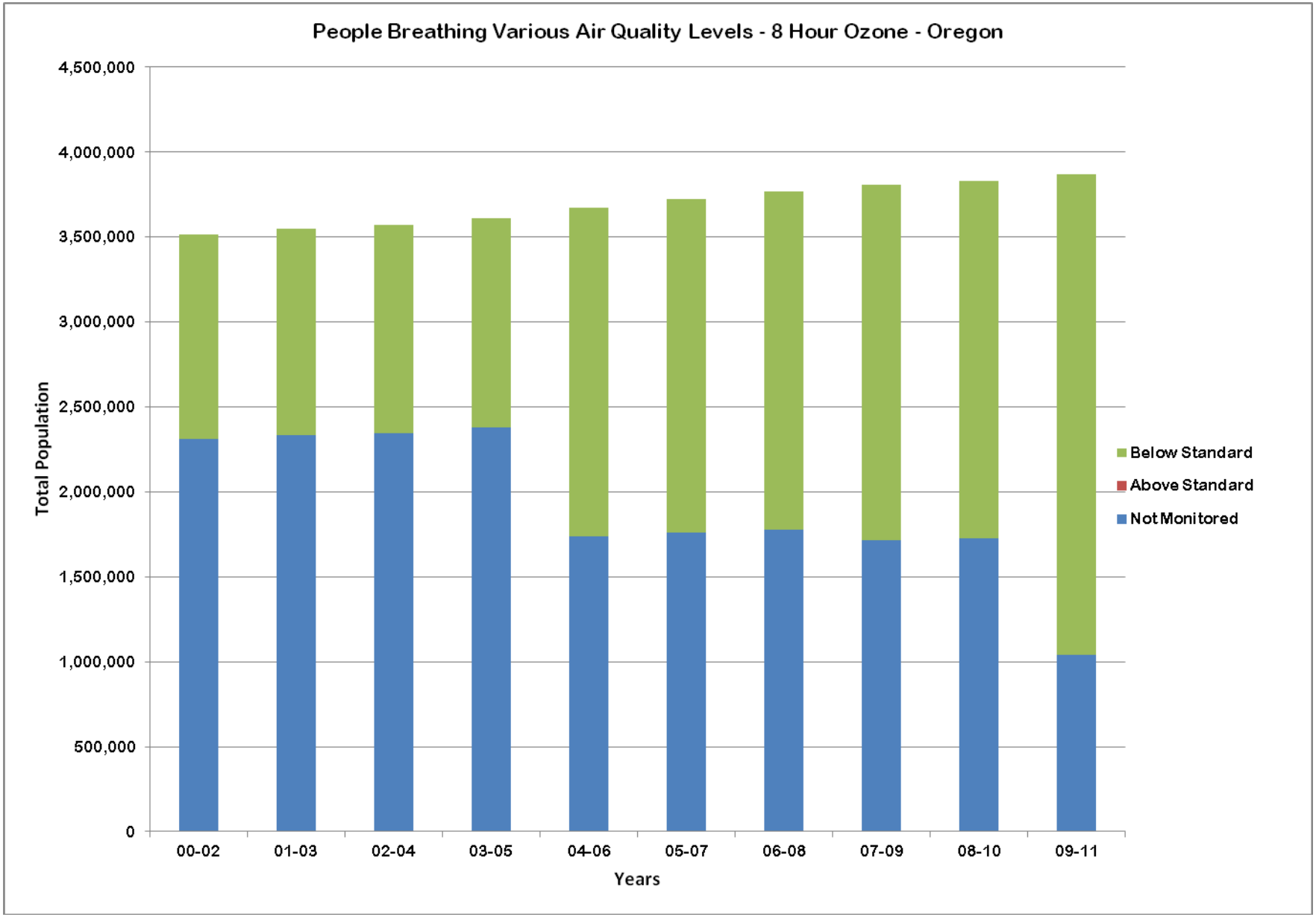

People Breathing Various Air Quality Levels - 8 Hour Ozone - Oregon
Total Population
4,500,000
4,000,000
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure OR-2

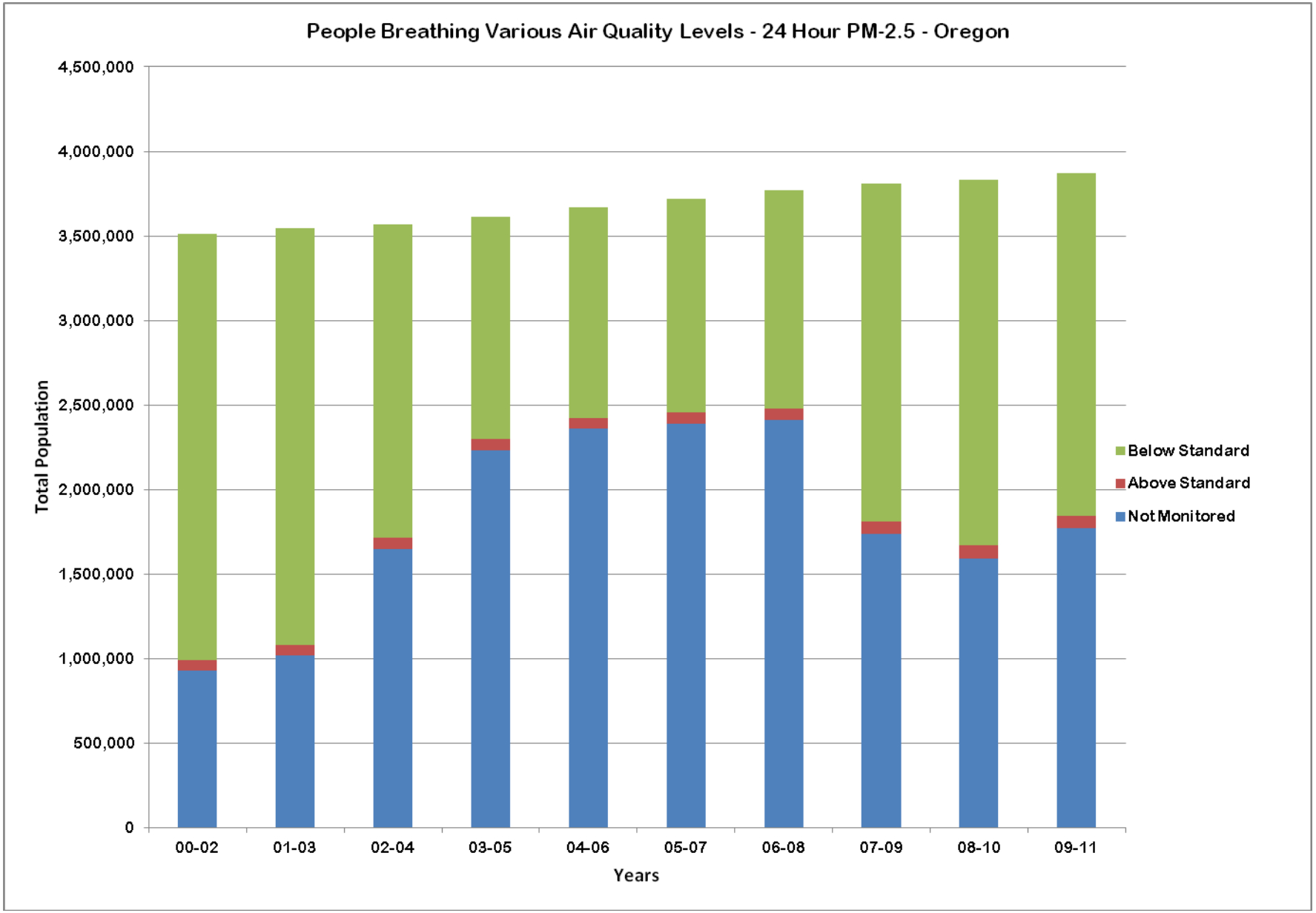
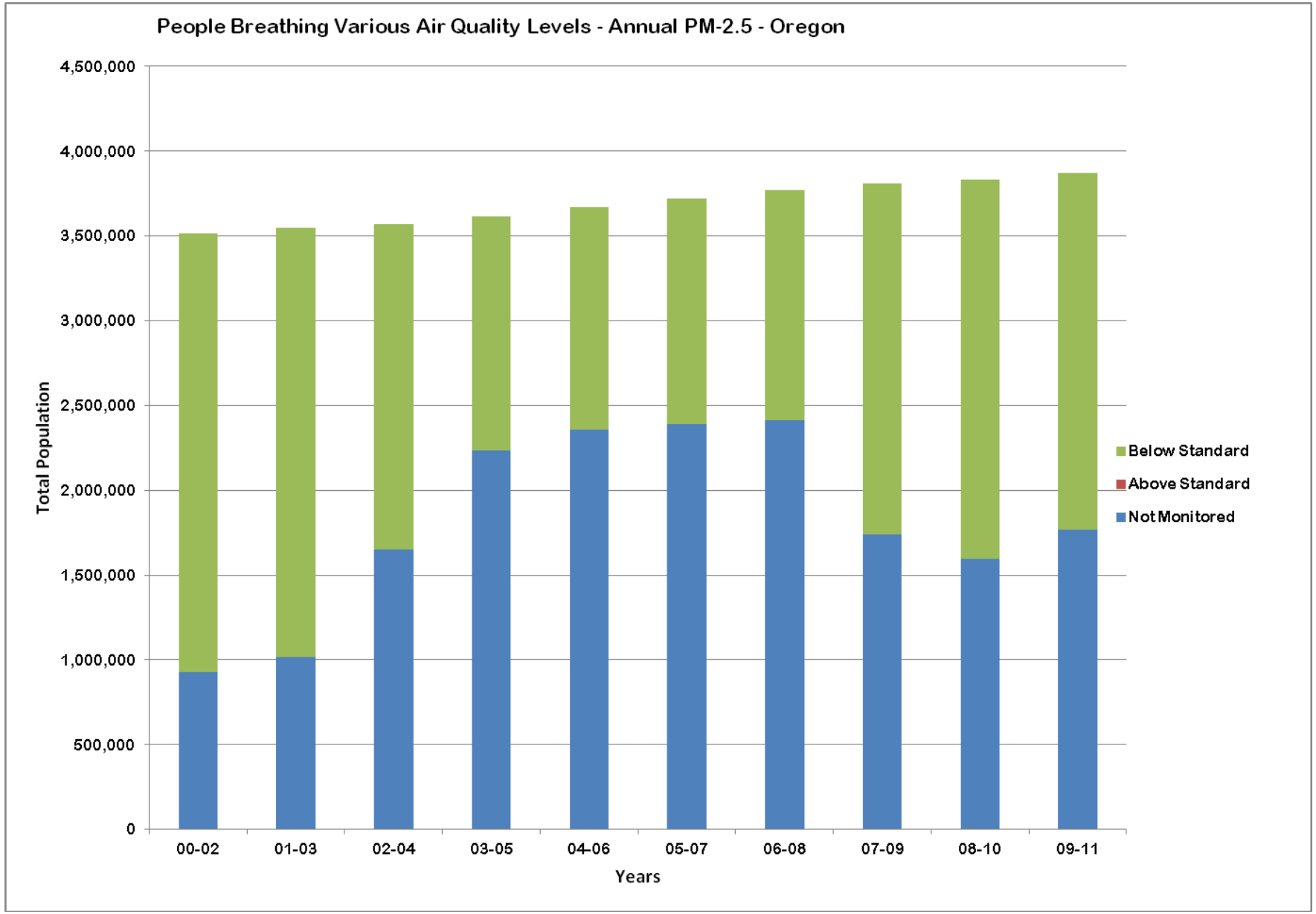

People Breathing Various Air Quality Levels - 24 Hour PM-2.5 - Oregon
Total Population
4,500,000
4,000,000
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure OR-3


People Breathing Various Air Quality Levels - Annual PM-2.5 - Oregon
4,500,000
4,000,000
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# PENNSYLVANIA

## Ozone

**Significant progress has been made in ozone levels in Pennsylvania. In the 2000 – 2002 time period, no people lived in counties that met the ozone standard. By 2009 – 2011 this had increased to approximately 6.7 million people (52.6%). Figure PA-1 shows the distribution of people by year.**

## 24-Hour PM-2.5

**Significant progress has been made in 24-hour PM-2.5 levels in Pennsylvania. In the 2000 – 2002 time period, approximately 0.7 million people (6.1%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 -2011 this was approximately 9.3 million people (72.7%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure PA-2 shows the distribution of people by year.**

## Annual PM-2.5

**Significant progress has been made in annual PM-2.5 levels in Pennsylvania. In the 2000 – 2002 time period, approximately 3.4 million people (27.4%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this had increased to approximately 9.3 million people (72.7%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure PA-3 shows the distribution of people by year.**

# PENNSYLVANIA

Table PA-1

2009 – 2011

| | | OZONE | | PARTICLE POLLUTION (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg. 24-Hr DV | Grade | Avg. Ann DV | Grade |
| Adams | 101,434 | ND | --- | 29 | B | 11.9 | A |
| Allegheny | 1,227,066 | 0.075 | C | 30 | B | 11.9 | A |
| Armstrong | 68,568 | 0.073 | C | 29 | B | 12.1 | B |
| Beaver | 170,414 | 0.071 | C | 29 | B | 12.6 | B |
| Berks | 412,778 | 0.074 | C | 28 | B | 10.8 | A |
| Blair | 127,099 | 0.070 | C | ND | --- | ND | --- |
| **Bucks** | **626,854** | **0.081** | **D** | 28 | B | 11.0 | A |
| Cambria | 143,728 | 0.069 | C | 32 | C | 13.1 | B |
| Centre | 154,722 | 0.070 | C | 26 | A | 9.1 | A |
| Chester | 503,897 | 0.074 | C | 34 | C | 14.3 | B |
| Clearfield | 81,445 | 0.072 | C | ND | --- | ND | --- |
| Cumberland | 237,892 | ND | --- | 30 | B | 10.8 | A |
| Dauphin | 268,977 | 0.071 | C | 32 | C | 12.1 | B |
| Delaware | 559,494 | 0.073 | C | 28 | B | 10.7 | A |
| Erie | 280,985 | 0.072 | C | 28 | B | 10.9 | A |
| Franklin | 150,811 | 0.065 | B | ND | --- | ND | --- |
| Greene | 38,623 | 0.069 | C | ND | --- | ND | --- |
| Indiana | 89,298 | 0.074 | C | ND | --- | ND | --- |
| Lackawanna | 214,166 | 0.069 | C | 25 | A | 9.4 | A |
| **Lancaster** | **523,594** | **0.077** | **D** | 31 | B | 12.0 | B |
| Lawrence | 90,535 | 0.067 | B | ND | --- | ND | --- |
| **Lehigh** | **352,947** | **0.076** | **D** | ND | --- | ND | --- |
| Luzerne | 320,651 | 0.064 | B | ND | --- | ND | --- |
| Lycoming | 116,747 | 0.067 | B | ND | --- | ND | --- |
| Mercer | 116,205 | 0.074 | C | 26 | A | 10.7 | A |
| Monroe | 169,882 | 0.066 | B | ND | --- | ND | --- |
| **Montgomery** | **804,210** | **0.077** | **D** | 27 | A | 10.0 | A |
| Northampton | 298,476 | 0.072 | C | 33 | C | 13.6 | C |
| Perry | 46,042 | 0.067 | B | ND | --- | ND | --- |
| **Philadelphia** | **1,536,471** | **0.076** | **D** | 29 | B | 11.0 | A |
| Tioga | 42,419 | 0.069 | C | ND | --- | ND | --- |
| Washington | 208,282 | 0.069 | C | 25 | A | 11.2 | A |
| Westmoreland | 364,471 | 0.070 | C | 33 | C | 14.1 | C |
| York | 436,770 | 0.073 | C | 28 | B | 11.5 | A |
| | | | | | | | |
| Subtotal | 10,917,704 | | | | | | |
| Not Monitored | 1,825,182 | | | | | | |
| Total | 12,742,886 | | | | | | |

DV – Design Value ND - No Data

# PENNSYLVANIA

## Table PA-2

### People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| B | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 320,527 | 561,644 | 894,668 |
| C | 0 | 0 | 0 | 547,855 | 1,137,095 | 1,040,923 | 2,277,985 | 4,384,428 | 5,550,237 | 5,807,883 |
| D | 212,282 | 211,804 | 2,423,692 | 5,591,076 | 5,299,028 | 4,077,299 | 4,866,005 | 4,834,033 | 4,496,682 | 3,844,076 |
| F | 9,291,923 | 9,770,916 | 7,457,486 | 3,996,016 | 3,341,752 | 4,789,257 | 2,972,223 | 624,648 | 0 | 0 |
| Subtotal | 9,504,205 | 9,982,720 | 9,881,178 | 10,134,947 | 9,777,875 | 9,902,479 | 10,116,213 | 10,163,636 | 10,608,563 | 10,546,627 |
| NM | 2,826,826 | 2,391,938 | 2,529,544 | 2,315,043 | 2,732,934 | 2,656,458 | 2,496,072 | 2,503,222 | 2,093,816 | 2,196,259 |
| Total | 12,331,031 | 12,374,658 | 12,410,722 | 12,449,990 | 12,510,809 | 12,563,937 | 12,612,285 | 12,666,858 | 12,702,379 | 12,742,886 |

### People Breathing Short-term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 795,494 | 1,070,502 | 1,497,585 |
| B | 0 | 0 | 315,439 | 44,741 | 212,595 | 213,513 | 1,281,980 | 2,472,478 | 3,667,244 | 6,480,796 |
| C | 749,299 | 359,856 | 2,113,230 | 3,429,424 | 4,419,127 | 1,774,300 | 4,599,200 | 4,631,033 | 2,246,299 | 1,281,073 |
| D | 3,707,273 | 2,980,123 | 4,034,435 | 2,837,075 | 2,317,937 | 4,595,476 | 2,784,992 | 1,222,171 | 0 | 0 |
| F | 4,433,250 | 5,794,203 | 3,155,064 | 3,337,337 | 2,046,299 | 2,046,565 | 0 | 0 | 0 | 0 |
| Subtotal | 8,889,822 | 9,134,182 | 9,618,168 | 9,648,577 | 8,995,958 | 8,629,854 | 8,666,172 | 9,121,176 | 6,984,045 | 9,259,454 |
| NM | 3,441,209 | 3,240,476 | 2,792,554 | 2,801,413 | 3,514,851 | 3,934,083 | 3,946,113 | 3,545,682 | 5,718,334 | 3,483,432 |
| Total | 12,331,031 | 12,374,658 | 12,410,722 | 12,449,990 | 12,510,809 | 12,563,937 | 12,612,285 | 12,666,858 | 12,702,379 | 12,742,886 |

### People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 212,595 | 213,513 | 745,431 | 1,660,590 | 3,664,983 | 6,917,329 |
| B | 806,342 | 1,090,207 | 1,867,658 | 1,775,388 | 2,046,208 | 2,346,085 | 2,754,902 | 4,560,198 | 3,319,062 | 1,679,178 |
| C | 2,566,206 | 4,017,606 | 4,272,995 | 3,146,247 | 3,352,448 | 3,232,454 | 5,165,839 | 2,900,388 | 0 | 662,947 |
| D | 4,266,126 | 3,146,157 | 2,586,135 | 3,823,154 | 3,384,707 | 2,837,802 | 0 | 0 | 0 | 0 |
| F | 1,251,148 | 880,212 | 891,380 | 903,788 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 8,889,822 | 9,134,182 | 9,618,168 | 9,648,577 | 8,995,958 | 8,629,854 | 8,666,172 | 9,121,176 | 6,984,045 | 9,259,454 |
| NM | 3,441,209 | 3,240,476 | 2,792,554 | 2,801,413 | 3,514,851 | 3,934,083 | 3,946,113 | 3,545,682 | 5,718,334 | 3,483,432 |
| Total | 12,331,031 | 12,374,658 | 12,410,722 | 12,449,990 | 12,510,809 | 12,563,937 | 12,612,285 | 12,666,858 | 12,702,379 | 12,742,886 |

NM – Not Monitored

Figure PA-1

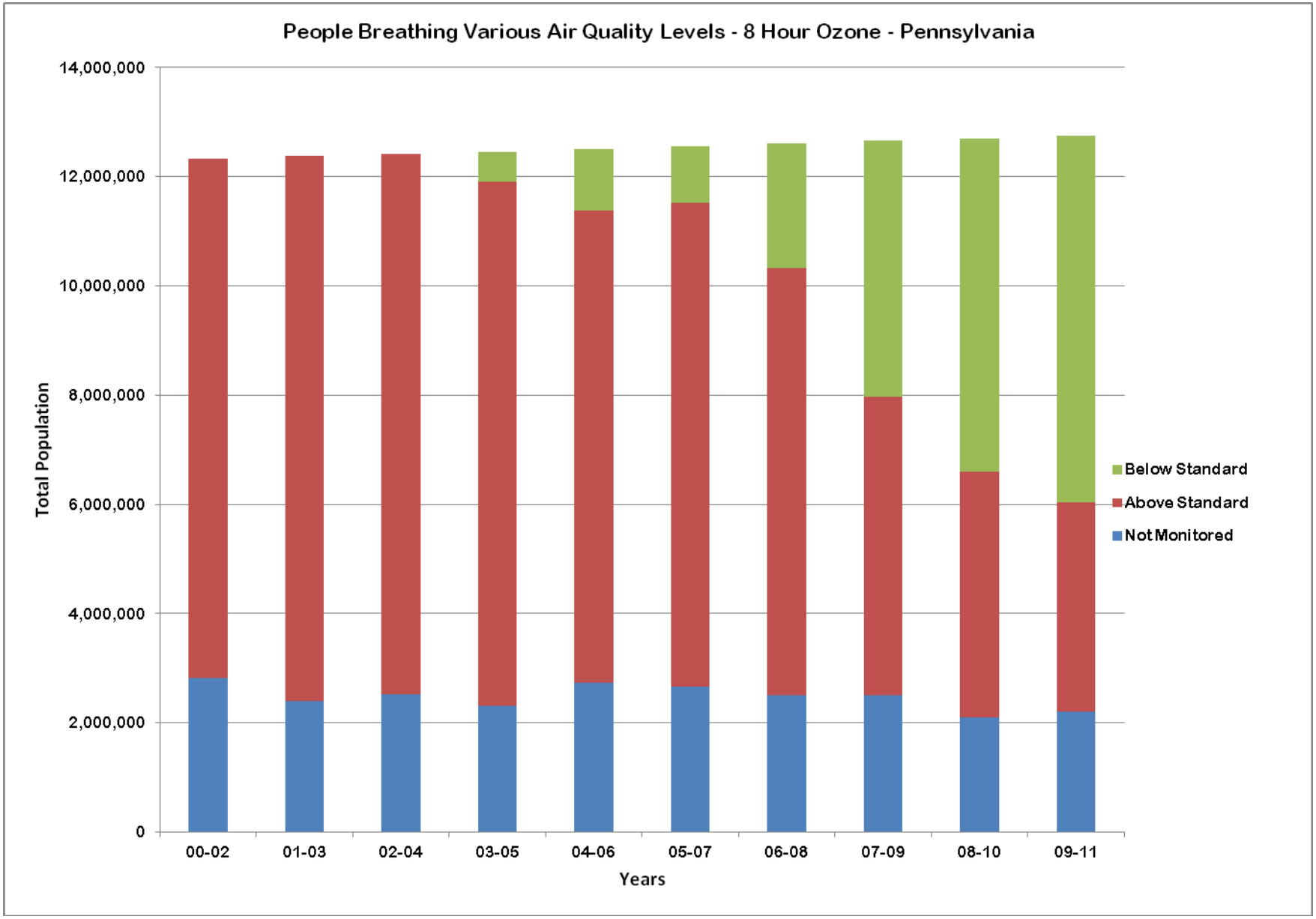

People Breathing Various Air Quality Levels - 8 Hour Ozone - Pennsylvania
14,000,000
12,000,000
10,000,000
8,000,000
6,000,000
4,000,000
2,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure PA-2

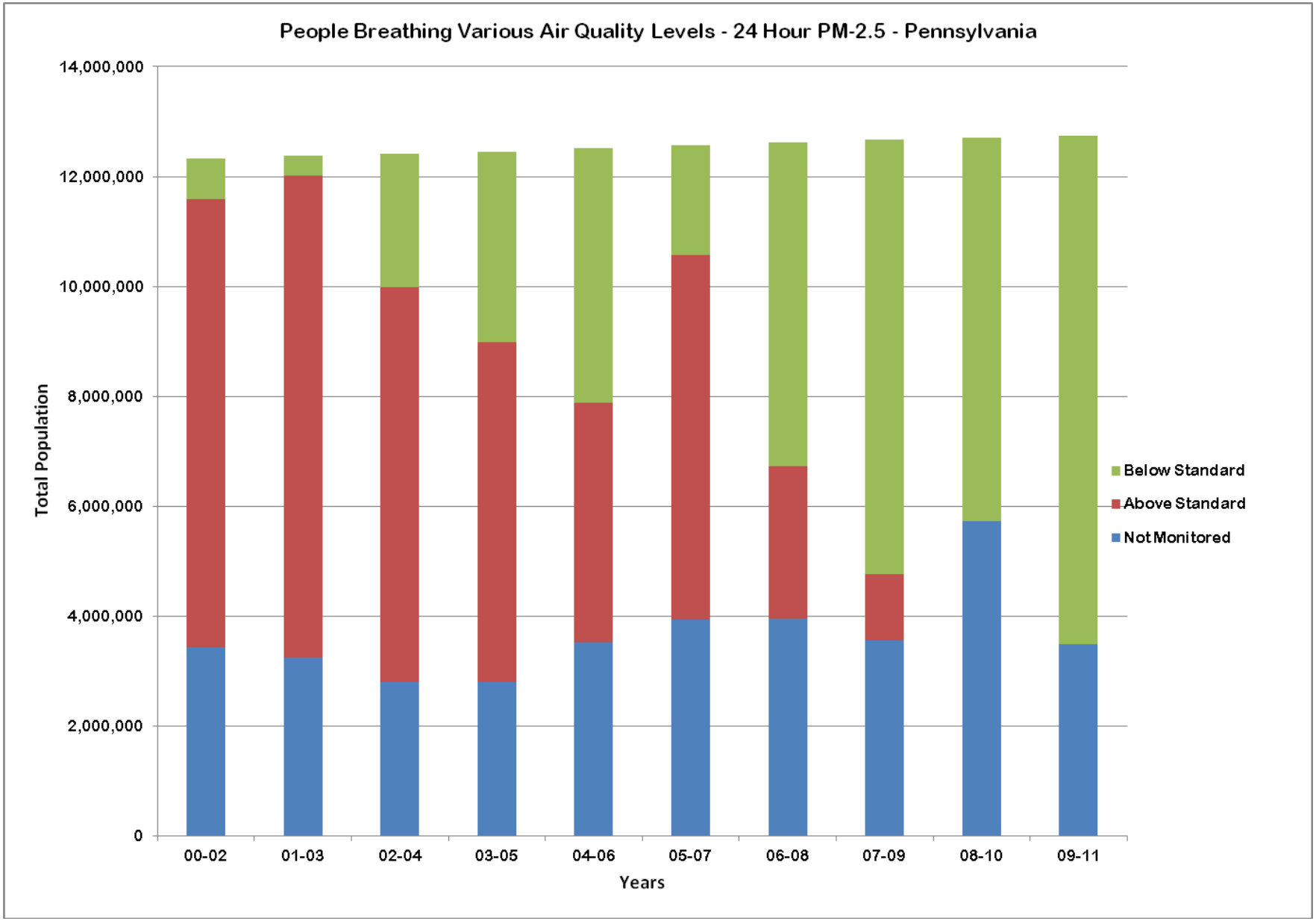
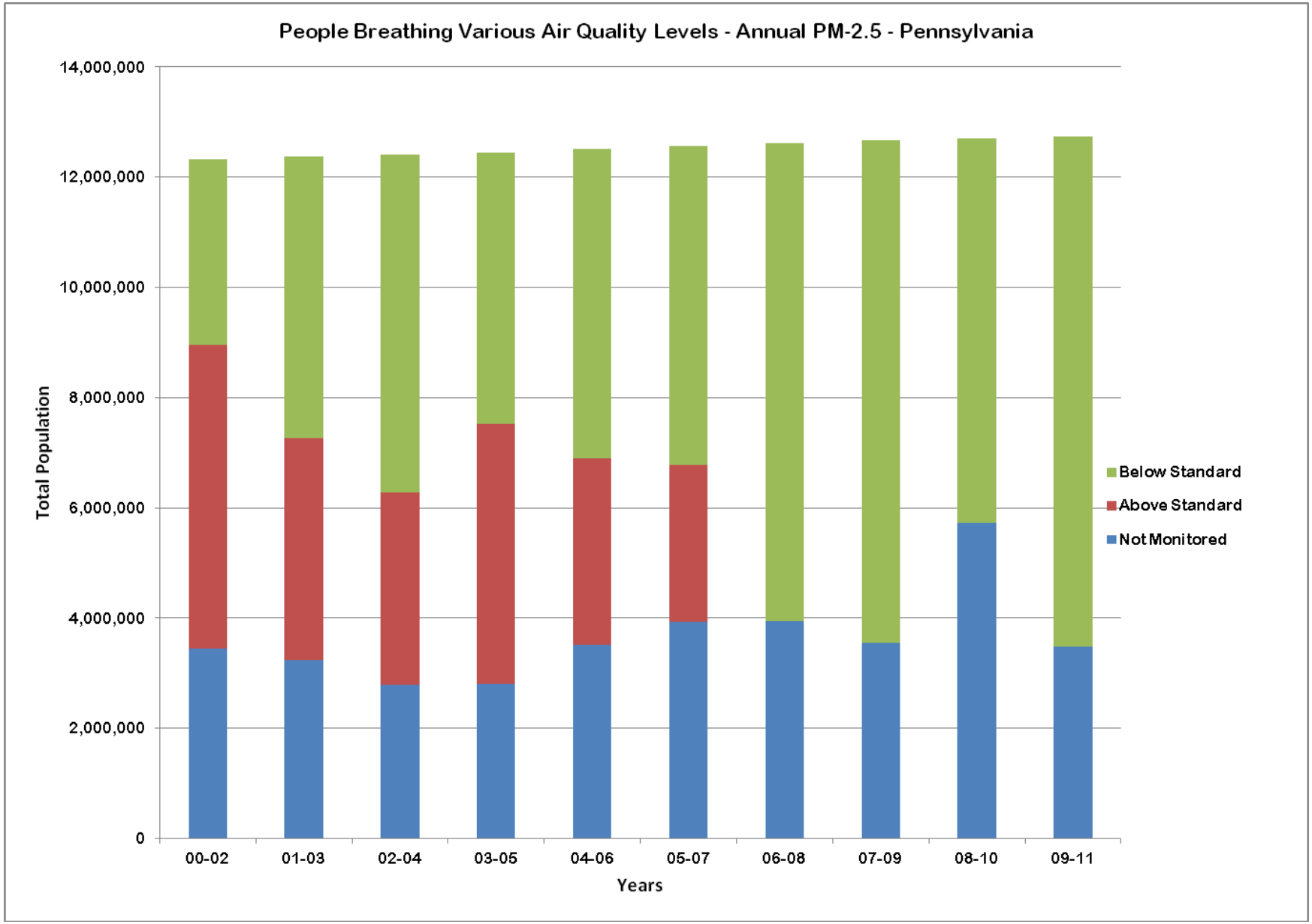

People Breathing Various Air Quality Levels - 24 Hour PM-2.5 - Pennsylvania
14,000,000
12,000,000
10,000,000
8,000,000
6,000,000
4,000,000
2,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure PA-3


People Breathing Various Air Quality Levels - Annual PM-2.5 - Pennsylvania
14,000,000
12,000,000
10,000,000
8,000,000
6,000,000
4,000,000
2,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# RHODE ISLAND

## Ozone

**Significant progress has been made in ozone levels in Rhode Island. In the 2000 – 2002 time period, no people lived in counties that met the ozone standard. By 2009 – 2011 this had increased to approximately 0.9 million people (87.4%). The remainder of the population lived in counties where ozone was not measured. Figure RI-1 shows the distribution of people by year.**

## 24-Hour PM-2.5

**24-hour PM-2.5 levels in Rhode Island have historically been better than the standard. In the 2000 – 2002 time period, approximately 0.9 million people (87.1%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 -2011 this was approximately 0.8 million people (75.4%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure RI-2 shows the distribution of people by year.**

## Annual PM-2.5

**Annual PM-2.5 levels in Rhode Island have historically been better than the standard. In the 2000 – 2002 time period, approximately 0.9 million people (87.1%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this had decreased to approximately 0.8 million people (75.4%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure RI-3 shows the distribution of people by year.**

Table RI-1

2009 – 2011

| | | OZONE | | PARTICLE POLLUTION (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg.24-Hr DV | Grade | Avg. Ann DV | Grade |
| Kent | 165,535 | 0.073 | C | 18 | A | 6.3 | A |
| Providence | 624,709 | 0.071 | C | 23 | A | 8.5 | A |
| Washington | 126,563 | 0.074 | C | ND | --- | ND | --- |
| | | | | | | | |
| Subtotal | 918,807 | | | | | | |
| Not Monitored | 132,495 | | | | | | |
| Total | 1,051,302 | | | | | | |

DV – Design Value ND - No Data

# RHODE ISLAND

## Table RI-2
## People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| B | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 792,825 | 918,807 |
| D | 0 | 0 | 0 | 635,060 | 631,691 | 0 | 921,830 | 920,675 | 126,979 | 0 |
| F | 928,192 | 934,038 | 936,857 | 297,227 | 295,279 | 923,520 | 0 | 0 | 0 | 0 |
| Subtotal | 928,192 | 934,038 | 936,857 | 932,287 | 926,970 | 923,520 | 921,830 | 920,675 | 919,804 | 918,807 |
| NM | 137,803 | 137,304 | 137,722 | 135,629 | 136,126 | 133,795 | 133,173 | 132,971 | 132,763 | 132,495 |
| Total | 1,065,995 | 1,071,342 | 1,074,579 | 1,067,916 | 1,063,096 | 1,057,315 | 1,055,003 | 1,053,646 | 1,052,567 | 1,051,302 |

## People Breathing Short-term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 126,462 | 0 | 808,897 | 0 | 0 | 0 | 795,158 | 626,304 | 626,667 | 792,244 |
| B | 801,730 | 806,790 | 0 | 804,875 | 800,213 | 796,625 | 0 | 0 | 0 | 0 |
| C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 928,192 | 806,790 | 808,897 | 804,875 | 800,213 | 796,625 | 795,158 | 626,304 | 626,667 | 792,244 |
| NM | 137,803 | 264,552 | 265,682 | 263,041 | 262,883 | 260,690 | 259,845 | 427,342 | 425,900 | 259,058 |
| Total | 1,065,995 | 1,071,342 | 1,074,579 | 1,067,916 | 1,063,096 | 1,057,315 | 1,055,003 | 1,053,646 | 1,052,567 | 1,051,302 |

## People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 295,940 | 806,790 | 808,897 | 804,875 | 800,213 | 796,625 | 795,158 | 626,304 | 626,667 | 792,244 |
| B | 632,252 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 928,192 | 806,790 | 808,897 | 804,875 | 800,213 | 796,625 | 795,158 | 626-304 | 626,667 | 792,244 |
| NM | 137,803 | 264,552 | 265,682 | 263,041 | 262,883 | 260,690 | 259,845 | 427,342 | 425,900 | 259,058 |
| Total | 1,065,995 | 1,071,342 | 1,074,579 | 1,067,916 | 1,063,096 | 1,057,315 | 1,055,003 | 1,053,646 | 1,052,567 | 1,051,302 |

NM – Not Monitored

Figure RI-1

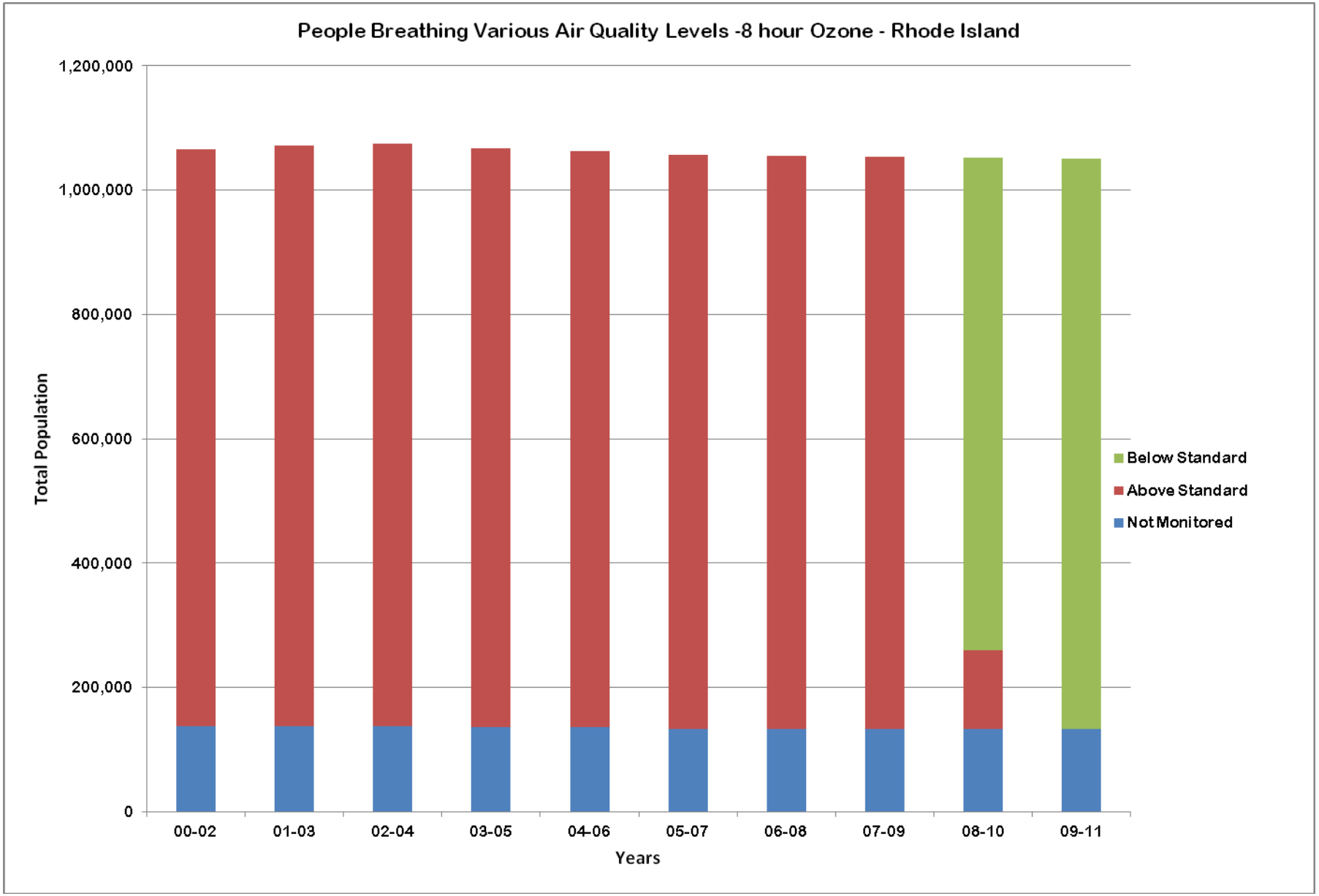

People Breathing Various Air Quality Levels -8 hour Ozone - Rhode Island
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure RI-2

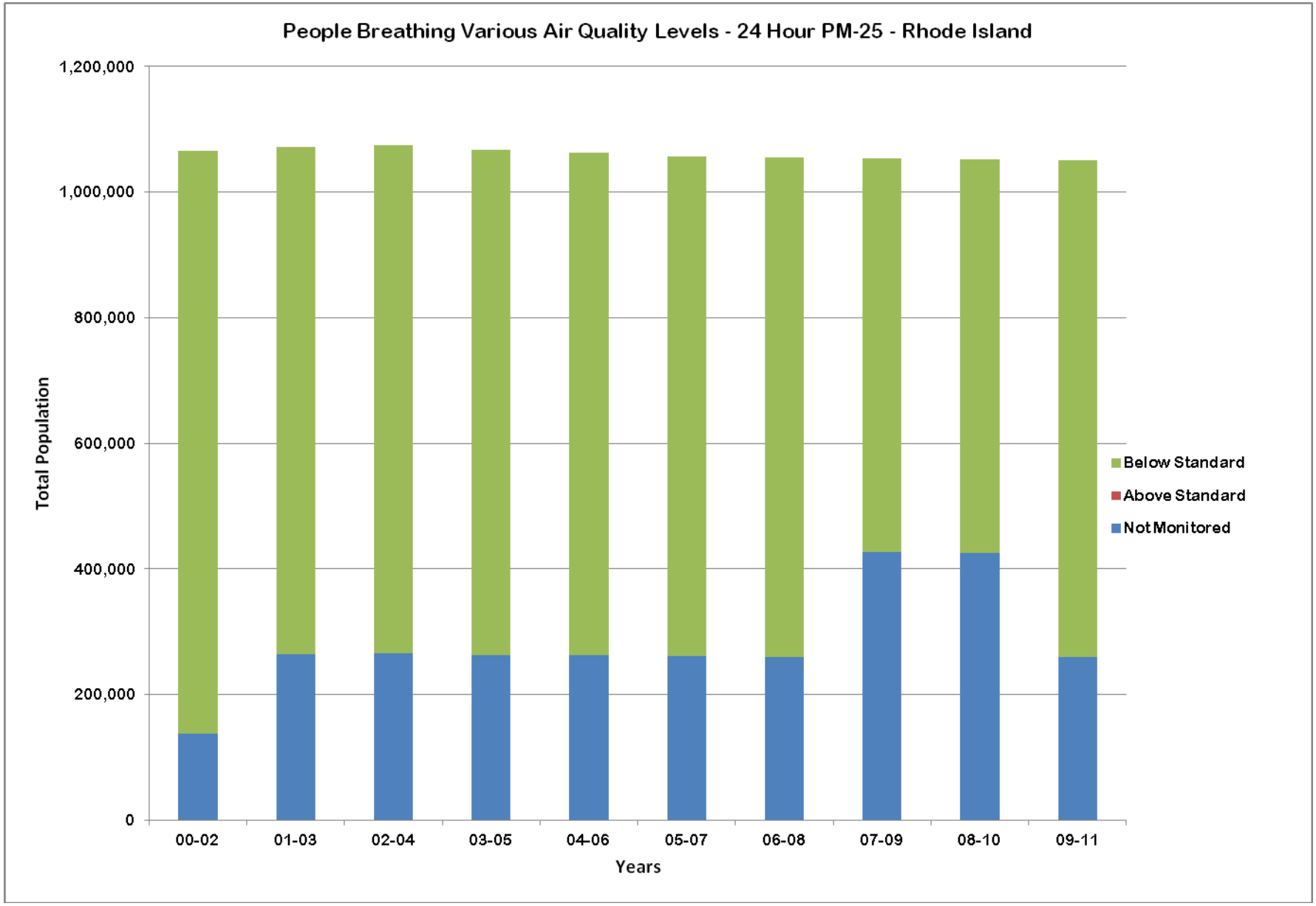
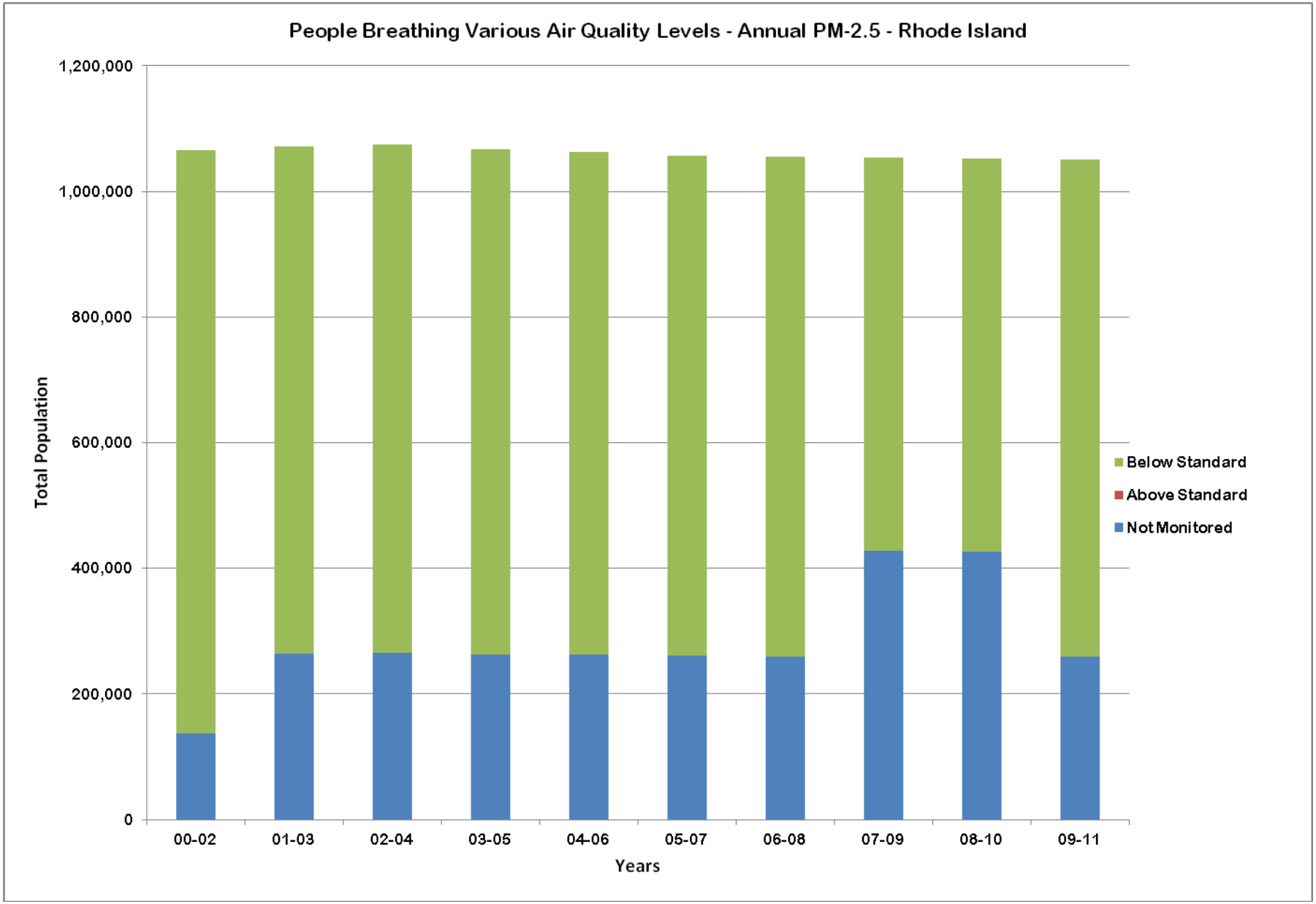

People Breathing Various Air Quality Levels - 24 Hour PM-25 - Rhode Island
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure RI-3


People Breathing Various Air Quality Levels - Annual PM-2.5 - Rhode Island
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# SOUTH CAROLINA

## Ozone

**Significant progress has been made in ozone levels in South Carolina. In the 2000 – 2002 time period, 0.5 million people (12.2%) lived in counties that met the ozone standard. By 2009 – 2011 this had increased to approximately 2.7 million people (58.0%). The remainder of the population lived in counties where ozone was not measured. Figure SC-1 shows the distribution of people by year.**

## 24-Hour PM-2.5

**24-hour PM-2.5 levels in South Carolina have historically been better than the standard. In the 2000 – 2002 time period, approximately 2.0 million people (49.6%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 -2011 this was approximately 2.0 million people (43.8%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure SC-2 shows the distribution of people by year.**

## Annual PM-2.5

**Annual PM-2.5 levels in South Carolina air quality have usually been better than the standard. In the 2000 – 2002 time period, approximately 2.0 million people (49.6%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this was approximately 2.0 million people (43.8%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure SC-3 shows the distribution of people by year.**

Table SC-1

2009 – 2011

| | | OZONE | | PARTICLE POLLUTION (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg. 24-Hr DV | Grade | Avg. Ann DV | Grade |
| Abbeville | 25,161 | 0.062 | B | ND | --- | ND | --- |
| Aiken | 160,602 | 0.068 | C | ND | --- | ND | --- |
| Anderson | 188,488 | 0.070 | C | ND | --- | ND | --- |
| Berkeley | 183,525 | 0.062 | B | ND | --- | ND | --- |
| Charleston | 357,704 | 0.066 | B | 22 | A | 9.4 | A |
| Cherokee | 55,540 | 0.066 | B | ND | --- | ND | --- |
| Chesterfield | 46,557 | 0.067 | B | 21 | A | 9.7 | A |
| Colleton | 38,611 | 0.064 | B | ND | --- | ND | --- |
| Darlington | 68,299 | 0.069 | C | ND | --- | ND | --- |
| Edgefield | 26,670 | 0.063 | B | 21 | A | 10.2 | A |
| Florence | 137,862 | ND | --- | 23 | A | 10.7 | A |
| Greenville | 461,299 | 0.068 | C | 23 | A | 11.0 | A |
| Lexington | 267,129 | ND | --- | 24 | A | 11.3 | A |
| Oconee | 74,418 | 0.065 | B | 21 | A | 9.1 | A |
| Pickens | 119,574 | 0.071 | C | ND | --- | ND | --- |
| Richland | 388,116 | 0.068 | C | 23 | A | 10.9 | A |
| Spartanburg | 286,868 | 0.075 | C | 23 | A | 10.9 | A |
| York | 230,528 | 0.064 | B | ND | --- | ND | --- |
| | | | | | | | |
| Subtotal | 3,118,031 | | | | | | |
| Not Monitored | 1,561,199 | | | | | | |
| Total | 4,679,230 | | | | | | |

DV – Design Value ND - No Data

# SOUTH CAROLINA

## Table SC-2
## People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| B | 0 | 0 | 0 | 0 | 0 | 164,913 | 171,099 | 213,956 | 806,472 | 1,038,714 |
| C | 500,445 | 504,849 | 554.127 | 1,113,810 | 821,395 | 633,282 | 650,871 | 1,406,122 | 1,079,588 | 1,674,326 |
| D | 399,447 | 358,158 | 1,267,519 | 1,193,451 | 1,125,207 | 1,277,136 | 892,177 | 402,518 | 284,307 | 0 |
| F | 1,157,188 | 1,214,457 | 331,443 | 0 | 268,898 | 0 | 279,673 | 0 | 0 | 0 |
| Subtotal | 2,057,080 | 2,077,464 | 2,153,089 | 2,307,261 | 2,215,500 | 2,075,331 | 1,993,820 | 2,022,596 | 2,170,367 | 2,713,040 |
| NM | 2,050,715 | 2,072,833 | 2,057,832 | 1,962,889 | 2,142,347 | 2,368,779 | 2,535,176 | 2,567,276 | 2,454,997 | 1,966,190 |
| Total | 4,107,795 | 4,150,297 | 4,210,921 | 4,270,150 | 4,357,847 | 4,444,110 | 4,528,996 | 4,589,872 | 4,625,364 | 4,679,230 |

## People Breathing Short-term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 490,503 | 1,231,383 | 942,176 | 807,174 | 0 | 337,147 | 1,249,671 | 1,999,632 | 2,017,513 | 2,047,623 |
| B | 899,229 | 493,591 | 975,832 | 920,586 | 1,279,939 | 1,851,257 | 718,415 | 0 | 0 | 0 |
| C | 648,664 | 394,242 | 399,319 | 1,025,008 | 1,283,170 | 274,215 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 2,038,396 | 2,119,216 | 2,317,327 | 2,752,768 | 2,563,109 | 2,462,619 | 1,968,086 | 1,999,632 | 2,017,513 | 2,047,623 |
| NM | 2,069,399 | 2,031,081 | 1,893,594 | 1,517,382 | 1,794,738 | 1,981,491 | 2,560,910 | 2,590,240 | 2,607,851 | 2,631,607 |
| Total | 4,107,795 | 4,150,297 | 4,210,921 | 4,270,150 | 4,357,847 | 4,444,110 | 4,528,996 | 4,589,872 | 4,625,364 | 4,679,230 |

## People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 197,484 | 776,952 | 797,493 | 1,019,253 | 218,703 | 813,429 | 415,010 | 1,293,994 | 2,017,513 | 2,047,623 |
| B | 513,518 | 616,023 | 282,105 | 734,703 | 840,568 | 266,235 | 861,587 | 705,638 | 0 | 0 |
| C | 1,327,394 | 331,999 | 1,237,729 | 998,812 | 1,087,881 | 1,382,955 | 691,489 | 0 | 0 | 0 |
| D | 0 | 394,242 | 0 | 0 | 415,957 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 2,038,396 | 2,119,216 | 2,317,327 | 2,752,768 | 2,563,109 | 2,462,619 | 1,968,086 | 1,999,632 | 2,017,513 | 2,047,623 |
| NM | 2,069,399 | 2,031,081 | 1,893,594 | 1,517,382 | 1,794,738 | 1,981,491 | 2,560,910 | 2,590,240 | 2,607,851 | 2,631,607 |
| Total | 4,107,795 | 4,150,297 | 4,210,921 | 4,270,150 | 4,357,847 | 4,444,110 | 4,528,996 | 4,589,872 | 4,625,364 | 4,679,230 |

NM – Not Monitored

Figure SC-1

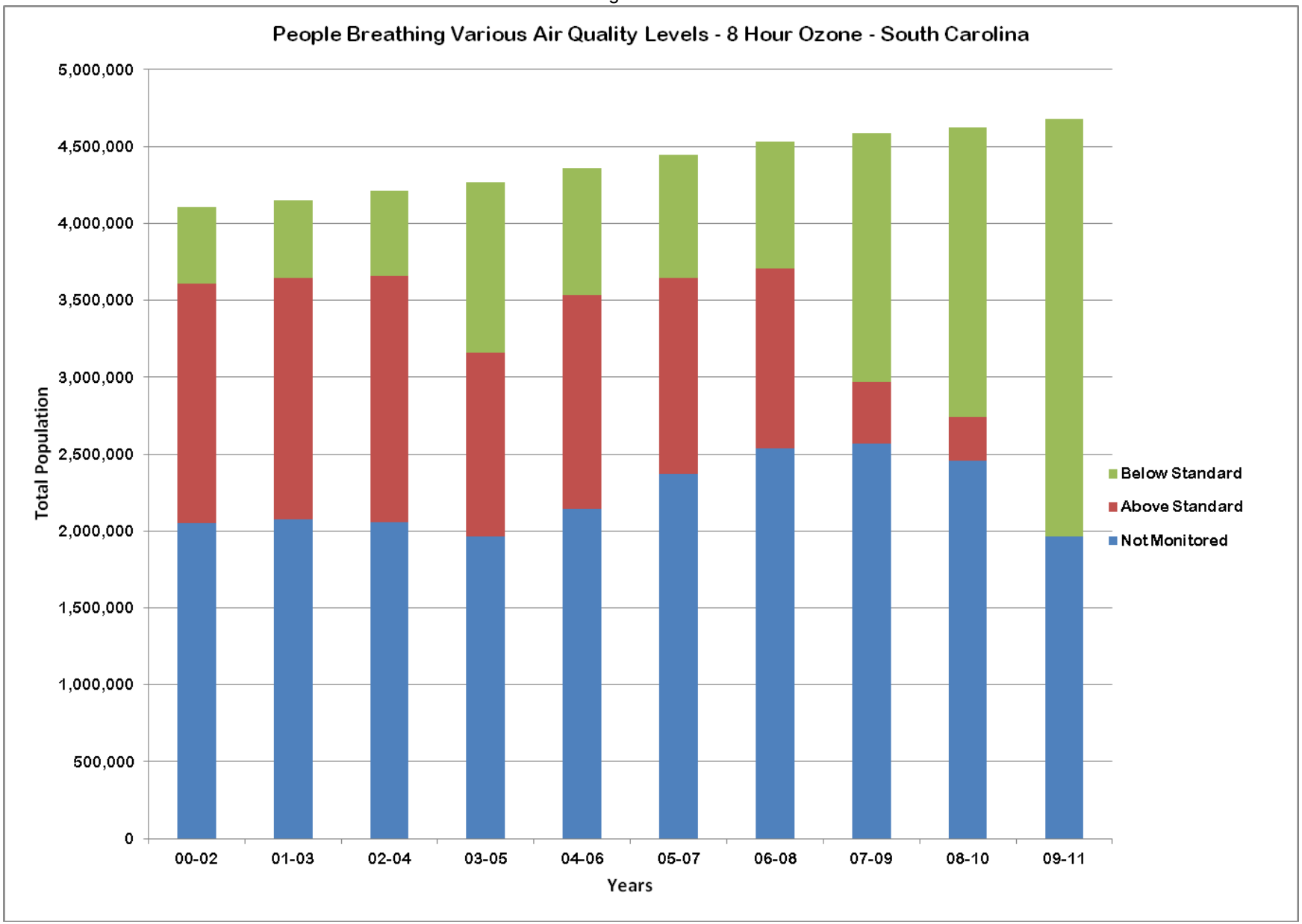

People Breathing Various Air Quality Levels - 8 Hour Ozone - South Carolina
5,000,000
4,500,000
4,000,000
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure SC-2

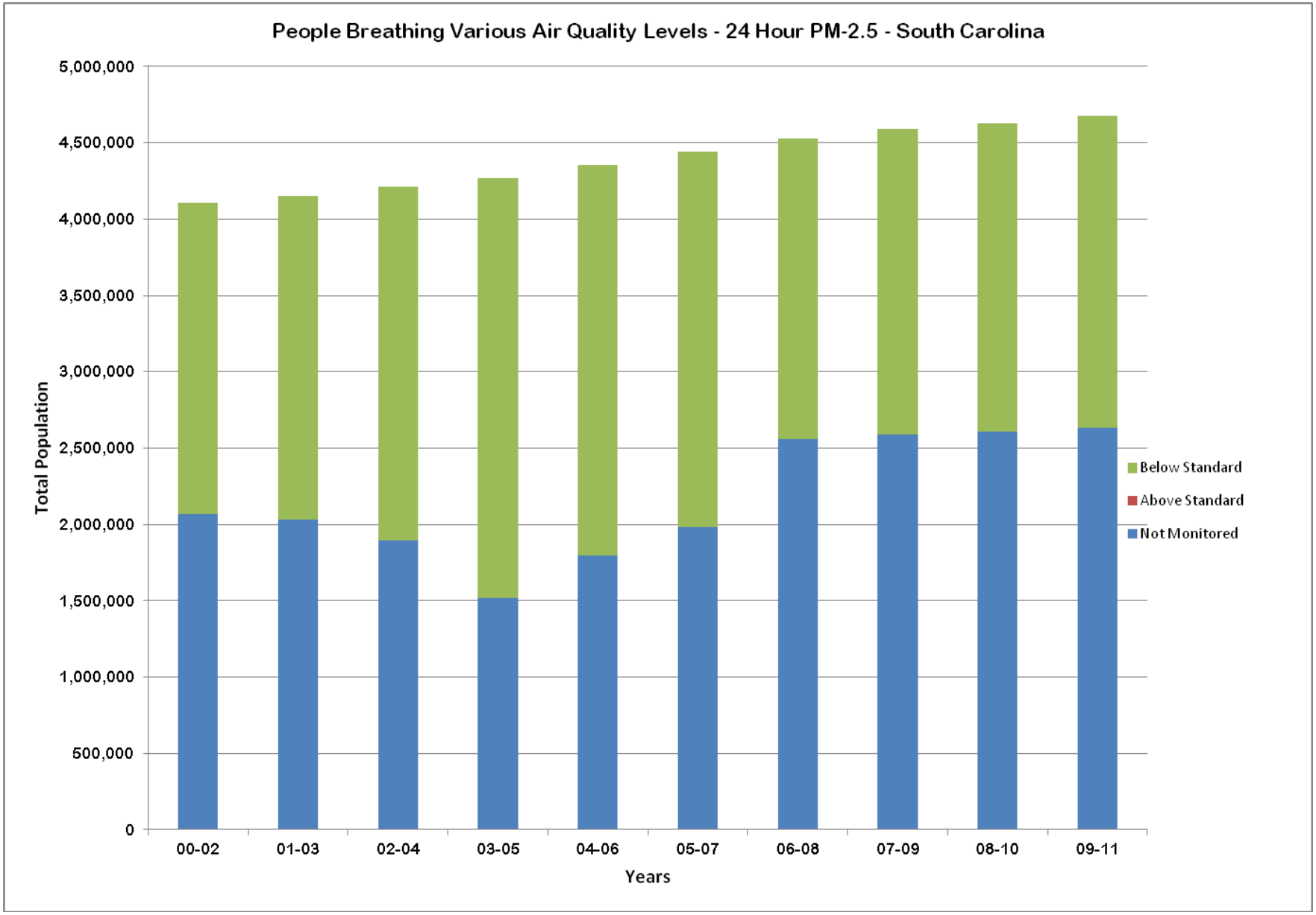
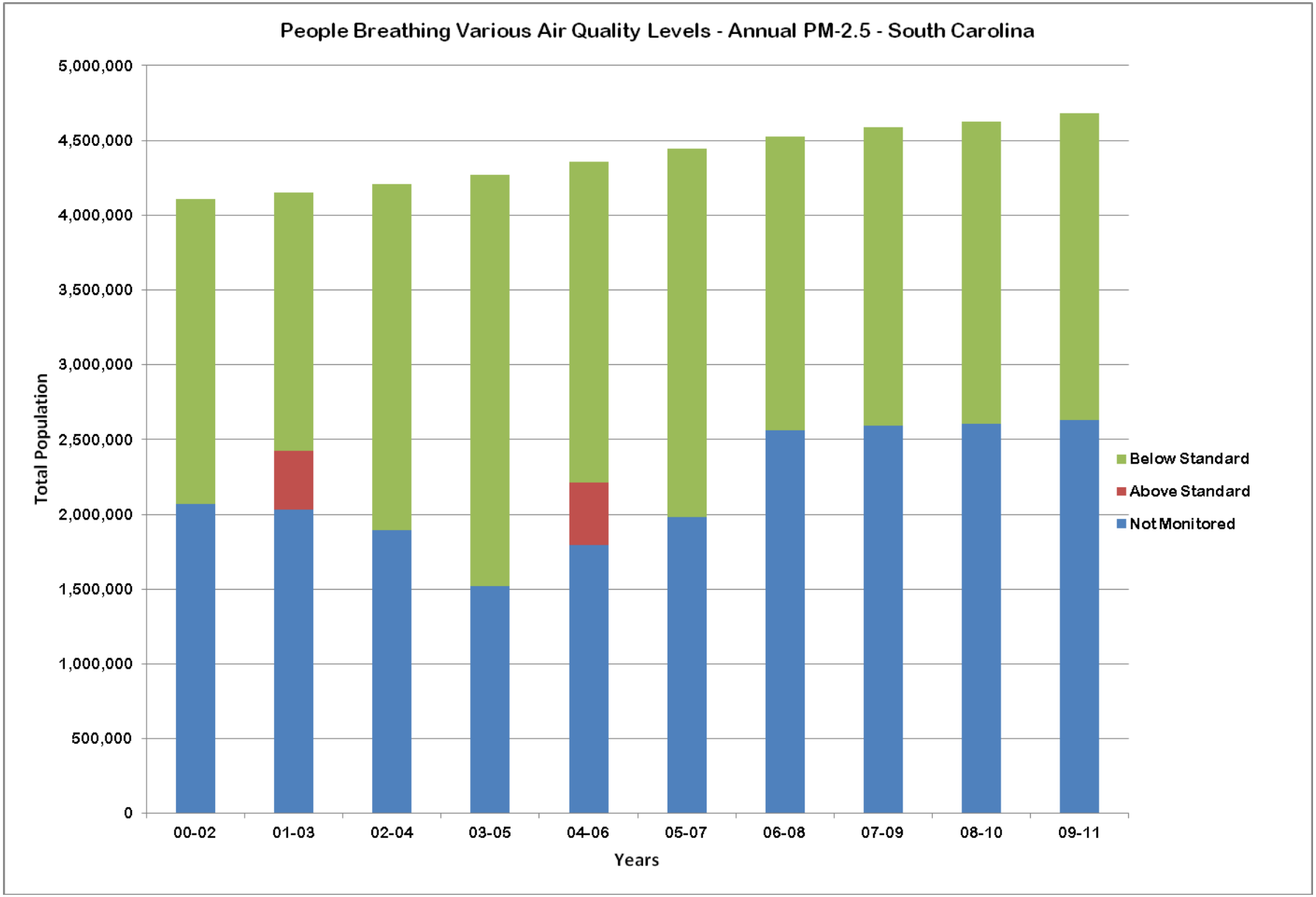

People Breathing Various Air Quality Levels - 24 Hour PM-2.5 - South Carolina
Total Population
5,000,000
4,500,000
4,000,000
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure SC-3


People Breathing Various Air Quality Levels - Annual PM-2.5 - South Carolina
5,000,000
4,500,000
4,000,000
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# SOUTH DAKOTA

## Ozone

**Ozone levels in South Dakota have historically been better than the standard. In the 2000 – 2002 time period, no people lived in counties where measured air quality met the ozone standard. By 2009 – 2011 this had increased to approximately 0.26 million people (31.0%). The remainder of the population lived in counties where ozone was not measured. Figure SD-1 shows the distribution of people by year.**

## 24-Hour PM-2.5

**24-hour PM-2.5 levels in South Dakota have historically been better than the standard. In the 2000 – 2002 time period, approximately 0.3 million people (40.8%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 -2011 this was approximately 0.4 million people (48.2%) and this air was at least 20% below the standard (A Rating). The remainder of the population lived in counties where PM-2.5 was not measured. Figure SD-2 shows the distribution of people by year.**

## Annual PM-2.5

**Annual PM-2.5 levels in South Dakota have historically been better than the standard. In the 2000 – 2002 time period, approximately 0.3 million people (40.8%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this had increased to approximately 0.4 million people (48.2%) and this air was at least 20% below the standard (A Rating). The remainder of the population lived in counties where PM-2.5 was not measured. Figure SD-3 shows the distribution of people by year.**

Table SD-1

2009 – 2011

| | | OZONE | | PARTICLE POLLUTION (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg. 24-Hr DV | Grade | Avg. Ann DV | Grade |
| Brookings | 32,226 | 0.062 | B | 23 | A | 8.4 | A |
| Brown | 36,822 | ND | --- | 22 | A | 8.0 | A |
| Codington | 27,442 | ND | --- | 22 | A | 8.5 | A |
| Custer | 8,338 | 0.060 | B | 12 | A | 4.2 | A |
| Jackson | 3,169 | 0.055 | A | 11 | A | 3.8 | A |
| Meade | 25,546 | 0.057 | A | ND | --- | ND | --- |
| Minnehaha | 171,752 | 0.064 | B | 24 | A | 9.1 | A |
| Pennington | 102,815 | ND | --- | 15 | A | 5.7 | A |
| Union | 14,651 | 0.061 | B | 24 | A | 8.8 | A |
| | | | | | | | |
| Subtotal | 422,761 | | | | | | |
| Not Monitored | 401,321 | | | | | | |
| Total | 824,082 | | | | | | |

DV – Design Value ND - No Data

# SOUTH DAKOTA

## Table SD-2

### People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25,314 | 28,465 | 28,715 |
| B | 0 | 0 | 0 | 93,099 | 255,024 | 163,577 | 174,380 | 176,577 | 209,649 | 226,967 |
| C | 0 | 0 | 92,560 | 0 | 2,976 | 11,036 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 0 | 0 | 92,560 | 93,099 | 258,000 | 174,613 | 174,380 | 201,891 | 238,114 | 255,682 |
| NM | 760,020 | 763,729 | 677,836 | 682,394 | 525,033 | 617,010 | 624,744 | 605,176 | 576,066 | 568,400 |
| Total | 760,020 | 763,729 | 770,396 | 775,493 | 783,033 | 791,623 | 799,124 | 807,067 | 814,180 | 824,082 |

### People Breathing Short-term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 309,715 | 336,751 | 340,933 | 345,149 | 350,638 | 364,196 | 369,729 | 388,578 | 377,386 | 397,215 |
| B | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 309,715 | 336,751 | 340,933 | 345,149 | 350,638 | 364,196 | 369,729 | 388,578 | 377,386 | 397,215 |
| NM | 450,305 | 426,978 | 429,463 | 430,344 | 432,395 | 427,427 | 429,395 | 418,489 | 436,794 | 426,867 |
| Total | 760,020 | 763,729 | 770,396 | 775,493 | 783,033 | 791,623 | 799,124 | 807,067 | 814,180 | 824,082 |

### People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 309,715 | 336,751 | 340,933 | 345,149 | 350,638 | 364,196 | 369,729 | 388,578 | 377,386 | 397,215 |
| B | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 309,715 | 336,751 | 340,933 | 345,149 | 350,638 | 364,196 | 369,729 | 388,578 | 377,386 | 397,215 |
| NM | 450,305 | 426,978 | 429,463 | 430,344 | 432,395 | 427,427 | 429,395 | 418,489 | 436,794 | 426,867 |
| Total | 760,020 | 763,729 | 770,396 | 775,493 | 783,033 | 791,623 | 799,124 | 807,067 | 814,180 | 824,082 |

NM –Not Monitored

Figure SD-1

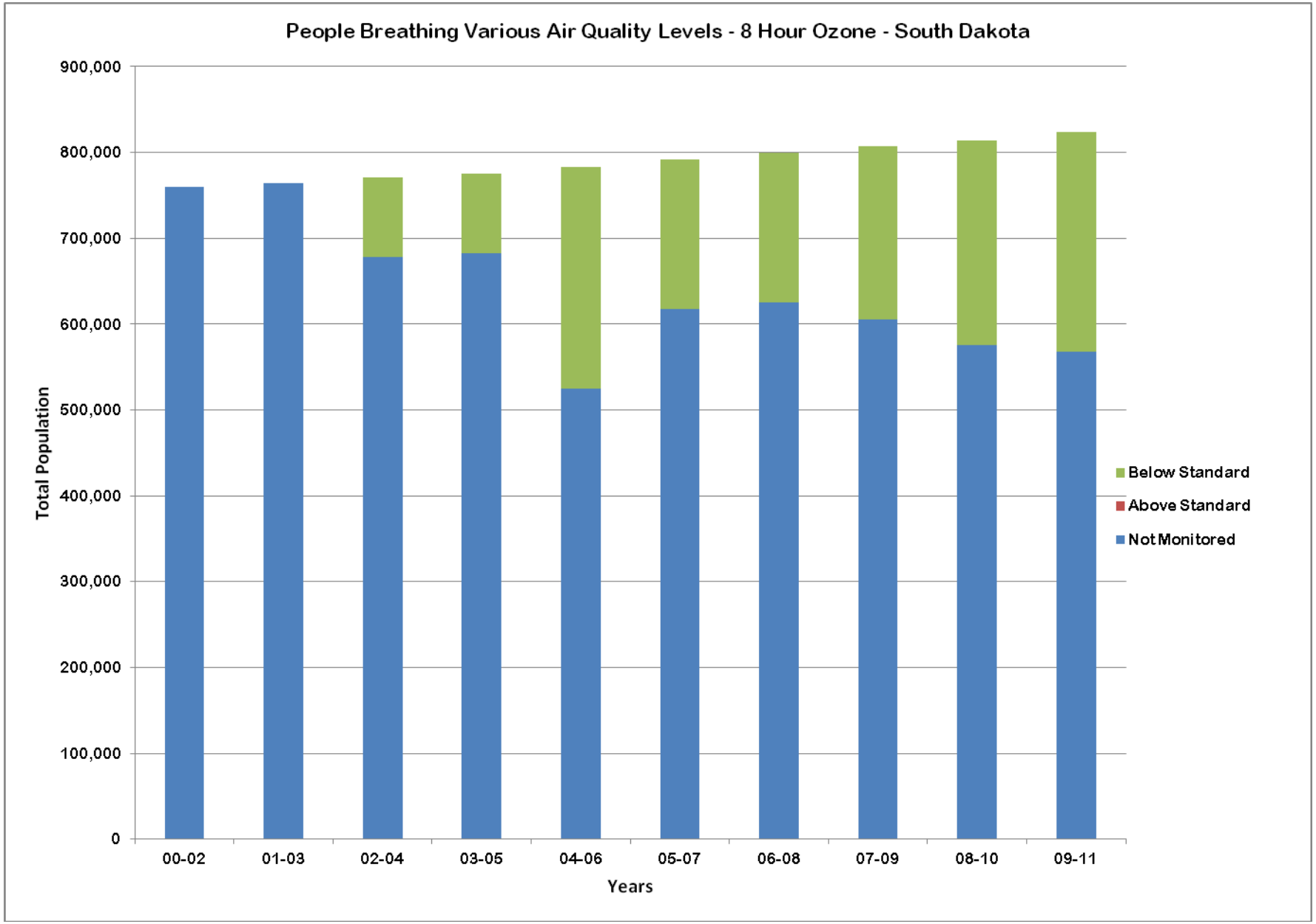

People Breathing Various Air Quality Levels - 8 Hour Ozone - South Dakota
900,000
800,000
700,000
600,000
500,000
400,000
300,000
200,000
100,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure SD-2

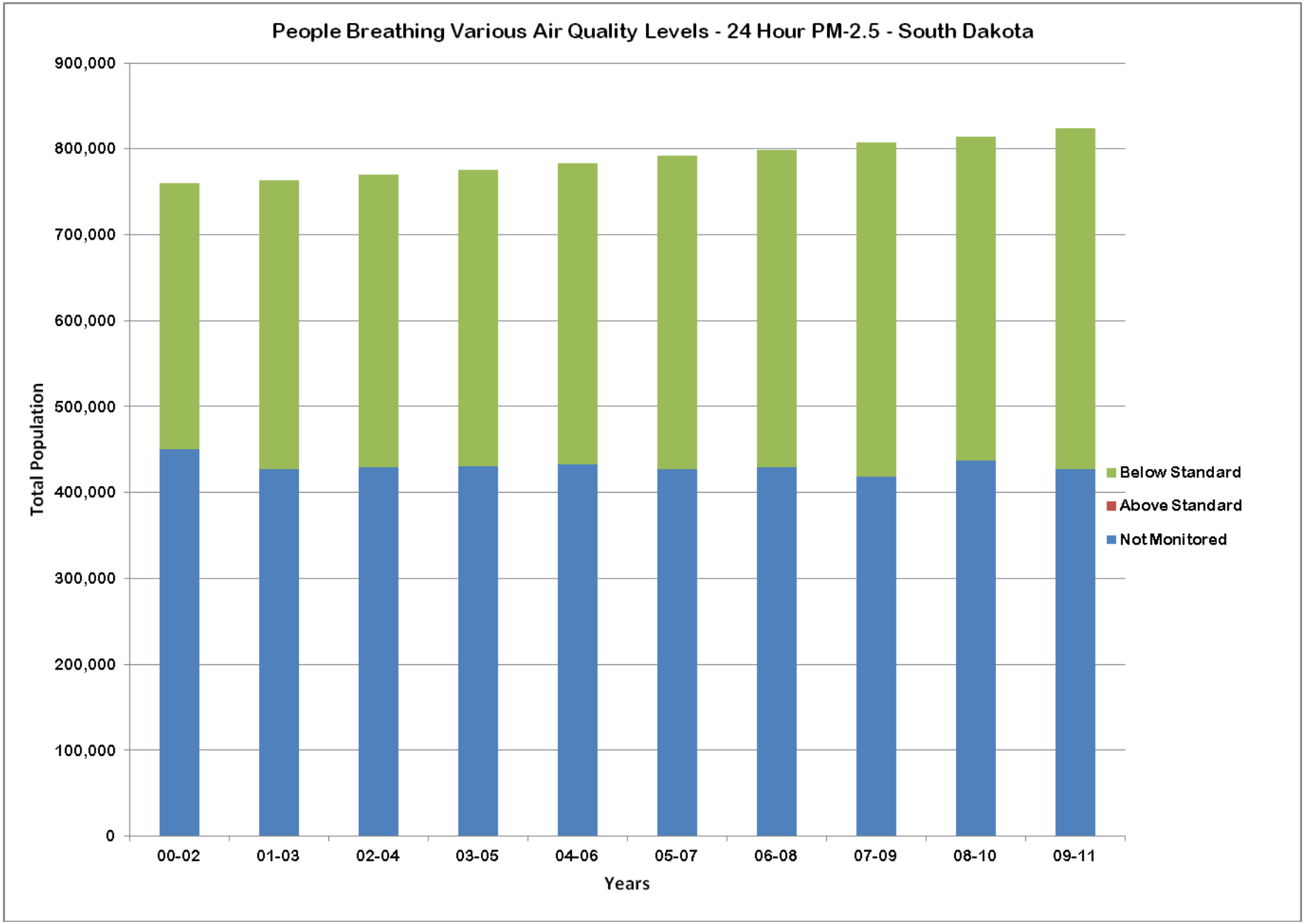
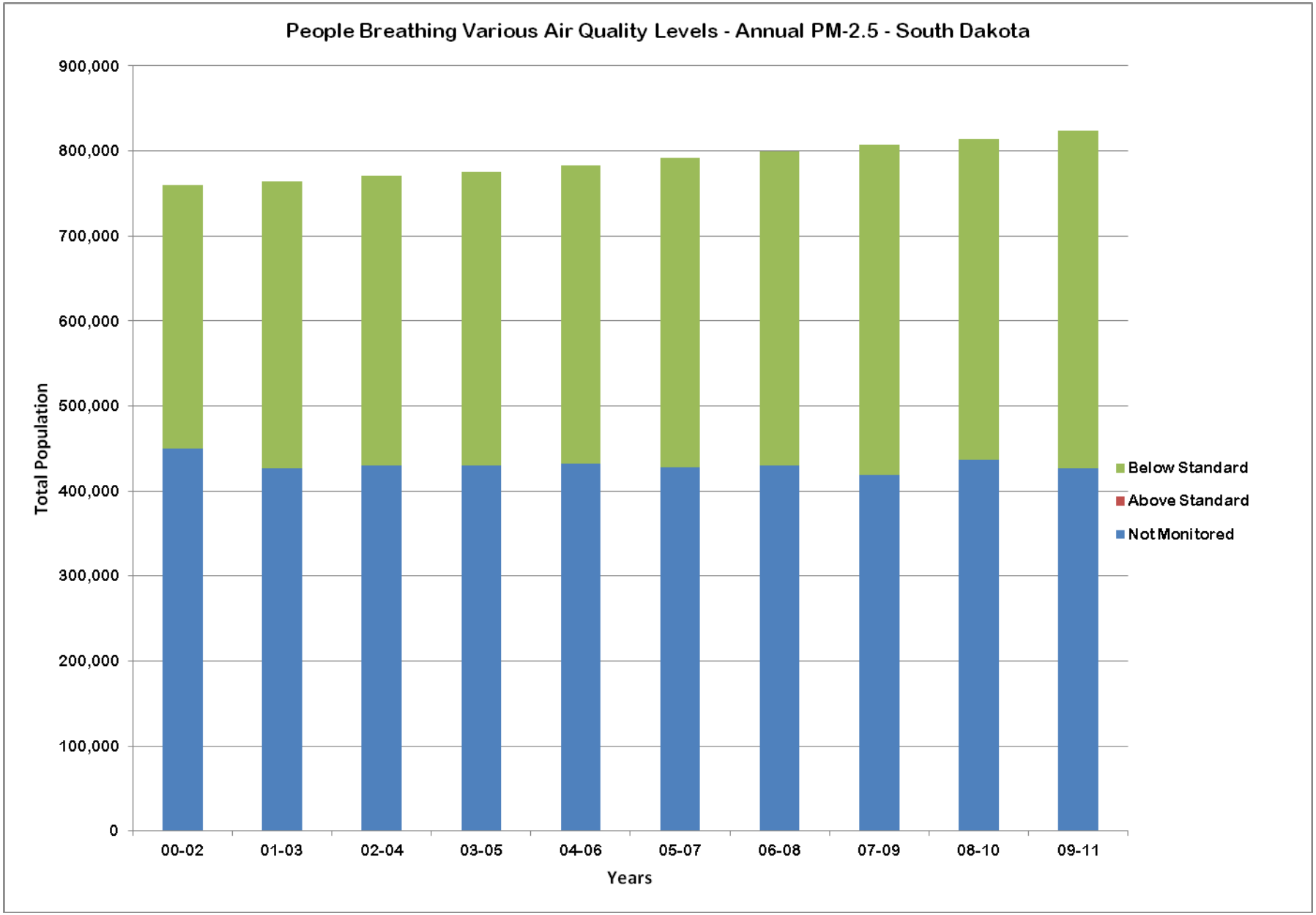

People Breathing Various Air Quality Levels - 24 Hour PM-2.5 - South Dakota
900,000
800,000
700,000
600,000
500,000
400,000
300,000
200,000
100,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure SD-3


People Breathing Various Air Quality Levels - Annual PM-2.5 - South Dakota
900,000
800,000
700,000
600,000
500,000
400,000
300,000
200,000
100,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# TENNESSEE

## Ozone

**Progress has been made in ozone levels in Tennessee. In the 2000 – 2002 time period, no people lived in counties that met the ozone standard. By 2009 – 2011 this had increased to approximately 3.1 million people (48.7%). Figure TN-1 shows the distribution of people by year.**

## 24-Hour PM-2.5

**Progress has been made in 24-hour PM-2.5 levels in Tennessee. In the 2000 – 2002 time period, approximately 2.2 million people (37.4%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 -2011 this was approximately 3.5 million people (54.0%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure TN-2 shows the distribution of people by year.**

## Annual PM-2.5

**Progress has been made in annual PM-2.5 levels in Tennessee. In the 2000 – 2002 time period, approximately 2.1 million people (35.5%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this had increased to approximately 3.5 million people (54.0%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure TN-3 shows the distribution of people by year.**

# TENNESSEE

Table TN-1

2009 – 2011

| | | OZONE | | PARTICLE POLLUTION (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg. 24-Hr DV | Grade | Avg. Ann DV | Grade |
| Anderson | 75,233 | 0.071 | C | ND | --- | ND | --- |
| Blount | 123,901 | 0.073 | C | 21 | A | 11.0 | A |
| Davidson | 635,475 | 0.066 | B | 22 | A | 10.5 | A |
| Dyer | 38,192 | ND | --- | 22 | A | 9.7 | A |
| Hamilton | 340,855 | 0.073 | C | 23 | A | 11.0 | A |
| Jefferson | 51,666 | 0.073 | C | ND | --- | ND | --- |
| Knox | 436,929 | ND | --- | 24 | A | 11.8 | A |
| Lawrence | 42,115 | ND | --- | 19 | A | 8.6 | A |
| Loudon | 49,237 | 0.073 | C | 24 | A | 11.7 | A |
| McMinn | 52,508 | ND | --- | 22 | A | 11.0 | A |
| Madison | 98,255 | ND | --- | 20 | A | 9.3 | A |
| Maury | 81,509 | ND | --- | 19 | A | 9.2 | A |
| Meigs | 11,737 | 0.072 | C | ND | --- | ND | --- |
| Montgomery | 176,619 | ND | --- | 23 | A | 10.4 | A |
| Putnam | 72,958 | ND | --- | 20 | A | 9.6 | A |
| Roane | 53,838 | ND | --- | 23 | A | 11.2 | A |
| Rutherford | 268,921 | 0.068 | C | ND | --- | ND | --- |
| **Sevier** | **91,466** | **0.076** | **D** | ND | --- | ND | --- |
| **Shelby** | **935,088** | **0.074** | **D** | 22 | A | 10.4 | A |
| Sullivan | 157,419 | 0.071 | C | 22 | A | 10.7 | A |
| Sumner | 163,686 | 0.073 | C | 21 | A | 10.2 | A |
| Williamson | 188,560 | 0.070 | C | ND | --- | ND | --- |
| Wilson | 116,617 | 0.071 | C | ND | --- | ND | --- |
| | | | | | | | |
| Subtotal | 4,262,784 | | | | | | |
| Not Monitored | 2,140,569 | | | | | | |
| Total | 6,403,353 | | | | | | |

DV – Design Value ND - No Data

# TENNESSEE

## Table TN-2

### People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| B | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 626,681 | 635,475 |
| C | 0 | 577,231 | 898,409 | 1,280,128 | 992,746 | 0 | 1,040,712 | 1,871,561 | 2,883,435 | 2,482,920 |
| D | 614,739 | 423,220 | 1,732,372 | 2,196,758 | 2,395,974 | 2,626,328 | 1,930,630 | 1,699,159 | 89,889 | 91,466 |
| F | 2,716,119 | 2,364,557 | 688,143 | 0 | 0 | 813,696 | 513,259 | 0 | 0 | 0 |
| Subtotal | 3,330,858 | 3,365,008 | 3,318,924 | 3,476,886 | 3,388,720 | 3,440,024 | 3,484,601 | 3,570,720 | 3,600,005 | 3,209,861 |
| NM | 2,465,060 | 2,482,804 | 2,591,885 | 2,514,171 | 2,700,046 | 2,735,703 | 2,762,810 | 2,735,299 | 2,746,100 | 3,193,492 |
| Total | 5,795,918 | 5,847,812 | 5,910,809 | 5,991,057 | 6,088,766 | 6,175,727 | 6,247,411 | 6,306,019 | 6,346,105 | 6,403,353 |

### People Breathing Short-term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 40,596 | 317,901 | 458,804 | 324,784 | 1,862,045 | 3,174,128 | 3,422,601 | 3,458,583 |
| B | 475,438 | 982,621 | 2,381,775 | 359,276 | 447,278 | 174,878 | 1,449,776 | 222,961 | 0 | 0 |
| C | 1,690,901 | 2,068,090 | 655,219 | 2,479,597 | 2,389,629 | 2,765,638 | 52,284 | 0 | 0 | 0 |
| D | 644,862 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 311,890 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 3,123,091 | 3,050,711 | 3,077,590 | 3,156,774 | 3,295,711 | 3,265,300 | 3,364,105 | 3,397,089 | 3,422,601 | 3,458,584 |
| NM | 2,672,827 | 2,797,101 | 2,833,219 | 2,834,283 | 2,793,055 | 2,910,427 | 2,883,306 | 2,908,930 | 2,923,504 | 2,944,769 |
| Total | 5,795,918 | 5,847,812 | 5,910,809 | 5,991,057 | 6,088,766 | 6,175,727 | 6,247,411 | 6,306,019 | 6,346,105 | 6,403,353 |

### People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 78,116 | 0 | 137,454 | 97,021 | 176,485 | 2,690,286 | 2,941,819 | 3,458,584 |
| B | 215,788 | 1,260,512 | 1,916,256 | 1,132,710 | 113,838 | 2,168,582 | 2,157,917 | 658,863 | 480,782 | 0 |
| C | 1,841,036 | 1,082,857 | 684,911 | 1,575,907 | 2,587,427 | 534,307 | 1,029,703 | 47,940 | 0 | 0 |
| D | 676,824 | 707,342 | 398,307 | 448,157 | 456,992 | 465,390 | 0 | 0 | 0 | 0 |
| F | 389,443 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 3,123,091 | 3,050,711 | 3,077,590 | 3,156,774 | 3,295,711 | 3,265,300 | 3,364,105 | 3,397,089 | 3,422,601 | 3,458,584 |
| NM | 2,672,827 | 2,797,101 | 2,833,219 | 2,834,283 | 2,793,055 | 2,910,427 | 2,883,306 | 2,908,930 | 2,923,504 | 2,944,769 |
| Total | 5,795,918 | 5,847,812 | 5,910,809 | 5,991,057 | 6,088,766 | 6,175,727 | 6,247,411 | 6,306,019 | 6,346,105 | 6,403,353 |

NM – Not Monitored

Figure TN-1

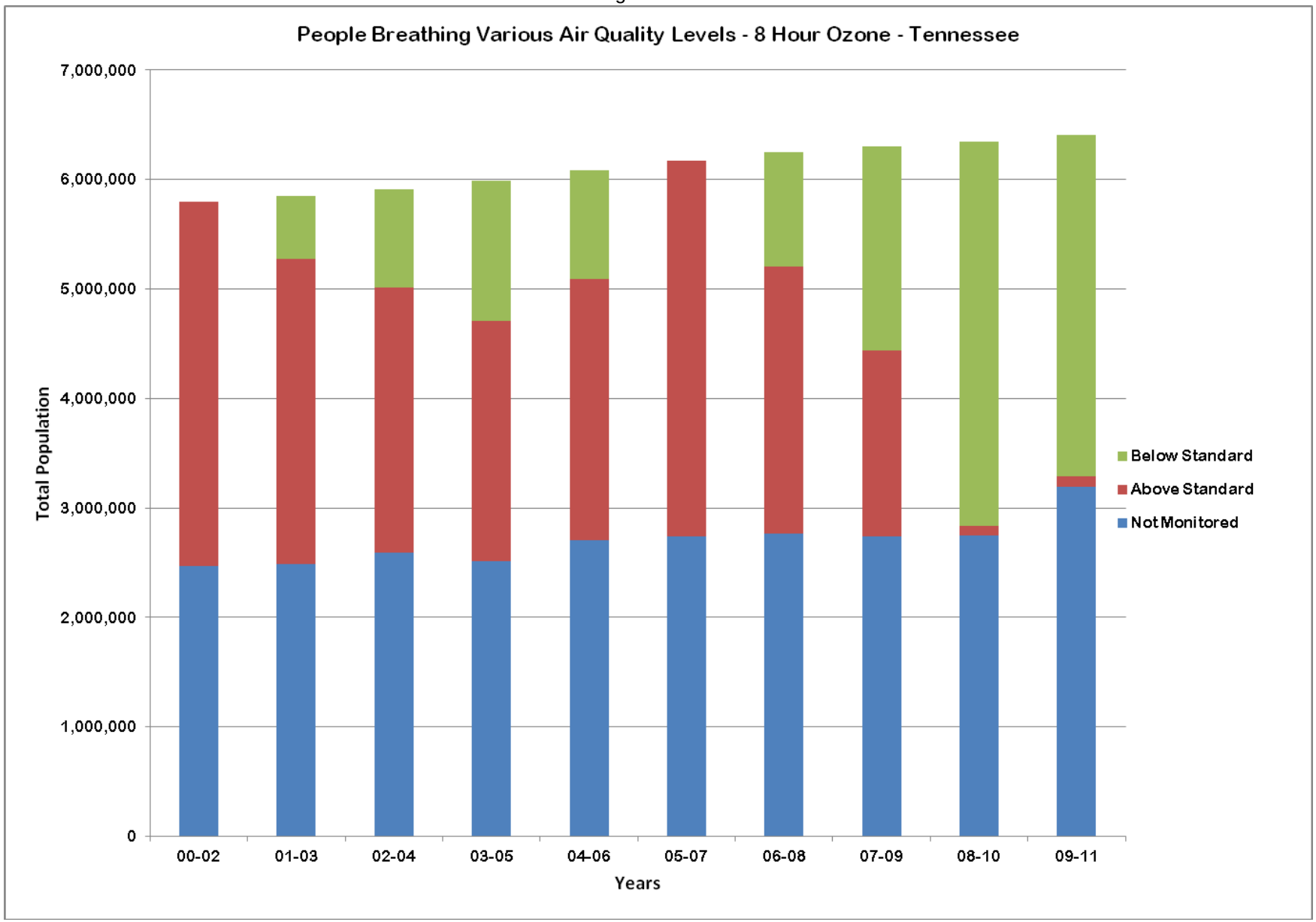

People Breathing Various Air Quality Levels - 8 Hour Ozone - Tennessee
7,000,000
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure TN-2

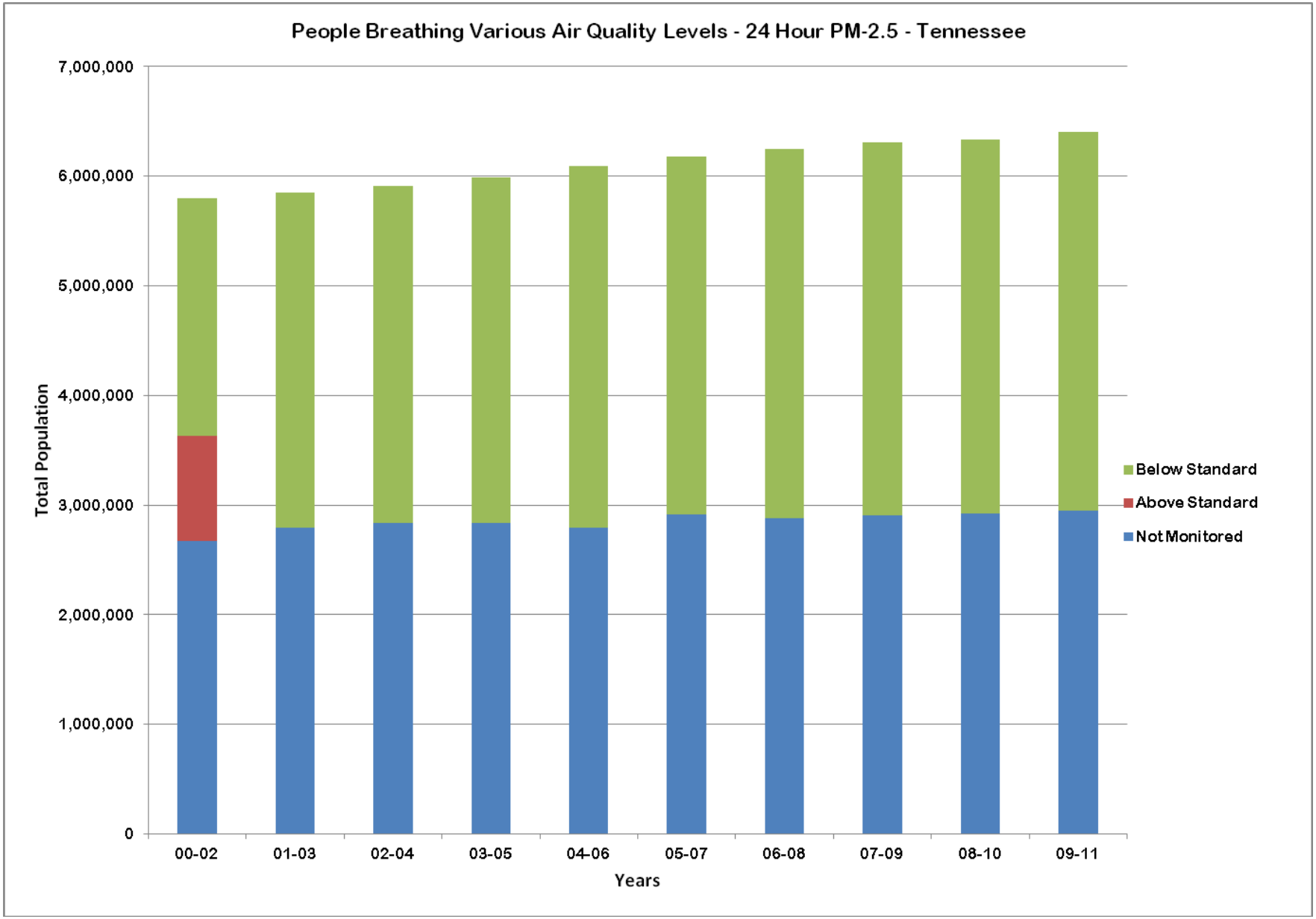

People Breathing Various Air Quality Levels - 24 Hour PM-2.5 - Tennessee
7,000,000
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure TN-3

People Breathing Various Air Quality Levels - Annual PM-2.5 - Tennessee
7,000,000
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# TEXAS

## Ozone

**Significant progress has been made in ozone levels in Texas. In the 2000 – 2002 time period, 1.2 million people (5.4%) lived in counties that met the ozone standard. By 2009 – 2011 this had increased to approximately 7.0 million people (27.1%). Figure TX-1 shows the distribution of people by year.**

## 24-Hour PM-2.5

**24-hour PM-2.5 levels in Texas have historically been better than the standard. In the 2000 – 2002 time period, approximately 14.0 million people (64.8%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 -2011 this was approximately 14.0 million people (54.3%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure TX-2 shows the distribution of people by year.**

## Annual PM-2.5

**Annual PM-2.5 levels in Texas have historically been better than the standard. In the 2000 – 2002 time period, approximately 14.0 million people (64.8%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this had decreased to approximately 14.0 million people (54.3%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure TX-3 shows the distribution of people by year.**

# TEXAS

Table TX-1

2009 – 2011

| | | OZONE | | PARTICLE POLLUTION (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg. 24-Hr DV | Grade | Avg. Ann DV | Grade |
| Bexar | 1,756,153 | 0.072 | C | 22 | A | 9.3 | A |
| Bowie | 92,793 | ND | --- | 22 | A | 11.1 | A |
| **Brazoria** | **319,973** | **0.079** | **D** | ND | --- | ND | --- |
| Brewster | 9,386 | 0.070 | C | ND | --- | ND | --- |
| Cameron | 414,123 | 0.065 | B | 21 | A | 10.4 | A |
| **Collin** | **812,226** | **0.081** | **D** | ND | --- | ND | --- |
| **Dallas** | **2,416,014** | **0.079** | **D** | 20 | A | 10.4 | A |
| **Denton** | **686,406** | **0.083** | **F** | ND | --- | ND | --- |
| Ellis | 152,753 | 0.072 | C | 20 | A | 9.6 | A |
| El Paso | 820,790 | 0.068 | C | 21 | A | 9.3 | A |
| **Galveston** | **295,747** | **0.078** | **D** | ND | --- | ND | --- |
| **Gregg** | **123,081** | **0.078** | **D** | ND | --- | ND | --- |
| **Harris** | **4,180,894** | **0.079** | **D** | 22 | A | 11.7 | A |
| Harrison | 66,296 | 0.073 | C | 20 | A | 10.6 | A |
| Hidalgo | 797,810 | 0.061 | B | 23 | A | 10.4 | A |
| **Hood** | **51,670** | **0.077** | **D** | ND | --- | ND | --- |
| Hunt | 86,531 | 0.069 | C | ND | --- | ND | --- |
| Jefferson | 252,802 | 0.074 | C | ND | --- | ND | --- |
| **Johnson** | **152,734** | **0.079** | **D** | ND | --- | ND | --- |
| Kaufman | 105,358 | 0.069 | C | ND | --- | ND | --- |
| McLennan | 238,564 | 0.073 | C | ND | --- | ND | --- |
| Montgomery | 471,734 | 0.074 | C | ND | --- | ND | --- |
| Nueces | 343,281 | 0.071 | C | 24 | A | 9.7 | A |
| Orange | 82,487 | 0.073 | C | ND | --- | ND | --- |
| **Parker** | **118,376** | **0.079** | **D** | ND | --- | ND | --- |
| **Rockwall** | **81,290** | **0.077** | **D** | ND | --- | ND | --- |
| Smith | 213,381 | 0.075 | C | ND | --- | ND | --- |
| **Tarrant** | **1,849,815** | **0.085** | **F** | 21 | A | 10.2 | A |
| Travis | 1,063,130 | 0.073 | C | 21 | A | 9.3 | A |
| Victoria | 87,545 | 0.070 | C | ND | --- | ND | --- |
| Webb | 256,496 | 0.058 | A | ND | --- | ND | --- |
| | | | | | | | |
| Subtotal | 18,998,625 | | | | | | |
| Not Monitored | 6,676,056 | | | | | | |
| Total | 25,674,681 | | | | | | |

DV – Design Value ND - No Data

# TEXAS

## Table TX-2

### People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 240,287 | 1,003,376 | 250,304 | 0 |
| B | 565,140 | 579,308 | 226,860 | 907,515 | 1,313,618 | 1,345,007 | 1,245,098 | 782,456 | 1,514,228 | 1,211,933 |
| C | 610,520 | 713,797 | 1,104,318 | 1,639,729 | 627,439 | 638,508 | 1,655,510 | 5,546,832 | 8,189,141 | 5,750,191 |
| D | 1,791,608 | 1,759,851 | 2,618,464 | 1,503,033 | 2,306,327 | 4,228,314 | 10,382,516 | 8,560,044 | 9,002,923 | 8,552,005 |
| F | 11,831,019 | 11,590,432 | 11,119,570 | 11,935,305 | 12,202,152 | 10,312,096 | 3,378,516 | 1,934,661 | 0 | 2,536,221 |
| Subtotal | 14,798,287 | 14,643,388 | 15,069,212 | 15,985,582 | 16,449,536 | 16,523,925 | 16,901,927 | 17,827,369 | 18,956,596 | 18,050,350 |
| NM | 6,892,038 | 7,387,543 | 7,324,811 | 6,792,541 | 6,910,044 | 7,308,058 | 7,407,112 | 6,974,392 | 6,188,965 | 7,624,331 |
| Total | 21,690,325 | 22,030,931 | 22,394,023 | 22,778,123 | 23,359,580 | 23,831,983 | 24,309,039 | 24,801,761 | 25,145,561 | 25,674,681 |

### People Breathing Short-term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 4,961,295 | 3,516,167 | 5,080,916 | 6,281,600 | 8,896,815 | 9,380,407 | 10,994,773 | 11,229,672 | 13,095,892 | 13,953,852 |
| B | 8,641,450 | 6,581,848 | 5,131,869 | 4,130,330 | 171,922 | 846,034 | 769,930 | 786,759 | 800,647 | 0 |
| C | 446,726 | 2,951,632 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 717,652 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 14,049,471 | 13,049,647 | 10,930,437 | 11,140,025 | 9,813,532 | 10,226,441 | 11,764,703 | 12,016,431 | 13,896,539 | 13,953,852 |
| NM | 7,640,854 | 8,981,284 | 11,463,586 | 11,638,098 | 13,546,048 | 13,605,542 | 12,544,336 | 12,785,330 | 11,249,022 | 11,720,829 |
| Total | 21,690,325 | 22,030,931 | 22,394,023 | 22,778,123 | 23,359,580 | 23,831,983 | 24,309,039 | 24,801,761 | 25,145,561 | 25,674,681 |

### People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 6,370,201 | 4,694,164 | 2,554,389 | 2,662,582 | 5,171,067 | 5,517,063 | 6,964,844 | 7,981,565 | 13,896,539 | 13,953,852 |
| B | 7,679,270 | 6,020,212 | 7,658,396 | 7,749,348 | 3,897,670 | 4,709,378 | 4,799,859 | 4,034,866 | 0 | 0 |
| C | 0 | 2,335,271 | 717,652 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 744,795 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 728,095 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 14,049,471 | 13,049,647 | 10,930,437 | 11,140,025 | 9,813,532 | 10,226,441 | 11,764,703 | 12,016,431 | 13,896,539 | 13,953,852 |
| NM | 7,640,854 | 8,981,284 | 11,463,586 | 11,638,098 | 13,546,048 | 13,605,542 | 12,544,336 | 12,785,330 | 11,249,022 | 11,720,829 |
| Total | 21,690,325 | 22,030,931 | 22,394,023 | 22,778,123 | 23,359,580 | 23,831,983 | 24,309,039 | 24,801,761 | 25,145,561 | 25,674,681 |

NM – Not Monitored

Figure TX-1

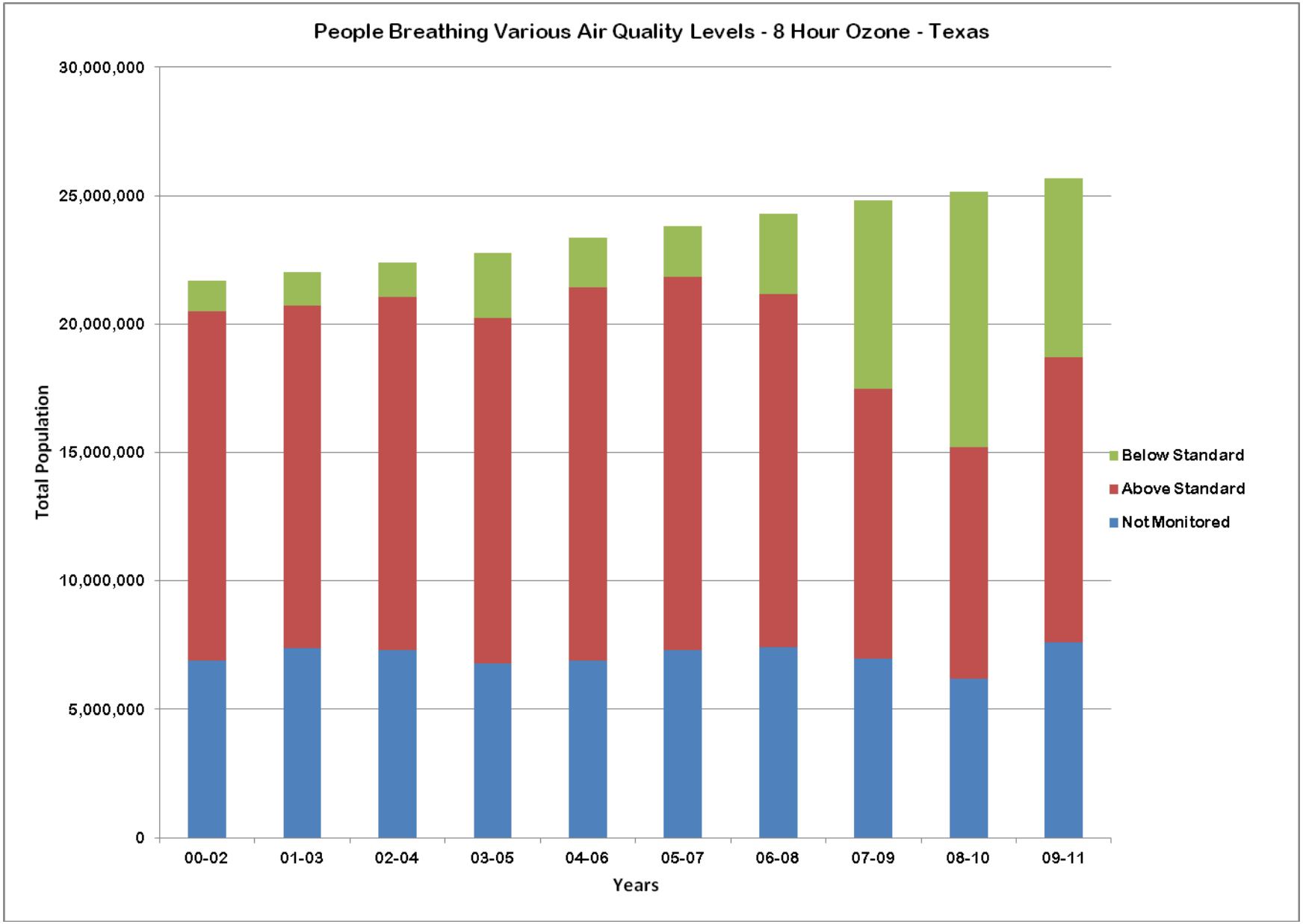

People Breathing Various Air Quality Levels - 8 Hour Ozone - Texas
30,000,000
25,000,000
20,000,000
15,000,000
10,000,000
5,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure TX-2

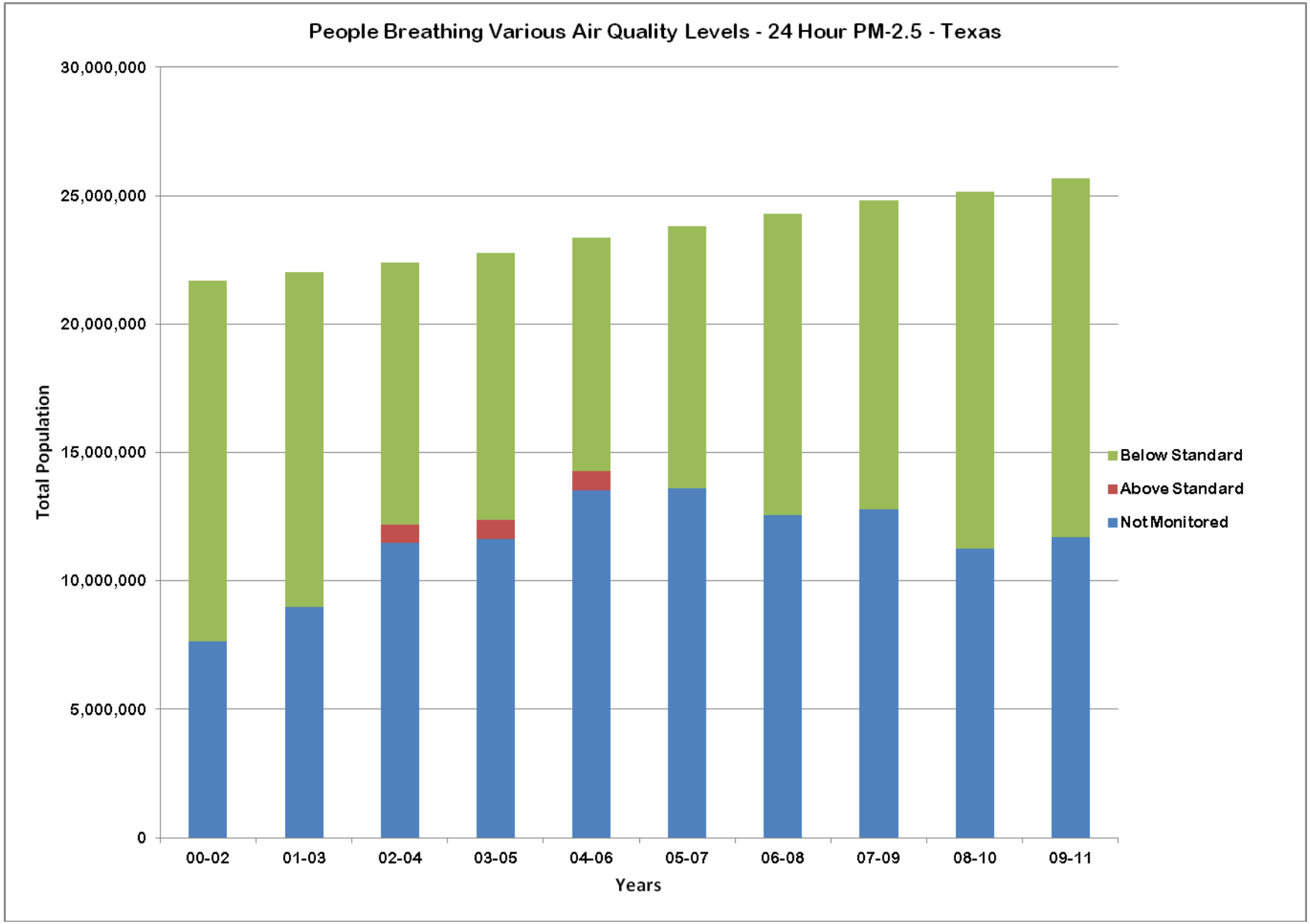
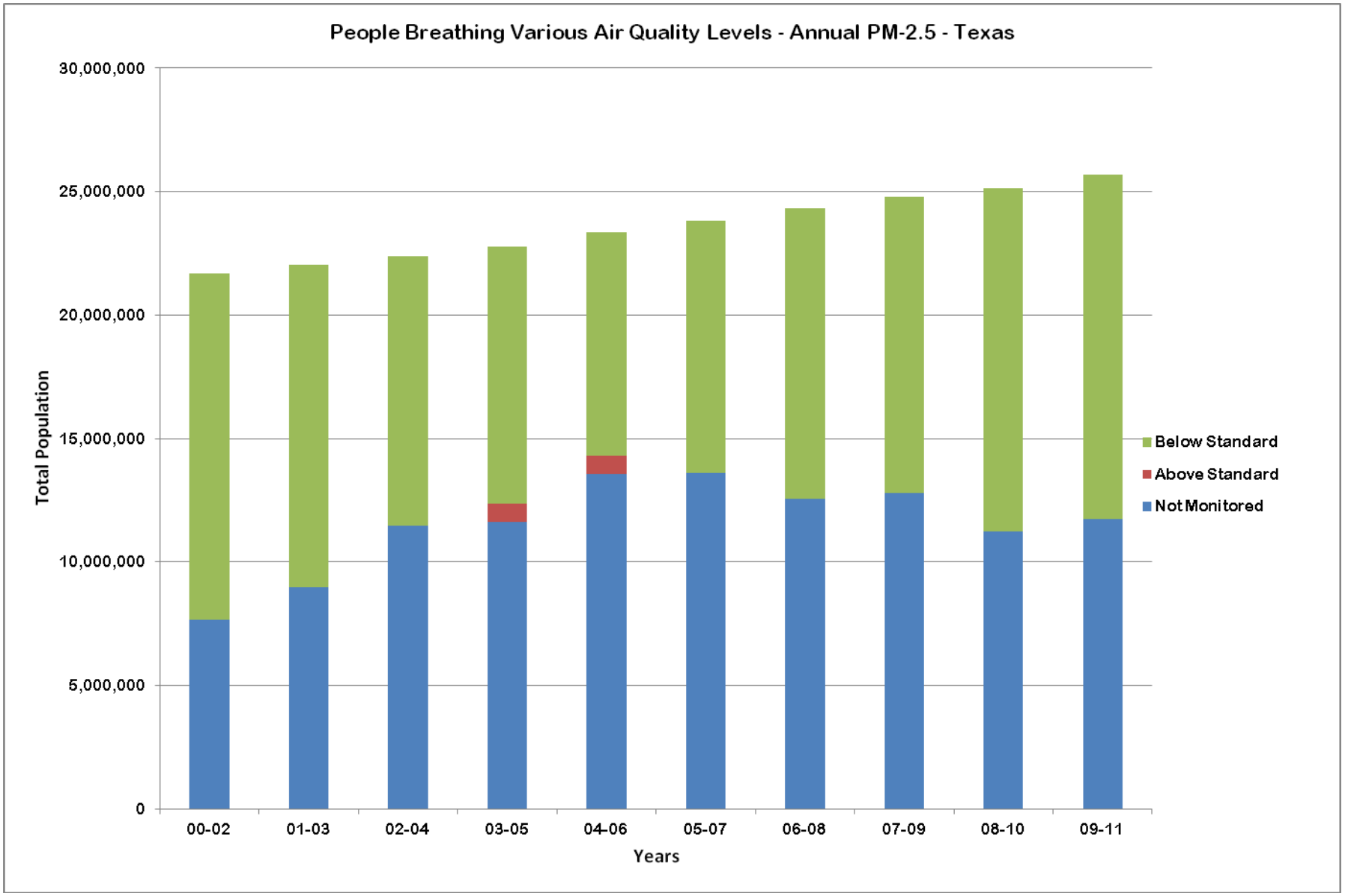

People Breathing Various Air Quality Levels - 24 Hour PM-2.5 - Texas
30,000,000
25,000,000
20,000,000
15,000,000
10,000,000
5,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure TX-3


People Breathing Various Air Quality Levels - Annual PM-2.5 - Texas
30,000,000
25,000,000
20,000,000
15,000,000
10,000,000
5,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# UTAH

## Ozone

**Significant progress has been made in ozone levels in Utah. In the 2000 – 2002 time period, 0.5 million people (21.8%) lived in counties that met the ozone standard. By 2009 – 2011 this had increased to approximately 2.5 million people (90.1%). The remainder of the population lived in counties where ozone was not measured. Figure UT-1 shows the distribution of people by year.**

## 24-Hour PM-2.5

**Progress has been made in 24-hour PM-2.5 levels in Utah. In the 2000 – 2002 time period, approximately 0.04 million people (1.9%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 -2011 this was approximately 0.20 million people (7.1%). Figure UT-2 shows the distribution of people by year.**

## Annual PM-2.5

**Annual PM-2.5 levels in Utah have historically been better than the standard. In the 2000 – 2002 time period, approximately 2.0 million people (84.0%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this had increased to approximately 2.5 million people (88.4%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure UT-3 shows the distribution of people by year.**

Table UT-1

2009 – 2011

| | | OZONE | | PARTICLE POLLUTION (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg. 24-Hr DV | Grade | Avg. Ann DV | Grade |
| **Box Elder** | **50,290** | 0.066 | B | **40** | **F** | 8.2 | A |
| **Cache** | **114,699** | 0.062 | B | **42** | **F** | 9.7 | A |
| **Davis** | **311,811** | 0.071 | C | **41** | **F** | 9.1 | A |
| **Salt Lake** | **1,048,985** | 0.072 | C | **39** | **F** | 9.1 | A |
| San Juan | 14,825 | 0.068 | C | ND | --- | ND | --- |
| Tooele | 59,326 | 0.072 | C | 26 | A | 6.6 | A |
| Uintah | 33,163 | 0.074 | C | ND | --- | ND | --- |
| **Utah** | **530,499** | 0.068 | C | **37** | **D** | 8.7 | A |
| Washington | 141,666 | 0.069 | C | 11 | A | 4..2 | A |
| **Weber** | **234,420** | 0.072 | C | **39** | **F** | 8.9 | A |
| | | | | | | | |
| Subtotal | 2,540,840 | | | | | | |
| Not Monitored | 276,382 | | | | | | |
| Total | 2,817,222 | | | | | | |

DV – Design Value ND - No Data

# UTAH

## Table UT-2

### People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| B | 0 | 0 | 0 | 100,501 | 0 | 0 | 0 | 143,222 | 145,244 | 164,989 |
| C | 506,345 | 110,672 | 573,463 | 489,440 | 609,159 | 249,929 | 800,336 | 2,007,906 | 2,344,988 | 2,374,695 |
| D | 1,370,873 | 1,580,827 | 1,141,934 | 1,158,113 | 1,458,254 | 1,718,053 | 1,567,467 | 301,965 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 288,236 | 0 | 0 | 0 | 0 |
| Subtotal | 1,877,218 | 1,691,499 | 1,715,397 | 1,748,054 | 2,067,413 | 2,256,218 | 2,367,804 | 2,453,093 | 2,490,232 | 2,539,684 |
| NM | 447,597 | 668,638 | 686,183 | 709,665 | 458,094 | 341,528 | 295,226 | 270,328 | 273,653 | 277,538 |
| Total | 2,324,815 | 2,360,137 | 2,401,580 | 2,457,719 | 2,525,507 | 2,597,746 | 2,663,029 | 2,723,421 | 2,763,885 | 2,817,222 |

### People Breathing Short-term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 45,948 | 47,193 | 55,909 | 57,218 | 58,218 | 200,992 |
| B | 0 | 0 | 0 | 0 | 0 | 53,821 | 48,437 | 49,372 | 0 | 0 |
| C | 44,998 | 46,652 | 0 | 45,090 | 0 | 217,567 | 295,801 | 0 | 0 | 0 |
| D | 0 | 406,158 | 0 | 640,847 | 939,752 | 757,810 | 818,115 | 301,965 | 1,104,254 | 0 |
| F | 1,907,594 | 1,527,352 | 1,701,674 | 1,317,672 | 1,068,034 | 1,087,343 | 999,553 | 1,860,005 | 1,142,311 | 2,290,704 |
| Subtotal | 1,952,592 | 1,980,162 | 1,701,674 | 2,003,609 | 2,053,734 | 2,163,734 | 2,217,815 | 2,268,560 | 2,304,783 | 2,491,696 |
| NM | 372,223 | 379,975 | 699,906 | 454,110 | 471,773 | 434,012 | 445,214 | 454,861 | 459,102 | 325,526 |
| Total | 2,324,815 | 2,360,137 | 2,401,580 | 2,457,719 | 2,525,507 | 2,597,746 | 2,663,029 | 2,723,421 | 2,763,885 | 2,817,222 |

### People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 938,947 | 1,883,061 | 668,680 | 1,903,108 | 1,952,498 | 2,163,734 | 2,217,815 | 2,268,560 | 2,304,783 | 2,491,696 |
| B | 1,013,645 | 97,101 | 1,032,994 | 100,501 | 101,236 | 0 | 0 | 0 | 0 | 0 |
| C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 1,952,592 | 1,980,162 | 1,701,674 | 2,003,609 | 2,053,734 | 2,163,734 | 2,217,815 | 2,268,560 | 2,304,783 | 2,491,696 |
| NM | 372,223 | 379,975 | 699,906 | 454,110 | 471,773 | 434,012 | 445,214 | 454,861 | 459,102 | 325,526 |
| Total | 2,324,815 | 2,360,137 | 2,401,580 | 2,457,719 | 2,525,507 | 2,597,746 | 2,663,029 | 2,723,421 | 2,763,885 | 2,817,222 |

NM – Not Monitored

Figure UT-1

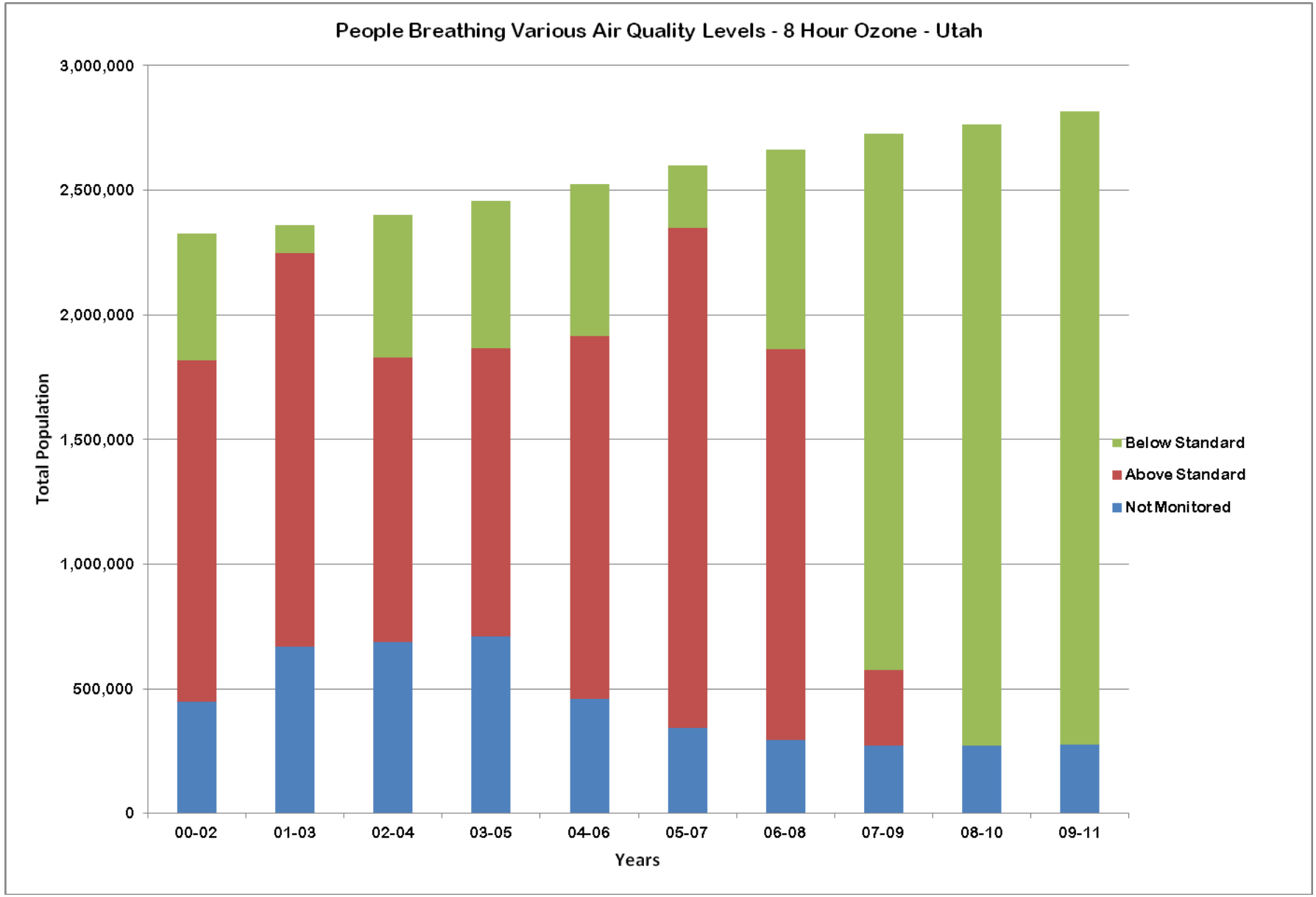

People Breathing Various Air Quality Levels - 8 Hour Ozone - Utah
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure UT-2

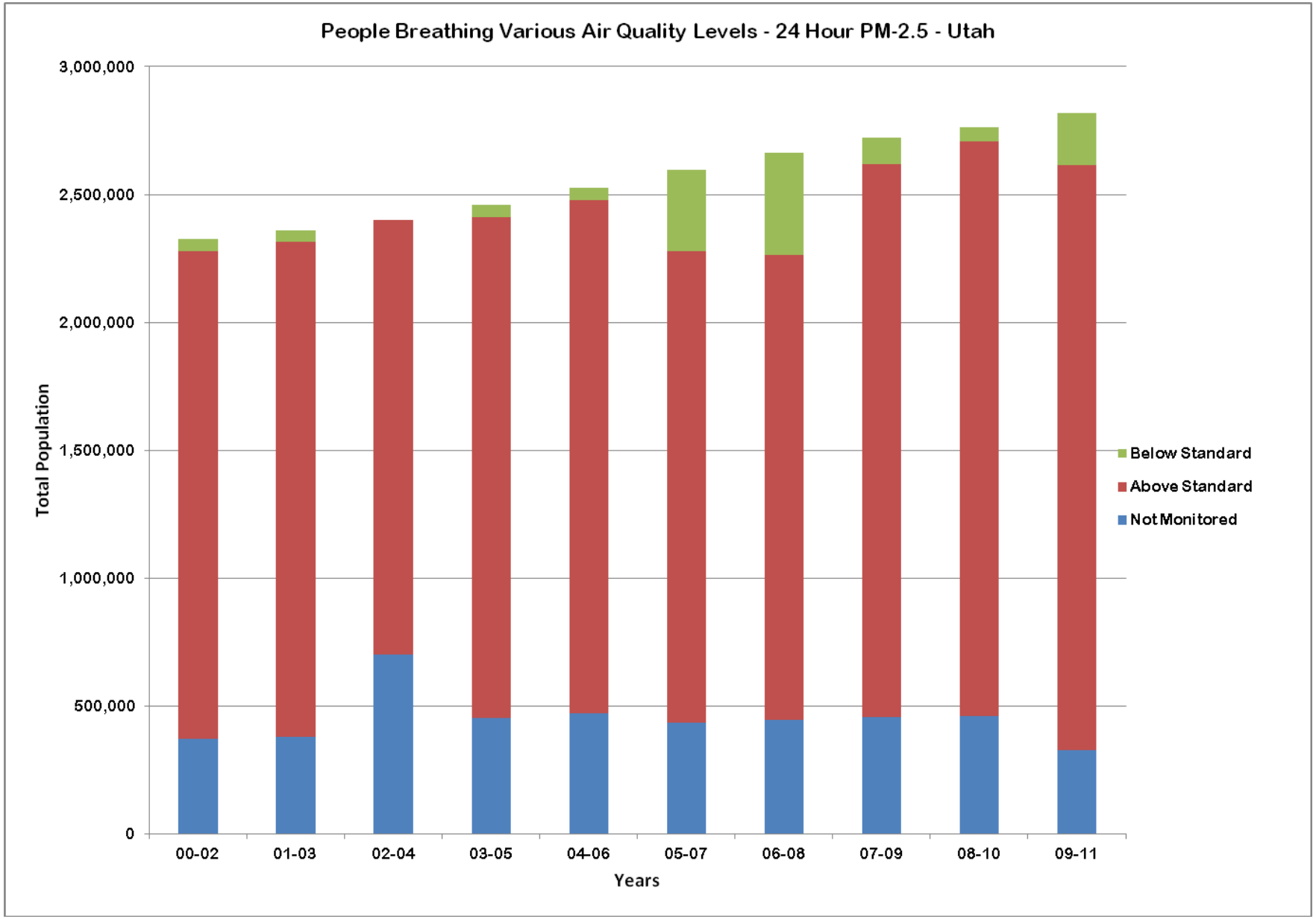

People Breathing Various Air Quality Levels - 24 Hour PM-2.5 - Utah
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure UT-3

People Breathing Various Air Quality Levels - Annual PM-2.5 - Utah
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# VERMONT

## Ozone

**Significant progress has been made in ozone levels in Vermont. In the 2000 – 2002 time period, no people lived in counties that met the ozone standard. By 2009 – 2011 this had increased to approximately 0.2 million people (31.0%). The remainder of the population lived in counties where ozone was not measured. Figure VT-1 shows the distribution of people by year.**

## 24-Hour PM-2.5

**24-hour PM-2.5 levels in Vermont have historically been better than the standard. In the 2000 – 2002 time period, approximately 0.3 million people (50.1%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 -2011 this was approximately 0.3 million people (40.8%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure VT-2 shows the distribution of people by year.**

## Annual PM-2.5

**Annual PM-2.5 levels in Vermont have historically been better than the standard. In the 2000 – 2002 time period, approximately 0.3 million people (50.1%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this was approximately 0.3 million people (40.8%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure VT-3 shows the distribution of people by year.**

Table VT-1

2009 – 2011

| | | OZONE | | PARTICLE POLLUTION (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg. 24-Hr DV | Grade | Avg. Ann DV | Grade |
| Bennington | 36,970 | 0.065 | B | 19 | A | 6.9 | A |
| Chittenden | 157,491 | 0.061 | B | 19 | A | 6.2 | A |
| Rutland | 61,289 | ND | --- | 31 | B | 9.8 | A |
| | | | | | | | |
| Subtotal | 255,750 | | | | | | |
| Not Monitored | 370,681 | | | | | | |
| Total | 626,431 | | | | | | |

DV – Design Value ND - No Data

# VERMONT

## Table VT-2

### People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| B | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 156,545 | 194,461 |
| C | 0 | 0 | 0 | 189,163 | 189,988 | 190,702 | 191,827 | 192,944 | 37,125 | 0 |
| D | 186,744 | 187,493 | 194,507 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 186,744 | 187,493 | 194,507 | 189,163 | 189,988 | 190,702 | 191,827 | 192,944 | 193,670 | 194,461 |
| NM | 428,698 | 430,365 | 425,413 | 432,052 | 432,904 | 432,779 | 432,324 | 431,873 | 432,071 | 431,970 |
| Total | 615,442 | 617,858 | 619,920 | 621,215 | 622,892 | 623,481 | 624,151 | 624,817 | 625,741 | 626,431 |

### People Breathing Short-term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 149,639 | 0 | 0 | 0 | 37,127 | 37,077 | 191,827 | 192,944 | 193,670 | 194,461 |
| B | 95,994 | 150,410 | 151,445 | 189,123 | 252,513 | 216,243 | 62,368 | 61,946 | 61,642 | 61,289 |
| C | 62,982 | 63,113 | 62,997 | 63,003 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 308,615 | 213,523 | 214,442 | 252,126 | 289,640 | 253,320 | 254,195 | 254,890 | 255,312 | 255,750 |
| NM | 306,827 | 404,335 | 405,478 | 369,089 | 333,252 | 370,161 | 369,956 | 369,927 | 370,429 | 370,681 |
| Total | 615,442 | 617,858 | 619,920 | 621,215 | 622,892 | 623,481 | 624,151 | 624,817 | 625,741 | 626,431 |

### People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 308,615 | 213,523 | 214,442 | 252,126 | 289,640 | 253,320 | 254,195 | 254,890 | 255,312 | 255,750 |
| B | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 308,615 | 213,523 | 214,442 | 252,126 | 289,640 | 253,320 | 254,195 | 254,890 | 255,312 | 255,750 |
| NM | 306,827 | 404,335 | 405,478 | 369,089 | 333,252 | 370,161 | 369,956 | 369,927 | 370,429 | 370,681 |
| Total | 615,442 | 617,858 | 619,920 | 621,215 | 622,892 | 623,481 | 624,151 | 624,817 | 625,741 | 626,431 |

NM – Not Monitored

Figure VT-1

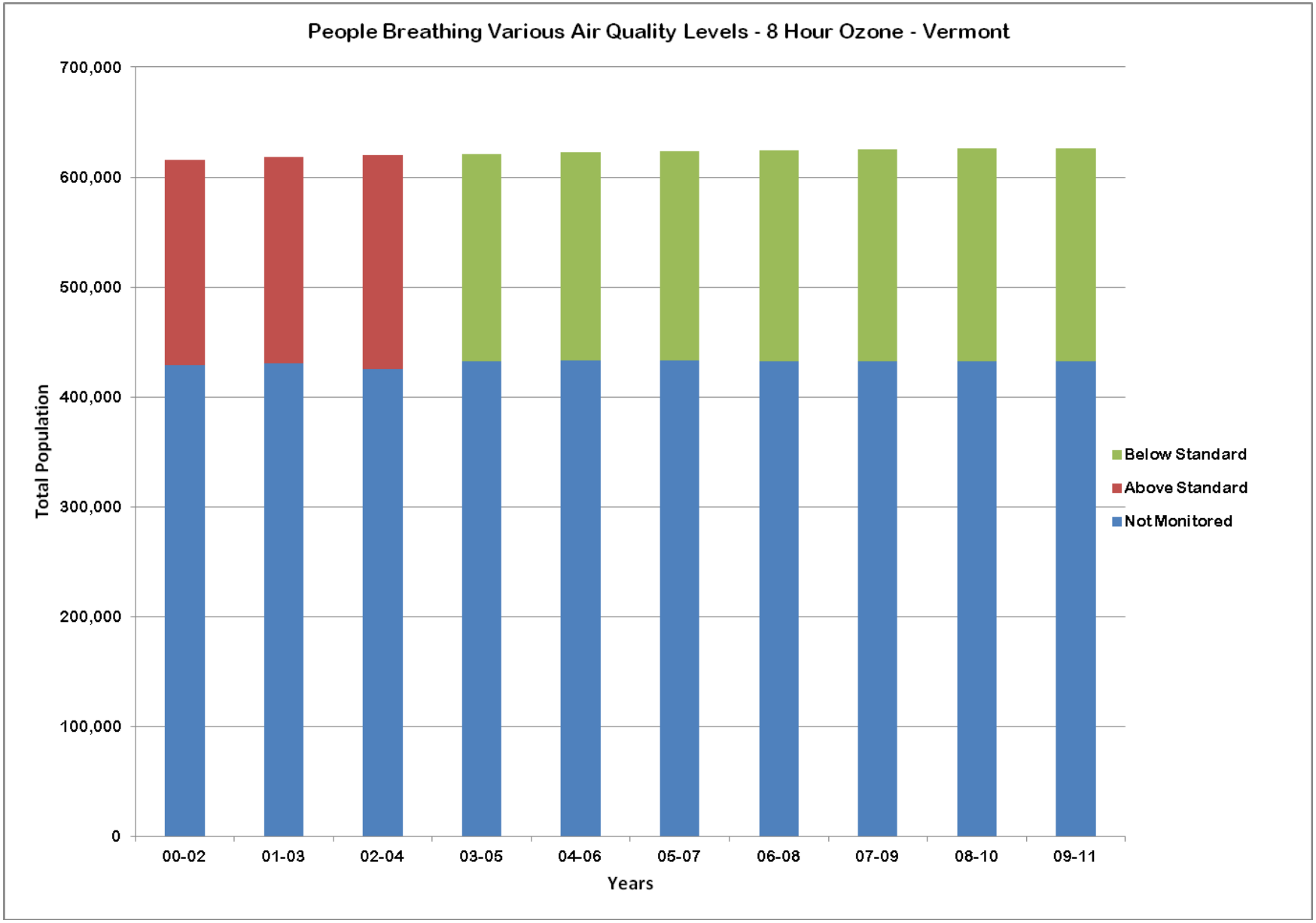

People Breathing Various Air Quality Levels - 8 Hour Ozone - Vermont
700,000
600,000
500,000
400,000
300,000
200,000
100,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure VT-2

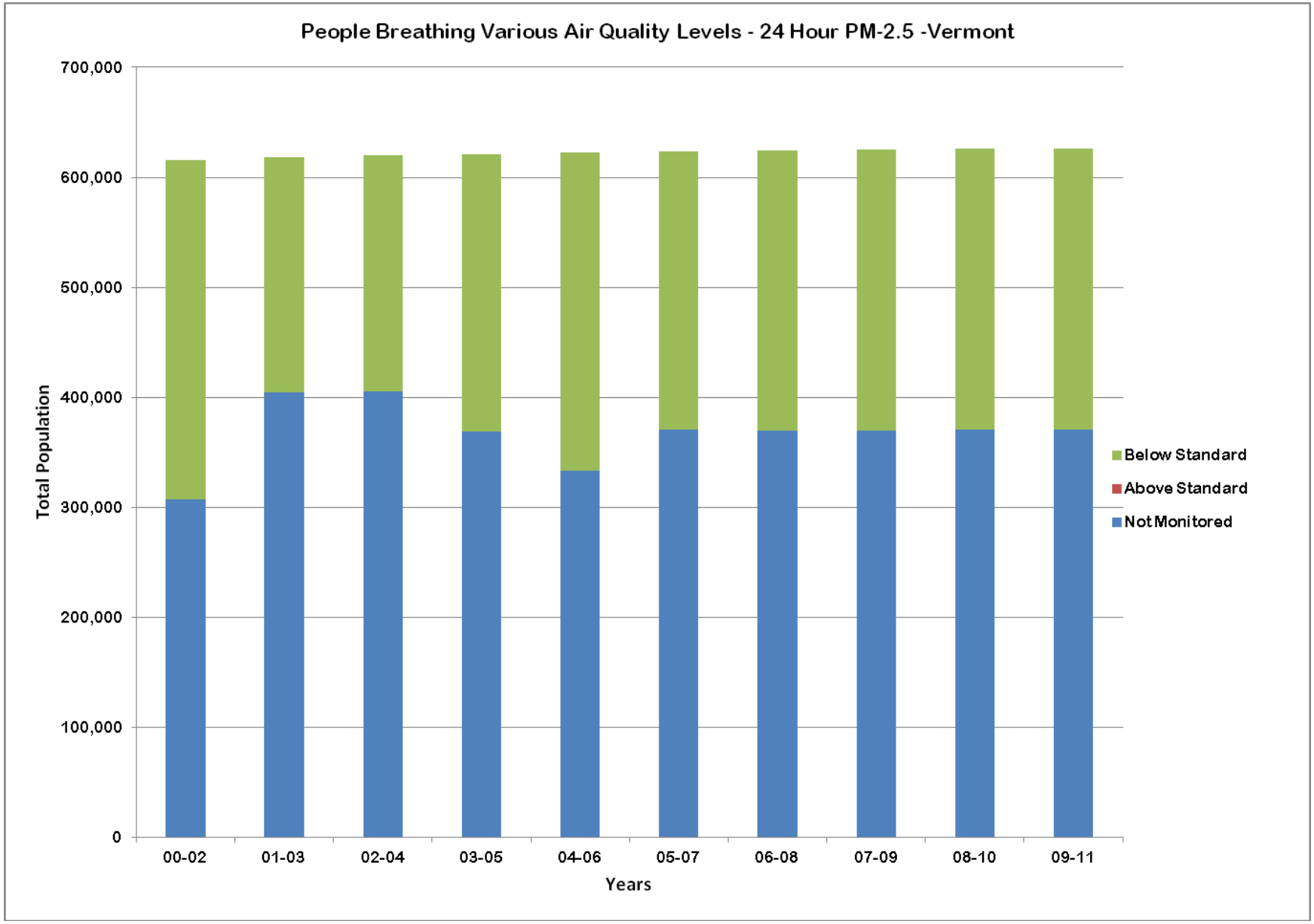
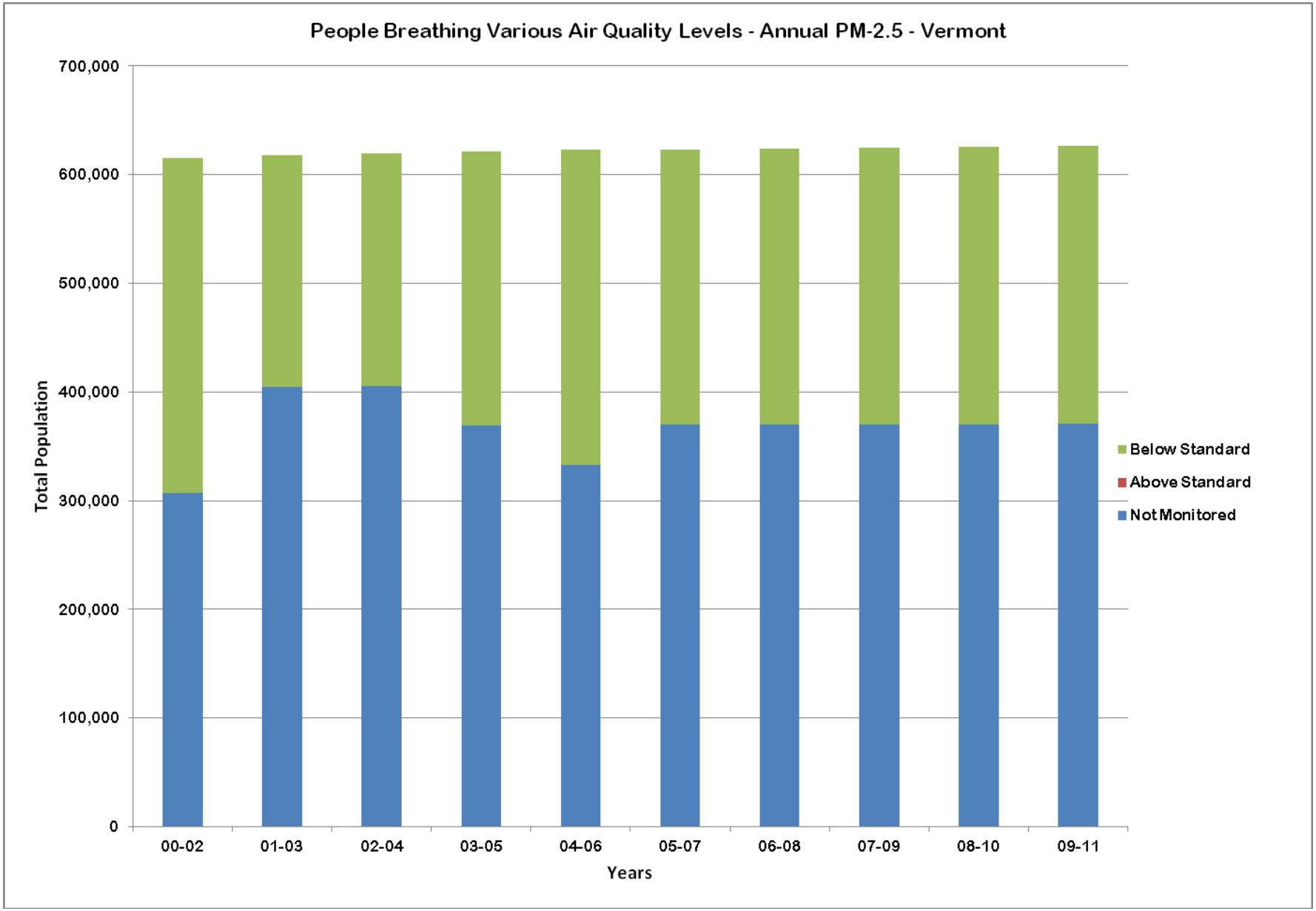

People Breathing Various Air Quality Levels - 24 Hour PM-2.5 -Vermont
700,000
600,000
500,000
400,000
300,000
200,000
100,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure VT-3


People Breathing Various Air Quality Levels - Annual PM-2.5 - Vermont
700,000
600,000
500,000
400,000
300,000
200,000
100,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# VIRGINIA

## Ozone

**Significant progress has been made in ozone levels in Virginia. In the 2000 – 2002 time period, no people lived in counties that met the ozone standard. By 2009 – 2011 this had increased to approximately 2.2 million people (27.6%). Figure VA-1 shows the distribution of people by year.**

## 24-Hour PM-2.5

**Progress has been made in 24-hour PM-2.5 levels in Virginia. In the 2000 – 2002 time period, approximately 2.4 million people (32.6%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 -2011 this had increased to approximately 3.5 million people (42.8%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure VA-2 shows the distribution of people by year.**

## Annual PM-2.5

**Annual PM-2.5 levels in Virginia have historically been better than the standard. In the 2000 – 2002 time period, approximately 3.5 million people (48.3%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this was approximately 3.5 million people (42.8%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure VA-3 shows the distribution of people by year.**

# VIRGINIA

Table VA-1

2009 – 2011

| | | OZONE | | PARTICLE POLLUTION (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg. 24-Hr DV | Grade | Avg. Ann DV | Grade |
| Albemarle | 100,553 | 0.068 | C | 19 | A | 8.8 | A |
| **Arlington** | **216,004** | **0.080** | **D** | 22 | A | 10.2 | A |
| Caroline | 28,674 | 0.071 | C | ND | --- | ND | --- |
| Charles City | 7,241 | 0.075 | C | 21 | A | 8.9 | A |
| Chesterfield | 320,277 | 0.072 | C | 21 | A | 9.6 | A |
| **Fairfax** | **1,100,692** | **0.082** | **D** | 24 | A | 9.6 | A |
| Fauquier | 66,071 | 0.064 | B | ND | --- | ND | --- |
| Frederick | 79,666 | 0.067 | B | 23 | A | 10.4 | A |
| Hanover | 100,342 | 0.074 | C | ND | --- | ND | --- |
| Henrico | 310,445 | 0.074 | C | 21 | A | 9.3 | A |
| Loudoun | 325,405 | 0.074 | C | 20 | A | 9.5 | A |
| Madison | 13,169 | 0.072 | C | ND | --- | ND | --- |
| Page | 23,958 | 0.067 | B | 22 | A | 9.2 | A |
| Prince Edward | 23,343 | 0.063 | B | ND | --- | ND | --- |
| Roanoke | 92,740 | 0.068 | C | ND | --- | ND | --- |
| Rockbridge | 22,375 | 0.064 | B | ND | --- | ND | --- |
| Rockingham | 76,589 | 0.067 | B | ND | --- | ND | --- |
| Stafford | 132,133 | 0.072 | C | ND | --- | ND | --- |
| Wythe | 29,204 | 0.064 | B | ND | --- | ND | --- |
| **Alexandria** | **144,301** | **0.077** | **D** | 23 | A | 10.8 | A |
| Bristol | 17,750 | ND | --- | 21 | A | 9.9 | A |
| Lynchburg | 76,504 | ND | --- | 19 | A | 8.8 | A |
| Norfolk | 242,628 | ND | --- | 22 | A | 9.8 | A |
| Roanoke City | 96,714 | ND | --- | 22 | A | 9.9 | A |
| Salem | 24,961 | ND | --- | 21 | A | 10.0 | A |
| Suffolk | 84,930 | 0.071 | C | ND | --- | ND | --- |
| Virginia Beach | 442,707 | ND | --- | 23 | A | 9.6 | A |
| | | | | | | | |
| Subtotal | 4,595,039 | | | | | | |
| Not Monitored | 5,501,565 | | | | | | |
| Total | 8,096,604 | | | | | | |

DV – Design Value ND - No Data

# VIRGINIA

## Table VA-2

### People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| B | 0 | 0 | 0 | 0 | 0 | 0 | 22,363 | 187,102 | 217,101 | 297,863 |
| C | 0 | 0 | 21,432 | 271,939 | 301,310 | 214,069 | 285,653 | 1,570,897 | 1,983,403 | 1,934,915 |
| D | 130,486 | 108,911 | 588,264 | 1,557,914 | 1,563,022 | 1,125,118 | 1,311,424 | 1,883,419 | 1,596,288 | 1,460,997 |
| F | 3,055,812 | 3,051,128 | 2,615,700 | 1,207,250 | 1,207,157 | 1,773,743 | 1,833,251 | 0 | 0 | 0 |
| Subtotal | 3,186,298 | 3,160,039 | 3,225,396 | 3,037,103 | 3,071,489 | 3,112,930 | 3,452,691 | 3,641,418 | 3,976,792 | 3,693,775 |
| NM | 4,100,575 | 4,206,938 | 4,250,179 | 4,540,002 | 4,602,236 | 4,638,070 | 4,380,805 | 4,284,519 | 4,204,232 | 4,402,829 |
| Total | 7,286,873 | 7,366,977 | 7,475,575 | 7,577,105 | 7,673,725 | 7,751,000 | 7,833,496 | 7,925,937 | 8,001,024 | 8,096,604 |

### People Breathing Short-term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 212,975 | 3,163,172 | 3,380,954 | 3,462,094 |
| B | 1,207,792 | 1,201,612 | 1,126,406 | 858,375 | 1,625,991 | 1,531,877 | 2,962,504 | 0 | 0 | 0 |
| C | 1,166,530 | 2,252,617 | 1,870,382 | 2,044,913 | 1,474,351 | 1,600,254 | 0 | 0 | 0 | 0 |
| D | 1,188,750 | 188,735 | 187,901 | 187,760 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 3,563,072 | 3,642,964 | 3,184,689 | 3,091,048 | 3,100,342 | 3,132,131 | 3,175,479 | 3,163,172 | 3,380,954 | 3,462,094 |
| NM | 3,723,801 | 3,724,013 | 4,290,886 | 4,486,057 | 4,573,383 | 4,618,869 | 4,658,017 | 4,762,765 | 4,670,070 | 4,634,510 |
| Total | 7,286,873 | 7,366,977 | 7,475,575 | 7,577,105 | 7,673,725 | 7,751,000 | 7,833,496 | 7,925,937 | 8,001,024 | 8,096,604 |

### People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 183,404 | 0 | 0 | 0 | 140,222 | 918,947 | 2,960,535 | 3,380,954 | 3,462,094 |
| B | 1,231,057 | 1,389,881 | 1,415,427 | 916,715 | 1,514,060 | 2,688,694 | 2,256,532 | 202,637 | 0 | 0 |
| C | 2,290,374 | 2,069,679 | 1,769,262 | 2,174,333 | 1,586,282 | 303,215 | 0 | 0 | 0 | 0 |
| D | 41,641 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 3,563,072 | 3,642,964 | 3,184,689 | 3,091,048 | 3,100,342 | 3,132,131 | 3,175,479 | 3,163,172 | 3,380,954 | 3,462,094 |
| NM | 3,723,801 | 3,724,013 | 4,290,886 | 4,486,057 | 4,573,383 | 4,618,869 | 4,658,017 | 4,762,765 | 4,620,070 | 4,634,510 |
| Total | 7,286,873 | 7,366,977 | 7,475,575 | 7,577,105 | 7,673,725 | 7,751,000 | 7,833,496 | 7,925,937 | 8,001,024 | 8,096,604 |

NM – Not Monitored

Figure VA-1

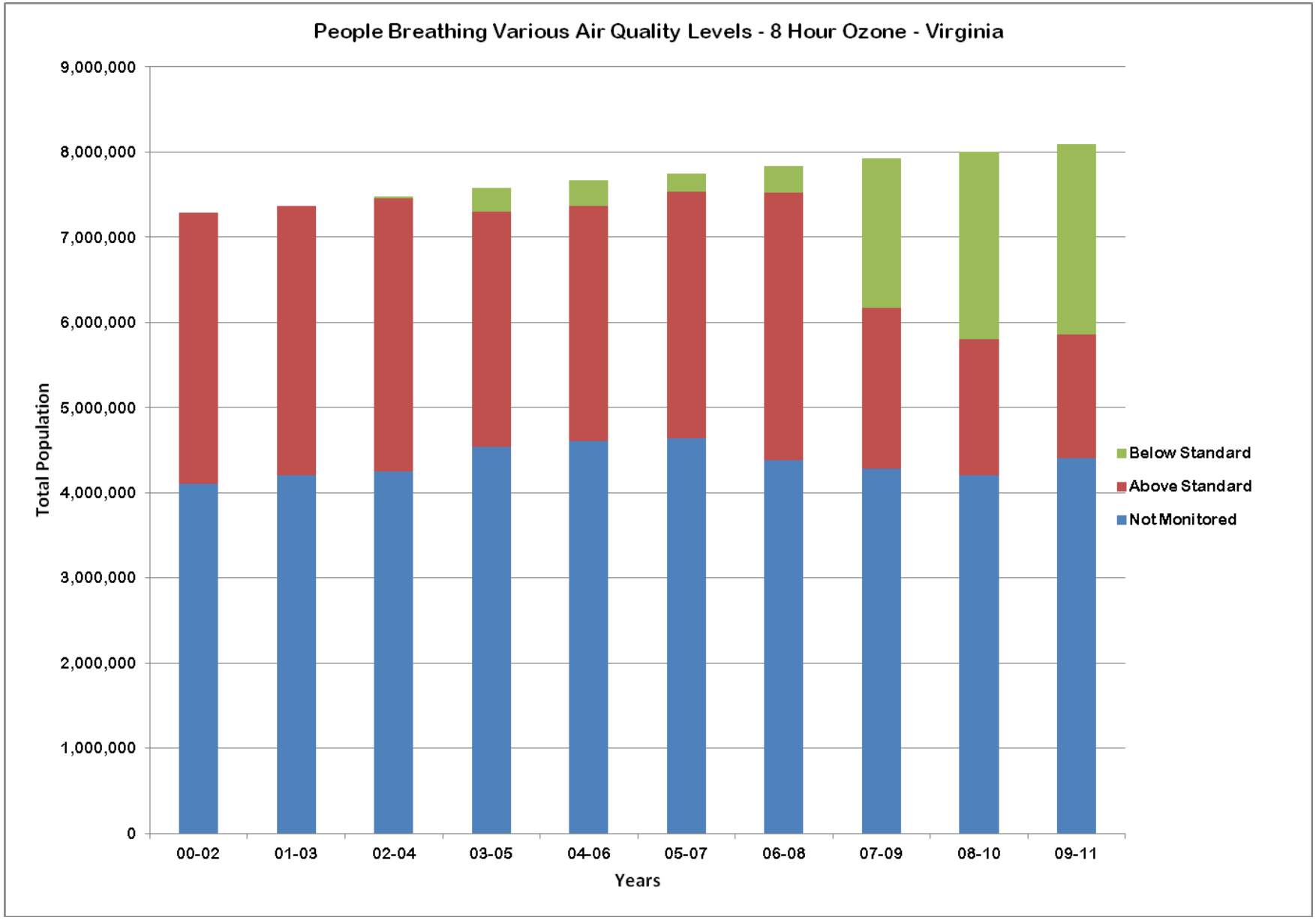

People Breathing Various Air Quality Levels - 8 Hour Ozone - Virginia
9,000,000
8,000,000
7,000,000
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure VA-2

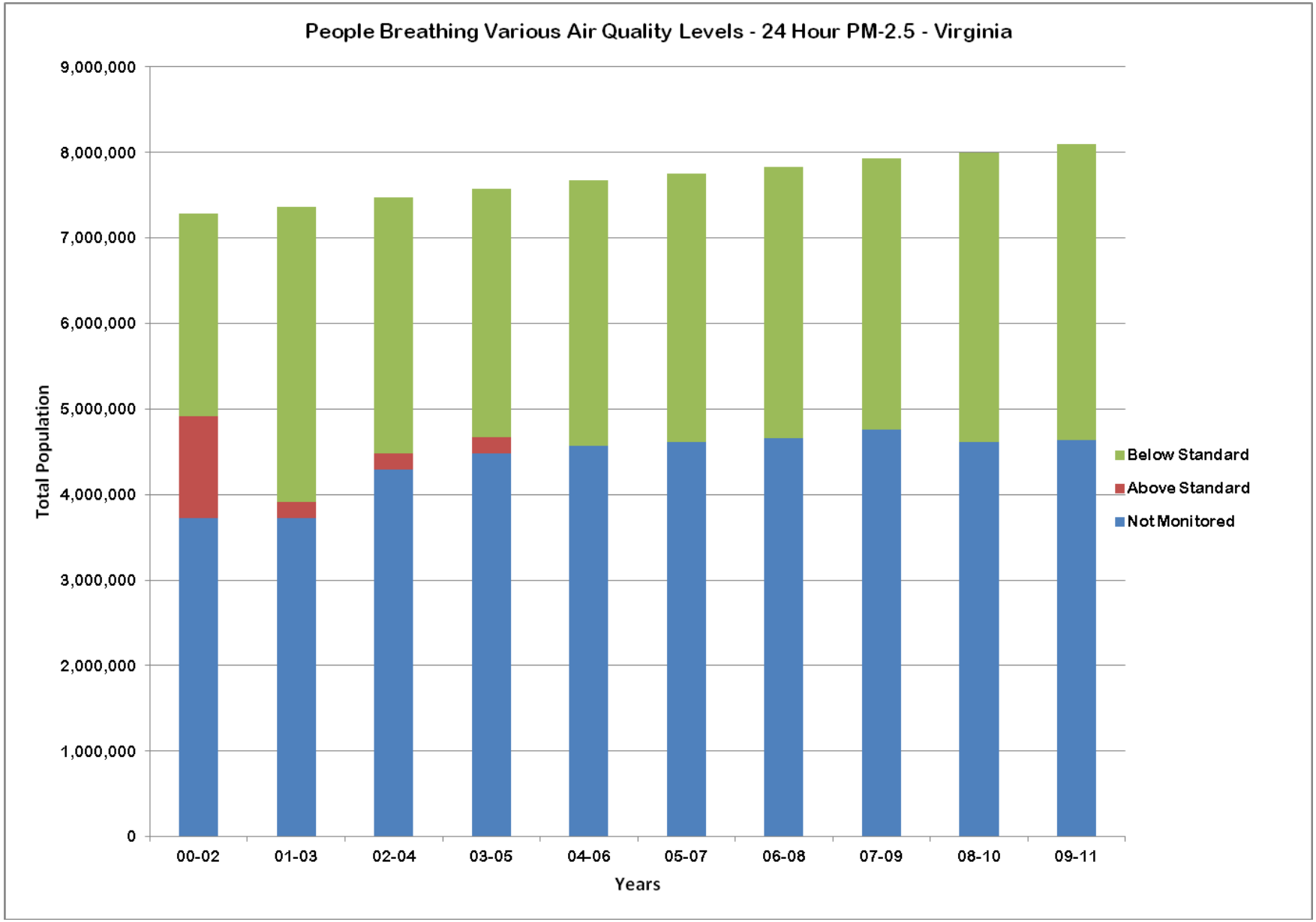
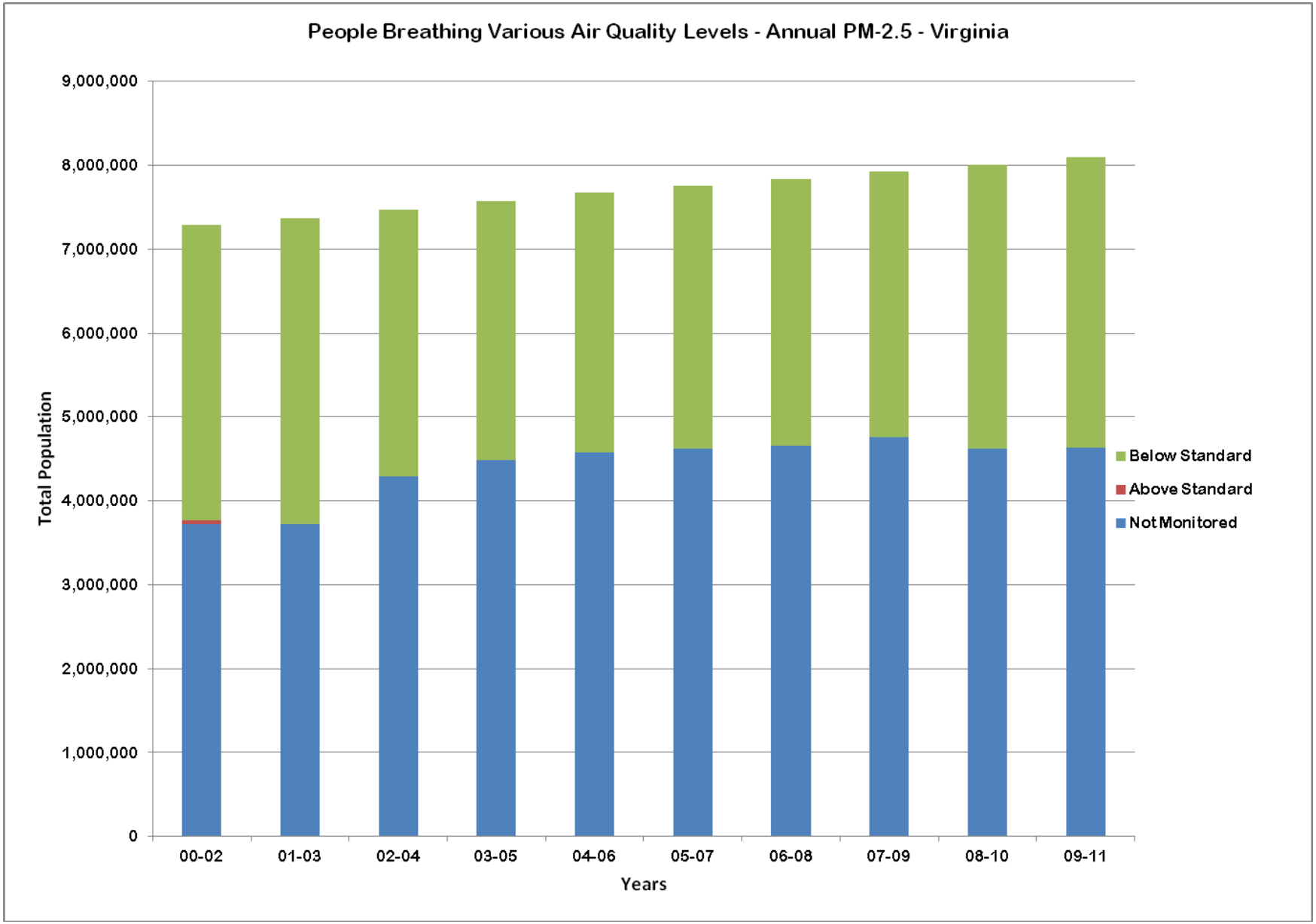

People Breathing Various Air Quality Levels - 24 Hour PM-2.5 - Virginia
Total Population
9,000,000
8,000,000
7,000,000
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure VA-3


People Breathing Various Air Quality Levels - Annual PM-2.5 - Virginia
9,000,000
8,000,000
7,000,000
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# WASHINGTON

## Ozone

**Ozone levels in Washington have historically been better than the standard. In the 2000 – 2002 time period, approximately 3.8 million people (63.7%) lived in counties that met the ozone standard. By 2009 – 2011 this had decreased to approximately 4.3 million people (63.5%). The remainder of the population lived in counties where ozone was not measured. Figure WA-1 shows the distribution of people by year.**

## 24-Hour PM-2.5

**Progress has been made in 24-hour PM-2.5 levels in Washington. In the 2000 – 2002 time period, approximately 2.8 million people (46.1%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 -2011 this was approximately 4.7 million people (68.1%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure WA-2 shows the distribution of people by year.**

## Annual PM-2.5

**Annual PM-2.5 levels in Washington have historically been better than the standard. In the 2000 – 2002 time period, approximately 5.0 million people (81.9%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this was approximately 4.7 million people (68.1%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure WA-3 shows the distribution of people by year.**

Table WA-1

2009 – 2011

| | | OZONE | | PARTICLE POLLUTION (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg. 24-Hr DV | Grade | Avg. Ann DV | Grade |
| Clallam | 71,838 | 0.055 | A | ND | --- | ND | --- |
| Clark | 433,418 | 0.057 | A | 30 | B | 7.7 | A |
| King | 1,969,722 | 0.057 | A | 18 | A | 7.8 | A |
| Pierce | 807,904 | 0.054 | A | 35 | C | 8.3 | A |
| Skagit | 118,109 | 0.054 | A | ND | --- | ND | --- |
| Snohomish | 722,400 | ND | --- | 31 | B | 7.5 | A |
| Spokane | 473,761 | 0.057 | A | 25 | A | 7.2 | A |
| Thurston | 256,591 | 0.056 | A | ND | --- | ND | --- |
| Whatcom | 203,663 | 0.046 | A | ND | --- | ND | --- |
| Yakima | 247,141 | ND | --- | 35 | C | 8.9 | A |
| | | | | | | | |
| Subtotal | 5,304,547 | | | | | | |
| Not Monitored | 1,525,491 | | | | | | |
| Total | 6,830,038 | | | | | | |

DV – Design Value ND - No Data

# WASHINGTON

## Table WA-2

### People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 2,321,242 | 351,521 | 412,016 | 296,133 | 301,547 | 114,066 | 186,577 | 1,117,496 | 3,946,726 | 4,335,006 |
| B | 1,540,663 | 2,376,279 | 2,402,445 | 3,183,995 | 1,865,012 | 3,723,212 | 3,782,297 | 2,801,483 | 0 | 0 |
| C | 0 | 1,164,679 | 1,175,405 | 440,439 | 1,822,967 | 0 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 3,852,905 | 3,892,479 | 3,989,866 | 3,920,567 | 3,989,526 | 3,837,278 | 3,968,874 | 3,918,979 | 3,946,726 | 4,335,006 |
| NM | 2,199,444 | 2,211,636 | 2,188,779 | 2,336,738 | 2,381,227 | 2,624,309 | 2,593,357 | 2,748,447 | 2,777,814 | 2,495,032 |
| Total | 6,052,349 | 6,104,115 | 6,178,645 | 6,257,305 | 6,370,753 | 6,461,587 | 6,562,231 | 6,667,426 | 6,724,540 | 6,830,038 |

### People Breathing Short-term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 2,125,396 | 2,094,887 | 1,775,297 | 1,795,268 | 0 | 1,847,986 | 1,875,020 | 1,912,012 | 1,931,249 | 2,443,483 |
| B | 665,236 | 430,710 | 435,268 | 598,165 | 2,770,484 | 456,150 | 462,263 | 0 | 1,138,698 | 1,155,818 |
| C | 0 | 855,111 | 0 | 1,049,165 | 670,706 | 683,997 | 694,622 | 706,302 | 243,231 | 1,055,045 |
| D | 944,404 | 860,773 | 870,813 | 0 | 0 | 0 | 0 | 239,604 | 795,225 | 0 |
| F | 1,221,333 | 733,969 | 612,211 | 748,148 | 763,408 | 772,484 | 785,400 | 796,483 | 0 | 0 |
| Subtotal | 4,956,369 | 4,975,450 | 3,693,589 | 4,190,746 | 4,204,598 | 3,760,617 | 3,817,305 | 3,654,401 | 4,108,403 | 4,654,346 |
| NM | 1,095,980 | 1,128,665 | 2,485,056 | 2,066,559 | 2,166,155 | 2,700,970 | 2,744,926 | 3,013,025 | 2,616,137 | 2,175,692 |
| Total | 6,052,349 | 6,104,115 | 6,178,645 | 6,257,305 | 6,370,753 | 6,461,587 | 6,562,231 | 6,667,426 | 6,724,540 | 6,830,038 |

### People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 4,956,369 | 4,975,450 | 3,693,589 | 4,190,746 | 4,204,598 | 3,760,617 | 3,817,305 | 3,654,401 | 4,108,403 | 4,654,346 |
| B | 0 | 66,301 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 4,956,369 | 4,975,450 | 7,693,589 | 4,190,746 | 4,204,598 | 3,760,617 | 3,817,305 | 3,654,401 | 4,108,403 | 4,654,346 |
| NM | 1,095,980 | 1,128,665 | 2,485,056 | 2,066,559 | 2,166,155 | 2,700,970 | 2,740,926 | 3,013,025 | 2,616,137 | 2,175,692 |
| Total | 6,052,349 | 6,104,115 | 6,178,645 | 6,257,305 | 6,370,753 | 6,461,587 | 6,562,231 | 6,667,426 | 6,724,540 | 6,830,038 |

NM – Not Monitored

Figure WA-1

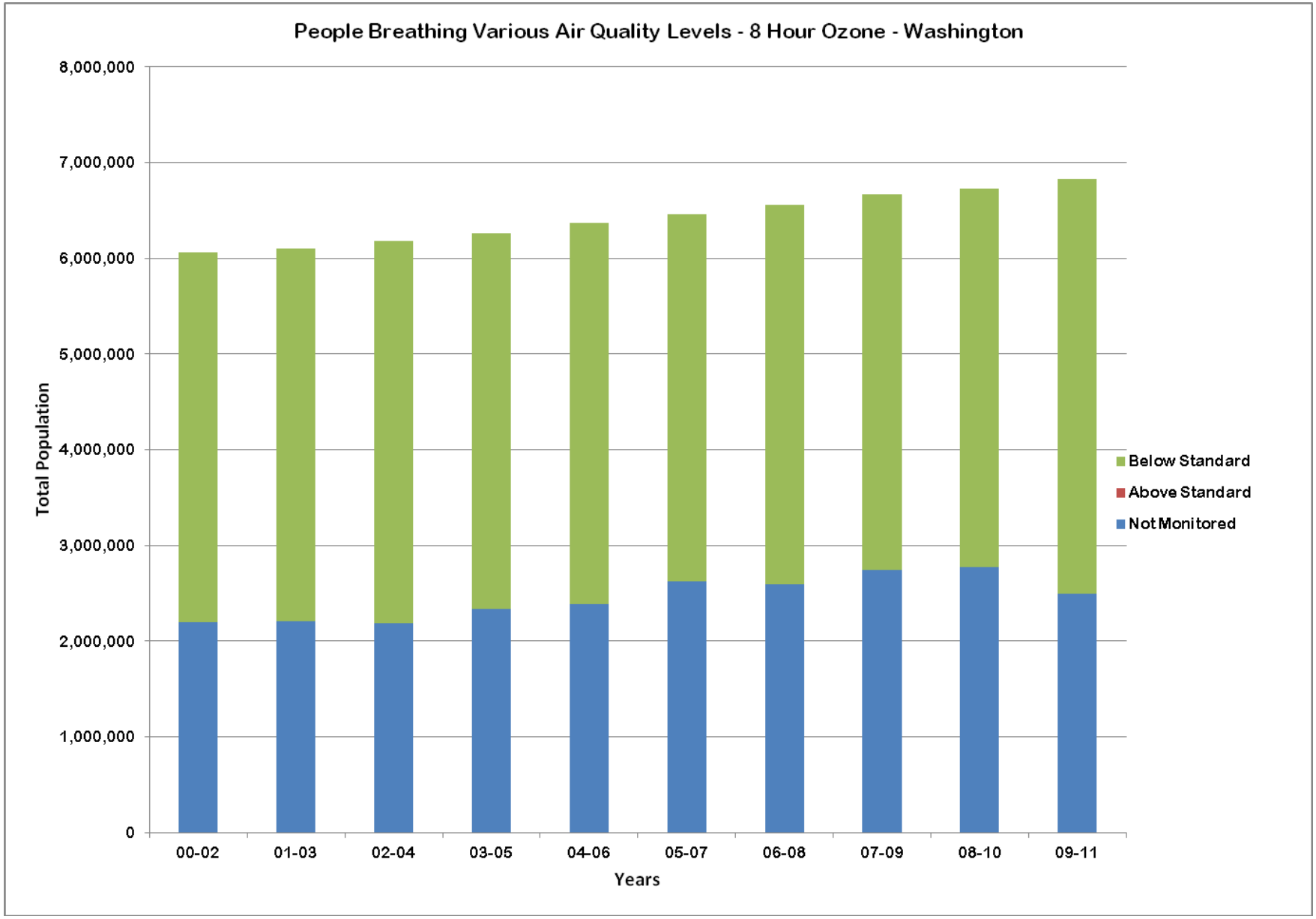

People Breathing Various Air Quality Levels - 8 Hour Ozone - Washington
8,000,000
7,000,000
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure WA-2

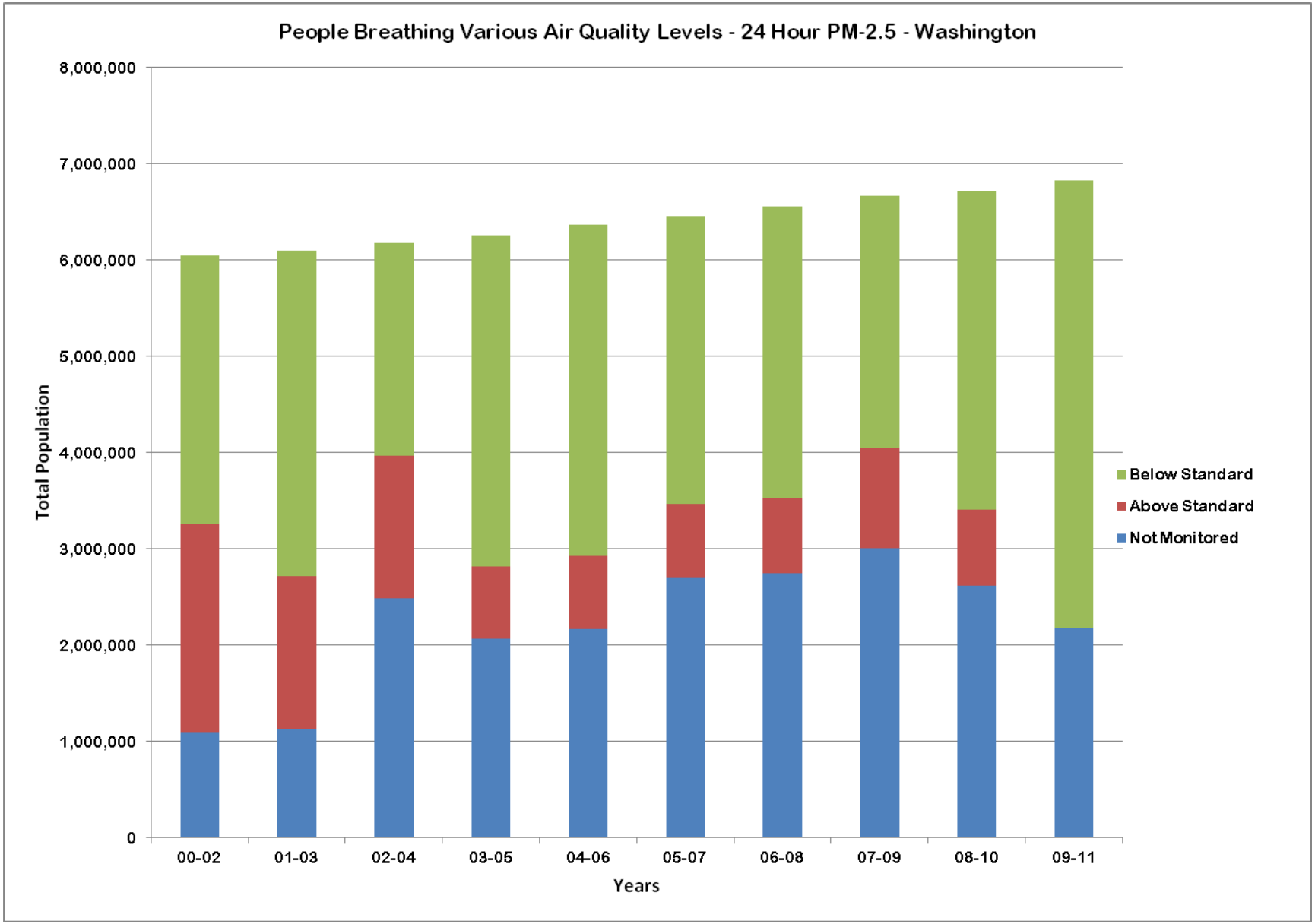
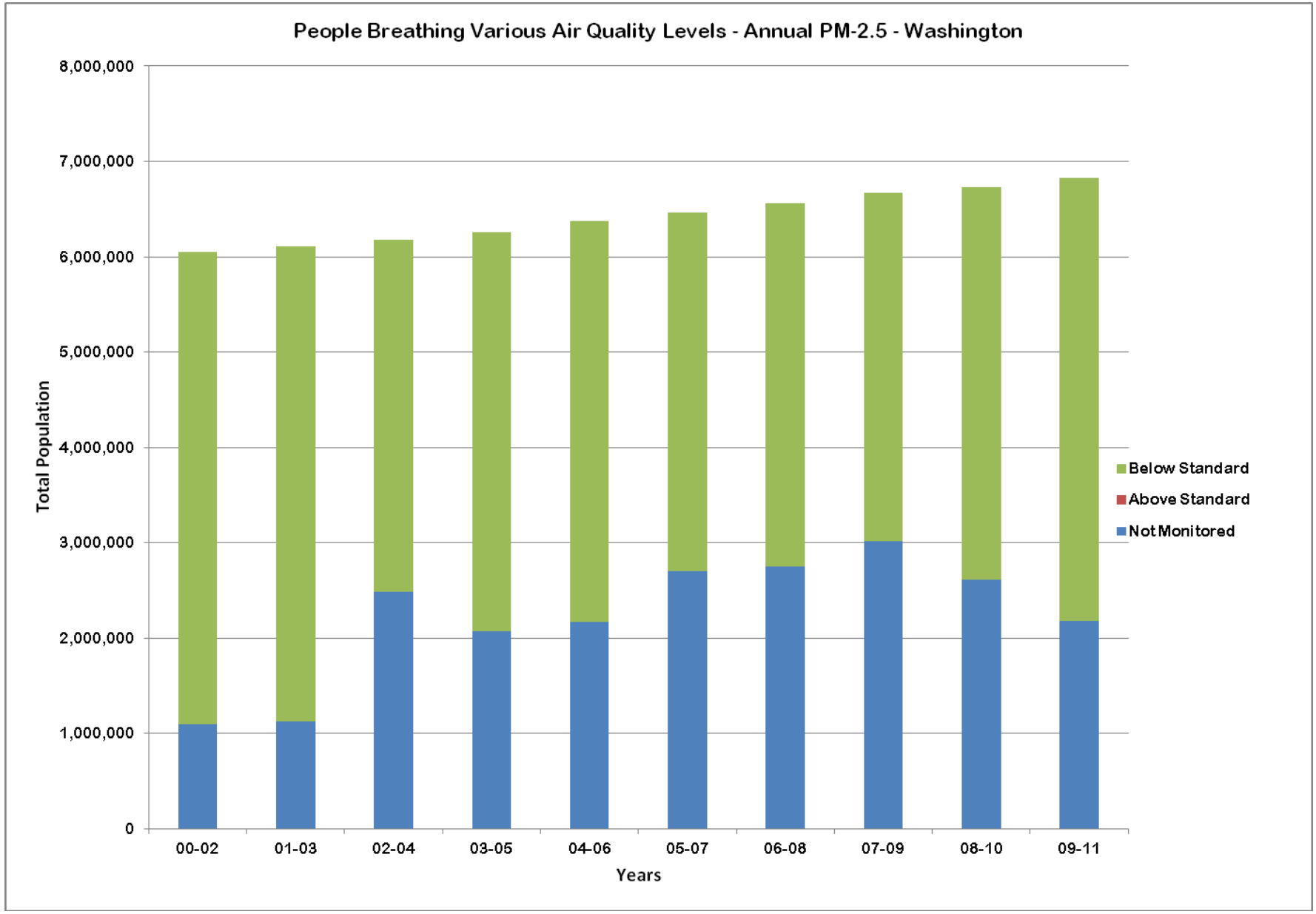

People Breathing Various Air Quality Levels - 24 Hour PM-2.5 - Washington
8,000,000
7,000,000
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure WA-3


People Breathing Various Air Quality Levels - Annual PM-2.5 - Washington
8,000,000
7,000,000
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# WEST VIRGINIA

## Ozone

**Significant progress has been made in ozone levels in West Virginia. In the 2000 – 2002 time period, no people lived in counties that met the ozone standard. By 2009 – 2011 this had increased to approximately 0.7 million people (37.2%). The remainder of the population lived in counties where ozone was not measured. Figure WV-1 shows the distribution of people by year.**

## 24-Hour PM-2.5

**Significant progress has been made in 24-hour PM-2.5 levels in West Virginia. In the 2000 – 2002 time period, approximately 0.2 million people (8.6%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 -2011 this was approximately 0.9 million people (49.4%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure WV-2 shows the distribution of people by year.**

## Annual PM-2.5

**Significant progress has been made in annual PM-2.5 levels in West Virginia. In the 2000 – 2002 time period, approximately 0.3 million people (17.0%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this had increased to approximately 0.9 million people (49.4%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure WV-3 shows the distribution of people by year.**

Table WV-1

2009 – 2011

| | | OZONE | | PARTICLE POLLUTION (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg. 24-Hr DV | Grade | Avg. Ann DV | Grade |
| Berkeley | 105,750 | 0.069 | C | 30 | B | 11.8 | A |
| Brooke | 23,844 | ND | --- | 28 | B | 12.3 | B |
| Cabell | 96,653 | 0.068 | C | 25 | A | 12.1 | B |
| Greenbrier | 35,800 | 0.065 | B | ND | --- | ND | --- |
| Hancock | 30,571 | 0.072 | C | 28 | B | 11.7 | A |
| Harrison | 69,436 | ND | --- | 21 | A | 10.6 | A |
| Kanawha | 192,315 | 0.071 | C | 25 | A | 11.8 | A |
| Marion | 56,586 | ND | ---- | 26 | A | 12.1 | B |
| Marshall | 32,800 | ND | --- | 30 | B | 13.0 | B |
| Monongalia | 98,528 | 0.070 | C | 25 | A | 10.9 | A |
| Ohio | 44,246 | 0.074 | C | 26 | A | 11.9 | A |
| Raleigh | 79,127 | ND | --- | 20 | A | 9.6 | A |
| Wood | 87,120 | 0.066 | B | 27 | A | 12.3 | B |
| | | | | | | | |
| Subtotal | 952,776 | | | | | | |
| Not Monitored | 902,588 | | | | | | |
| Total | 1,855,364 | | | | | | |

DV – Design Value ND - No Data

# WEST VIRGINIA

## Table WV-2

### People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| B | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 131,799 | 122,920 |
| C | 0 | 0 | 34,938 | 154,954 | 445,390 | 134,486 | 229,286 | 683,480 | 555,496 | 568,063 |
| D | 84,223 | 120,814 | 598,278 | 512,745 | 226,420 | 314,005 | 449,677 | 0 | 0 | 0 |
| F | 492,829 | 540,874 | 31,600 | 0 | 0 | 226,262 | 0 | 0 | 0 | 0 |
| Subtotal | 577,052 | 661,688 | 664,816 | 667,699 | 671,810 | 674,753 | 678,963 | 683,480 | 687,295 | 690,983 |
| NM | 1,228,362 | 1,150,607 | 1,151,622 | 1,152,793 | 1,156,102 | 1,159,299 | 1,161,347 | 1,164,295 | 1,165,699 | 1,164,381 |
| Total | 1,805,414 | 1,812,295 | 1,816,438 | 1,820,492 | 1,827,912 | 1,834,052 | 1,840,310 | 1,847,775 | 1,852,994 | 1,855,364 |

### People Breathing Short-term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 147,478 | 721,346 | 747,855 |
| B | 14,123 | 14,106 | 13,997 | 92,291 | 123,103 | 78,323 | 292,918 | 706,923 | 192,021 | 169,121 |
| C | 140,753 | 140,375 | 535,702 | 446,235 | 632,110 | 494,168 | 363,581 | 30,748 | 0 | 0 |
| D | 429,572 | 235,354 | 273,975 | 374,416 | 86,552 | 272,302 | 223,216 | 24,153 | 0 | 0 |
| F | 377,555 | 575,121 | 143,538 | 56,213 | 55,665 | 55,122 | 24,168 | 0 | 0 | 0 |
| Subtotal | 962,003 | 964,956 | 967,212 | 969,155 | 897,430 | 889,915 | 903,883 | 909,302 | 913,367 | 916,976 |
| NM | 843,411 | 847,339 | 849,226 | 851,337 | 930,482 | 934,137 | 936,427 | 938,473 | 939,627 | 938,388 |
| Total | 1,805,414 | 1,812,295 | 1,816,438 | 1,820,492 | 1,827,912 | 1,834,052 | 1,840,310 | 1,847,775 | 1,852,994 | 1,855,364 |

### People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 14,123 | 14,106 | 13,997 | 13,950 | 0 | 0 | 0 | 78,782 | 244,147 | 619,973 |
| B | 62,106 | 140,375 | 140,122 | 139,644 | 78,178 | 78,323 | 146,820 | 271,080 | 669,220 | 297,003 |
| C | 230,738 | 153,690 | 256,382 | 257,594 | 485,774 | 203,408 | 637,686 | 559,440 | 0 | 0 |
| D | 243,177 | 529,306 | 525,111 | 501,754 | 333,478 | 523,125 | 119,377 | 0 | 0 | 0 |
| F | 411,949 | 127,479 | 31,600 | 56,213 | 0 | 95,059 | 0 | 0 | 0 | 0 |
| Subtotal | 962,003 | 964,956 | 967,212 | 969,155 | 897,430 | 899,915 | 903,883 | 909,302 | 913,367 | 916,976 |
| NM | 843,411 | 847,339 | 849,226 | 851,337 | 930,482 | 934,137 | 936,427 | 938,473 | 939,627 | 938,388 |
| Total | 1,805,414 | 1,812,295 | 1,816,438 | 1,820,492 | 1,827,912 | 1,834,052 | 1,840,310 | 1,847,775 | 1,852,994 | 1,855,364 |

NM – Not Monitored

Figure WV-1

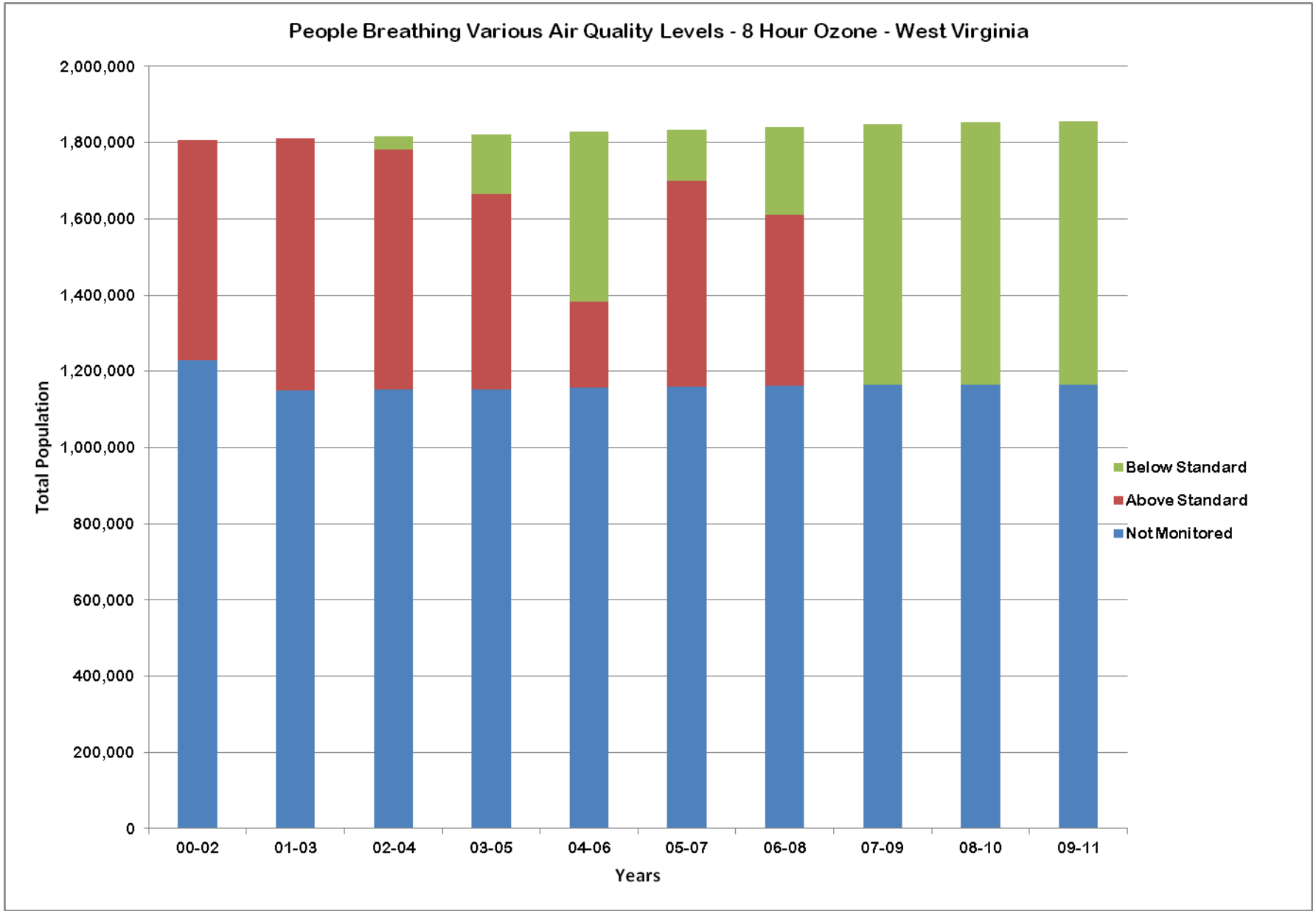

People Breathing Various Air Quality Levels - 8 Hour Ozone - West Virginia
Total Population
2,000,000
1,800,000
1,600,000
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure WV-2

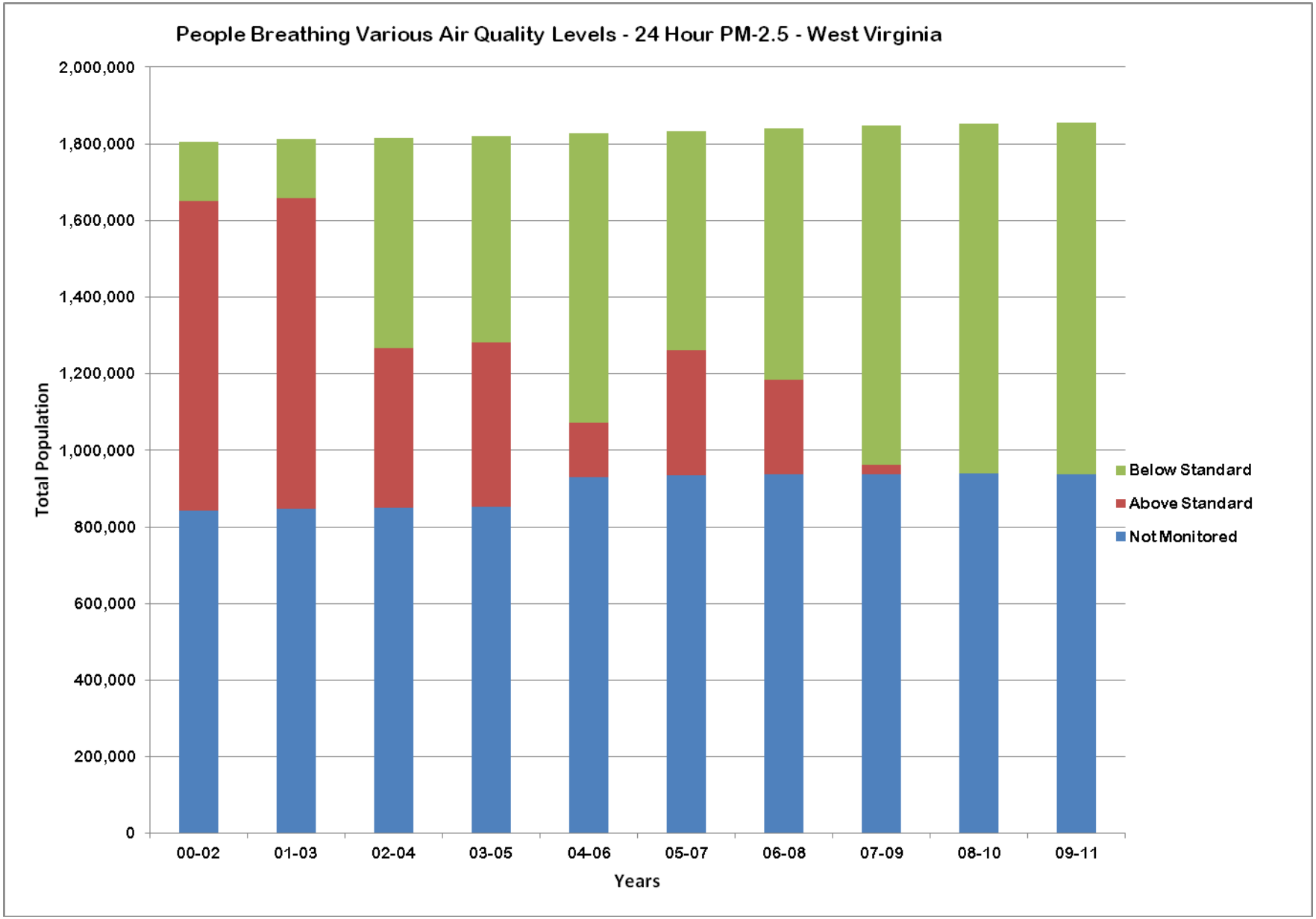
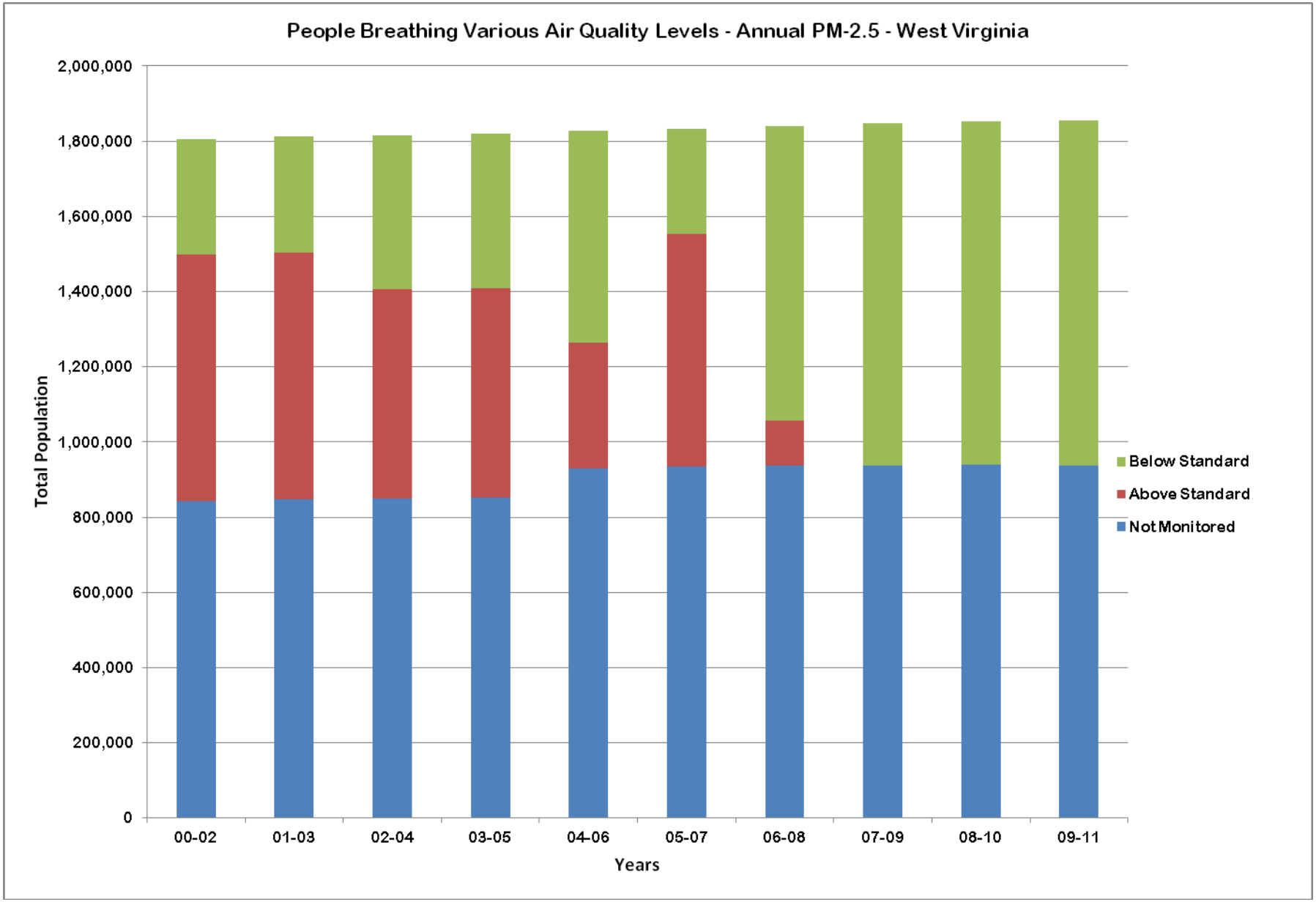

People Breathing Various Air Quality Levels - 24 Hour PM-2.5 - West Virginia
Total Population
2,000,000
1,800,000
1,600,000
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure WV-3


People Breathing Various Air Quality Levels - Annual PM-2.5 - West Virginia
Total Population
2,000,000
1,800,000
1,600,000
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# WISCONSIN

## Ozone

**Significant progress has been made in ozone levels in Wisconsin. In the 2000 – 2002 time period, approximately 0.5 million people (10.0%) lived in counties that met the ozone standard. By 2009 – 2011 this had increased to approximately 1.8 million people (30.8%). Figure WI-1 shows the distribution of people by year.**

## 24-Hour PM-2.5

**Progress has been made in 24-hour PM-2.5 levels in Wisconsin. In the 2000 – 2002 time period, approximately 3.1 million people (56.5%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 -2011 this was approximately 3.0 million people (52.7%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure WI-2 shows the distribution of people by year.**

## Annual PM-2.5

**Annual PM-2.5 levels in Wisconsin have historically been better than the standard. In the 2000 – 2002 time period, approximately 3.1 million people (56.5%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this had increased to approximately 3.0 million people (52.7%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure WI-3 shows the distribution of people by year.**

# WISCONSIN

Table WI-1

2009 – 2011

| | | OZONE | | PARTICLE POLLUTION (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg. 24-Hr DV | Grade | Avg. Ann DV | Grade |
| Ashland | 16,142 | ND | --- | 17 | A | 5.5 | A |
| Brown | 251,412 | 0.065 | B | 33 | C | 10.4 | A |
| Columbia | 56,909 | 0.065 | B | ND | --- | ND | --- |
| Dane | 495,959 | 0.063 | B | 30 | B | 10.6 | A |
| Dodge | 88,661 | ND | --- | 26 | A | 12.0 | B |
| Door | 27,820 | 0.075 | C | ND | --- | ND | --- |
| Eau Claire | 99,879 | ND | --- | 28 | B | 10.5 | A |
| Fond du Lac | 102,079 | 0.067 | B | ND | --- | ND | --- |
| Forest | 9,236 | ND | --- | 18 | A | 6.1 | A |
| Grant | 51,210 | ND | --- | 29 | B | 10.7 | A |
| Jefferson | 83,943 | 0.067 | B | ND | --- | ND | --- |
| **Kenosha** | **167,293** | **0.078** | **D** | 26 | A | 9.9 | A |
| Kewaunee | 20,589 | 0.073 | C | ND | --- | ND | --- |
| La Crosse | 115,572 | 0.062 | B | 29 | B | 9.7 | A |
| **Manitowoc** | **80,976** | **0.077** | **D** | ND | --- | ND | --- |
| Marathon | 134,400 | 0.062 | B | ND | --- | ND | --- |
| Milwaukee | 952,532 | 0.067 | B | 31 | B | 11.1 | A |
| Oneida | 35,801 | 0.063 | B | ND | --- | ND | --- |
| Outagamie | 177,913 | 0.066 | B | 31 | B | 9.8 | A |
| Ozaukee | 86,568 | 0.073 | C | 27 | A | 9.5 | A |
| Racine | 195,388 | 0.075 | C | ND | --- | ND | --- |
| Rock | 160,092 | 0.067 | B | ND | --- | ND | --- |
| Sauk | 62,290 | 0.062 | B | 29 | B | 9.1 | A |
| **Sheboygan** | **115,149** | **0.081** | **D** | ND | --- | ND | --- |
| Taylor | 20,661 | ND | --- | 26 | A | 7.9 | A |
| Vilas | 21,442 | 0.061 | B | 21 | A | 6.1 | A |
| Walworth | 102,931 | 0.068 | C | ND | --- | ND | --- |
| Waukesha | 390,230 | 0.064 | B | 31 | B | 11.7 | A |
| | | | | | | | |
| Subtotal | 4,123,577 | | | | | | |
| Not Monitored | 1,588,190 | | | | | | |
| Total | 5,711,767 | | | | | | |

DV – Design Value ND - No Data

# WISCONSIN

## Table WI-2

### People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16,142 |
| B | 0 | 0 | 41,925 | 4,825 | 106,642 | 0 | 905,137 | 1,169,343 | 2,425,910 | 2,558,681 |
| C | 542,974 | 348,058 | 1,120,875 | 1,780,393 | 2,626,694 | 1,930,317 | 2,696,167 | 2,467,331 | 1,525,765 | 1,365,828 |
| D | 2,579,093 | 1,421,786 | 2,095,178 | 1,650,257 | 1,312,164 | 1,637,861 | 410,645 | 390,583 | 115,507 | 363,418 |
| F | 920,613 | 2,300,289 | 679,298 | 490,343 | 304,549 | 409,194 | 0 | 0 | 0 | 0 |
| Subtotal | 4,042,680 | 4,070,133 | 3,937,226 | 3,925,818 | 4,350,049 | 3,977,372 | 4,001,949 | 4,027,257 | 4,067,182 | 4,324,069 |
| NM | 1,402,482 | 1,409,070 | 1,576,800 | 1,620,348 | 1,227,606 | 1,633,403 | 1,639,047 | 1,642,007 | 1,619,804 | 1,387,698 |
| Total | 5,445,162 | 5,479,203 | 5,514,026 | 5,546,166 | 5,577,655 | 5,610,775 | 5,640,996 | 5,669,264 | 5,686,986 | 5,711,767 |

### People Breathing Short-term Particle Pollution 24-Hour PM-2.5

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 93,608 | 104,007 | 103,915 | 58,853 | 148,387 | 150,016 | 259,427 | 114,201 | 25,461 | 410,003 |
| B | 560,407 | 372,561 | 376,247 | 555,689 | 226,811 | 149,396 | 661,363 | 355,847 | 1,125,414 | 2,346,085 |
| C | 2,424,702 | 1,142,595 | 2,091,208 | 597,460 | 1,428,751 | 938,655 | 1,994,542 | 2,569,694 | 1,565,529 | 251,412 |
| D | 0 | 939,513 | 0 | 1,550,012 | 1,170,454 | 714,335 | 0 | 0 | 248,007 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 931,453 | 0 | 0 | 0 | 0 |
| Subtotal | 3,078,717 | 2,558,676 | 2,571,370 | 2,762,014 | 2,974,403 | 2,883,855 | 2,915,332 | 3,039,742 | 2,964,411 | 3,007,500 |
| NM | 2,366,445 | 2,920,527 | 2,942,656 | 2,784,152 | 2,603,252 | 2,726,920 | 2,725,664 | 2,629,522 | 2,722,575 | 2,704,267 |
| Total | 5,445,162 | 5,479,203 | 5,514,026 | 5,546,166 | 5,577,655 | 5,610,775 | 5,640,996 | 5,669,264 | 5,686,986 | 5,711,767 |

### People Breathing Year Round Particle Pollution Annual PM-2.5

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 1,327,189 | 797,861 | 1,258,213 | 991,541 | 847,491 | 623,975 | 887,867 | 1,006,720 | 2,574,520 | 2,918,839 |
| B | 1,751,528 | 1,760,815 | 1,313,151 | 1,391,588 | 2,016,271 | 944,188 | 806,022 | 2,033,022 | 389,891 | 88,661 |
| C | 0 | 0 | 0 | 378,885 | 0 | 1,315,692 | 1,221,443 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 110,641 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 3,078,717 | 2,558,676 | 2,571,370 | 2,762,014 | 2,974,403 | 2,883,855 | 2,915,332 | 3,039,742 | 2,964,411 | 3,007,500 |
| NM | 2,366,445 | 2,920,527 | 2,942,656 | 2,784,152 | 2,603,252 | 2,726,920 | 2,725,664 | 2,629,522 | 2,722,575 | 2,704,267 |
| Total | 5,445,162 | 5,479,203 | 5,514,026 | 5,546,166 | 5,577,655 | 5,610,775 | 5,640,996 | 5,669,264 | 5,686,986 | 5,711,767 |

NM – Not Monitored

Figure WI-1

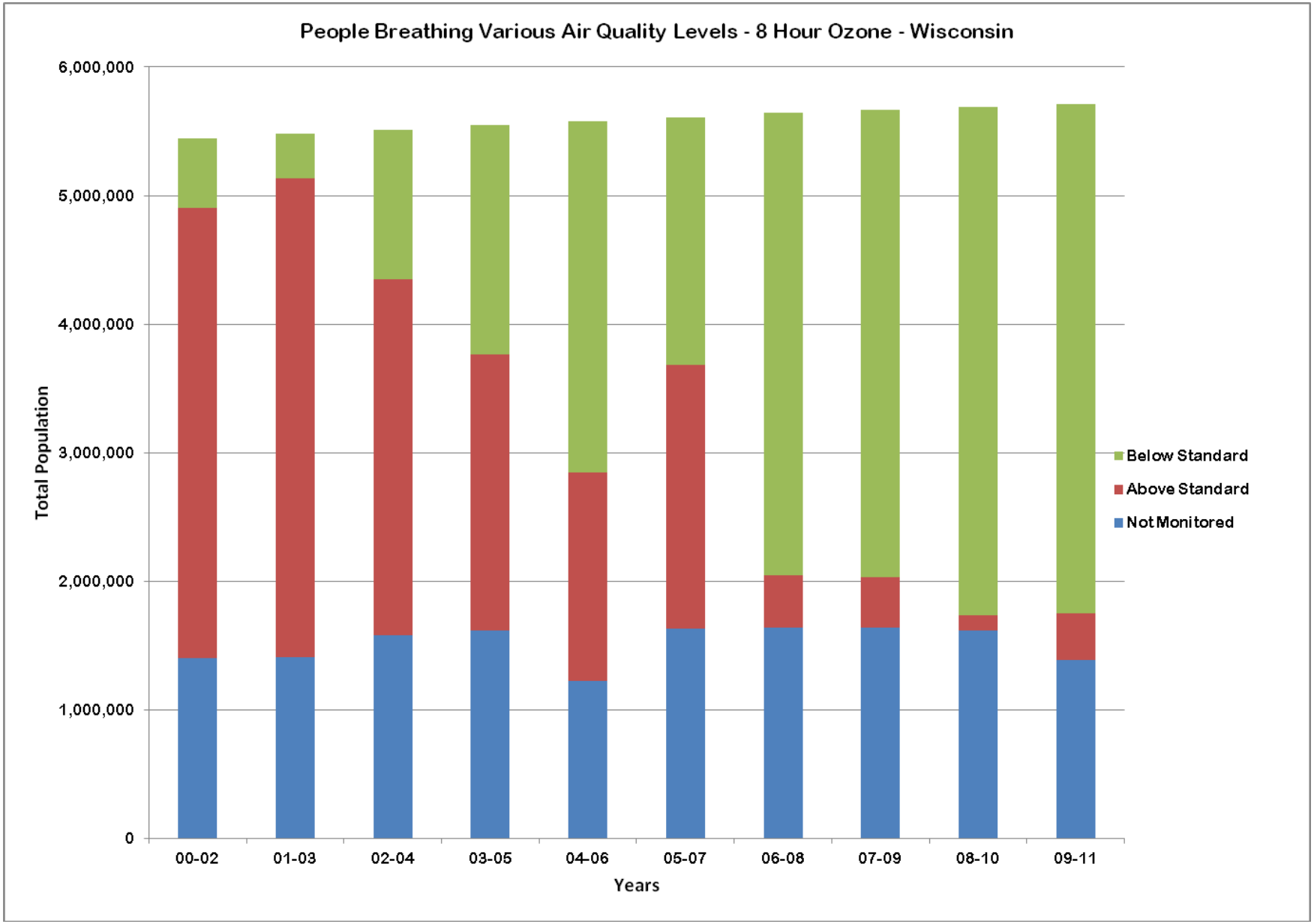

People Breathing Various Air Quality Levels - 8 Hour Ozone - Wisconsin
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure WI-2

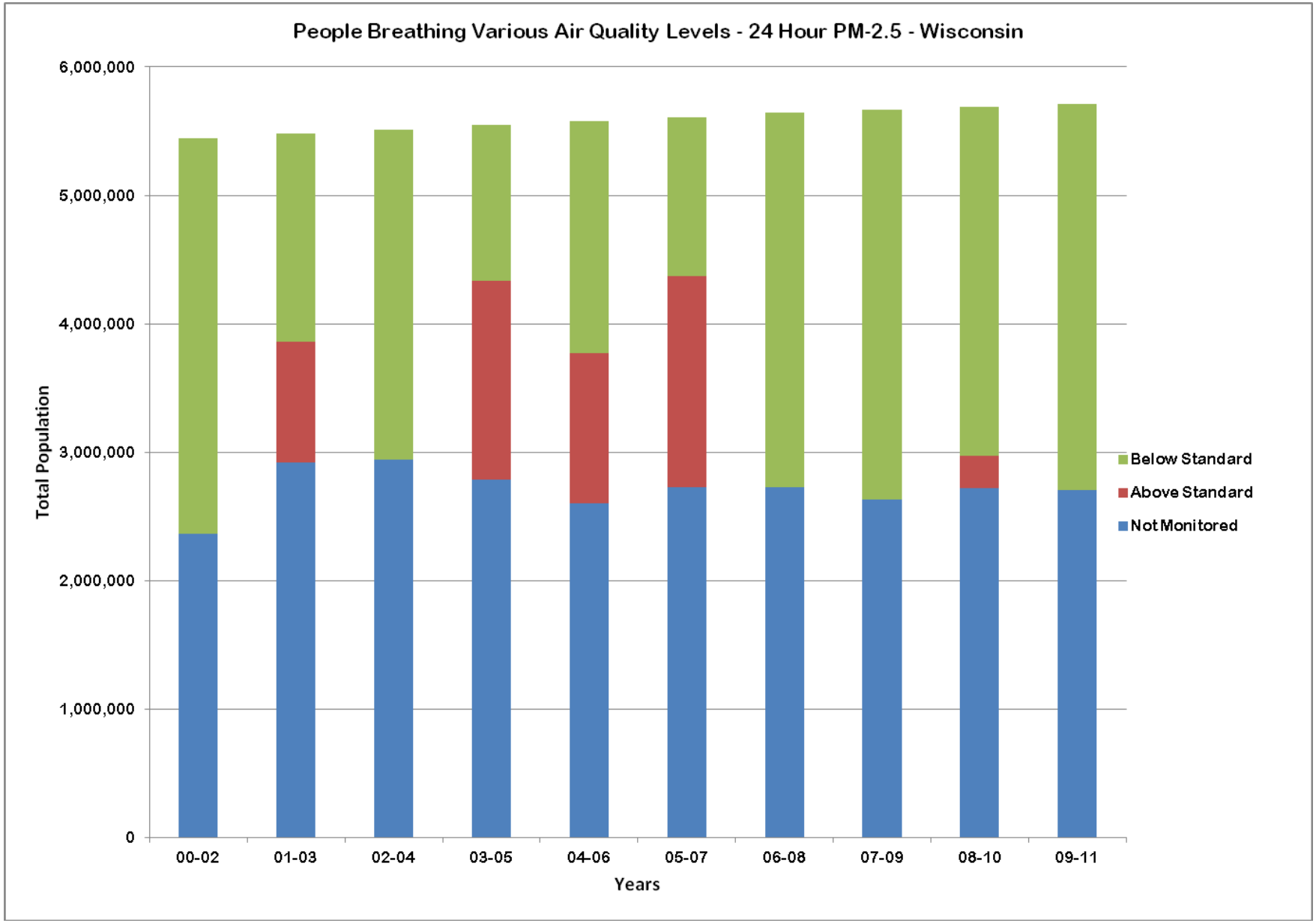
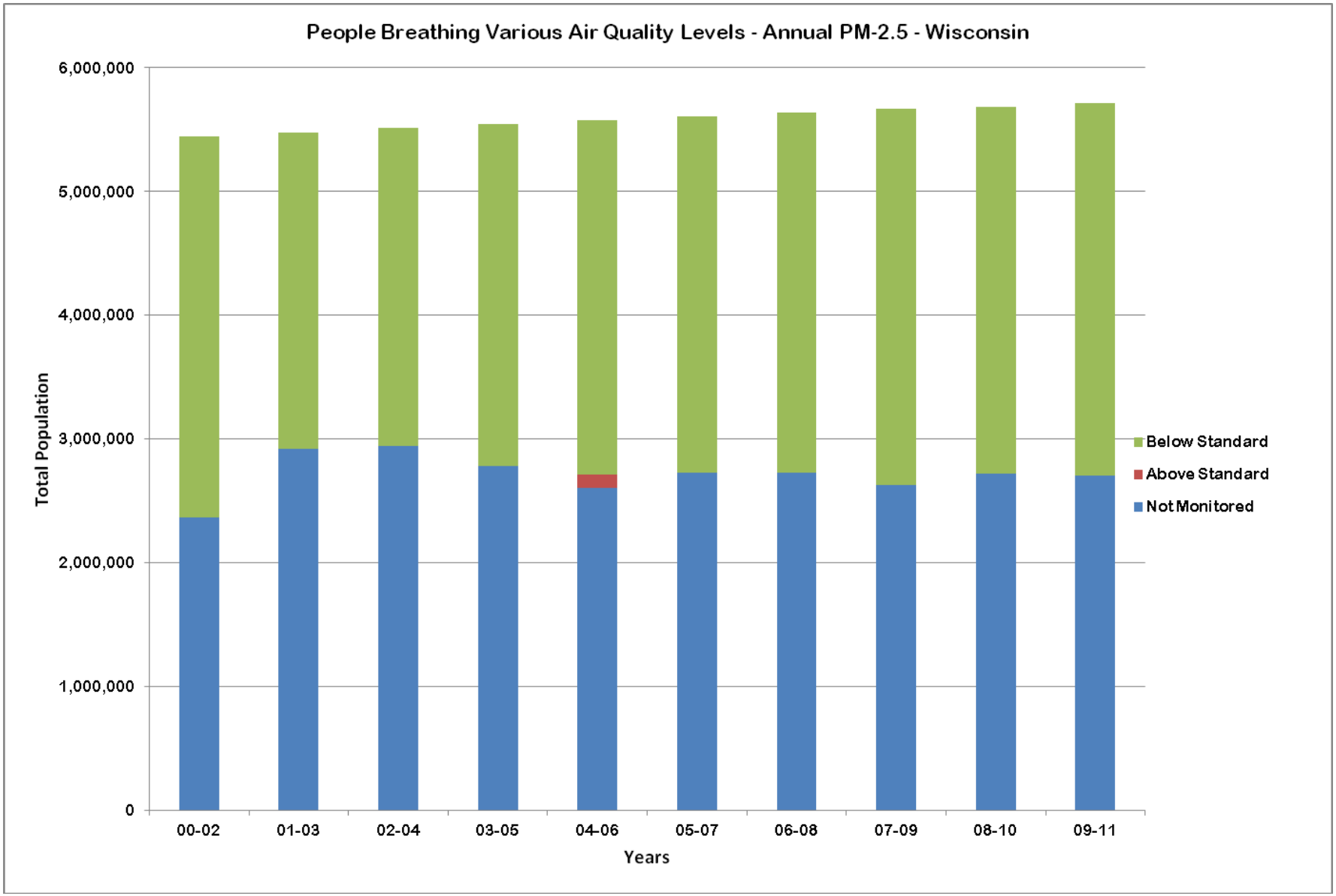

People Breathing Various Air Quality Levels - 24 Hour PM-2.5 - Wisconsin
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure WI-3


People Breathing Various Air Quality Levels - Annual PM-2.5 - Wisconsin
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

# WYOMING

## Ozone

**Significant progress has been made in ozone levels in Wyoming. In the 2000 – 2002 time period, approximately 18 thousand people (3.8%) lived in counties that met the ozone standard. By 2009 – 2011 this had increased to approximately 0.19 million people (33.6%). The remainder of the population lived in counties where ozone was not measured. Figure WY-1 shows the distribution of people by year.**

## 24-Hour PM-2.5

**24-hour PM-2.5 levels in Wyoming have historically been better than the standard. In the 2000 – 2002 time period, approximately 0.2 million people (31.7%) lived in counties where 24-hour PM-2.5 levels met the standard. By 2009 -2011 this was approximately 0.4 million people (66.9%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure WY-2 shows the distribution of people by year.**

## Annual PM-2.5

**Annual PM-2.5 levels in Wyoming have historically been better than the standard. In the 2000 – 2002 time period, approximately 0.2 million people (31.7%) lived in counties where annual PM-2.5 levels met the standard. By 2009 – 2011 this had increased to approximately 0.4 million people (66.9%). The remainder of the population lived in counties where PM-2.5 was not measured. Figure WY-3 shows the distribution of people by year.**

Table WY-1

2009 – 2011

| | | OZONE | | PARTICLE POLLUTION (PM-2.5) | | | |
|---|---|---|---|---|---|---|---|
| County | Population | Avg. DV | Grade | Avg. 24-Hr DV | Grade | Avg. Ann DV | Grade |
| Albany | 36,889 | ND | --- | 13 | A | 5.0 | A |
| Campbell | 46,618 | 0.062 | B | ND | --- | ND | --- |
| Crook | 7,111 | 0.059 | A | ND | --- | ND | --- |
| Fremont | 40,579 | 0.065 | B | 32 | C | 8.5 | A |
| Laramie | 92,680 | ND | --- | 9 | A | 4.2 | A |
| Natrona | 76,366 | ND | --- | 11 | A | 4.5 | A |
| Park | 28,592 | ND | --- | 11 | A | 4.4 | A |
| Sheridan | 29,239 | ND | --- | 18 | A | 6.9 | A |
| Sublette | 10,146 | 0.073 | C | 15 | A | 4.9 | A |
| Sweetwater | 44,175 | 0.064 | B | 12 | A | 5.7 | A |
| Teton | 21,548 | 0.064 | B | 11 | A | 4.5 | A |
| Uinta | 20,985 | 0.063 | B | ND | --- | ND | --- |
| | | | | | | | |
| Subtotal | 454,928 | | | | | | |
| Not Monitored | 109,532 | | | | | | |
| Total | 564,460 | | | | | | |

DV – Design Value ND - No Data

# WYOMING

## Table WY-2

### People Breathing Ozone

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7,111 |
| B | 18,817 | 19,066 | 19,467 | 57,520 | 59,511 | 20,472 | 63,346 | 132,069 | 172,554 | 173,905 |
| C | 0 | 36,586 | 36,907 | 0 | 0 | 50,451 | 42,846 | 10,134 | 10,237 | 10,146 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 9,474 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 18,817 | 55,652 | 56,374 | 57,520 | 59,511 | 70,923 | 115,666 | 142,203 | 182,791 | 191,162 |
| NM | 481,180 | 447,801 | 452,732 | 456,637 | 463,156 | 463,953 | 430,377 | 417,648 | 381,763 | 376,996 |
| Total | 500,017 | 503,453 | 509,106 | 514,157 | 522,667 | 534,876 | 546,043 | 559,851 | 564,554 | 568,158 |

### People Breathing Short-term Particle Pollution (24-Hour PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 131,615 | 151,968 | 154,151 | 155,847 | 159,131 | 237,625 | 243,243 | 210,302 | 270,947 | 339,635 |
| B | 0 | 26,938 | 26,942 | 27,075 | 37,408 | 0 | 0 | 39,685 | 40,273 | 0 |
| C | 26,839 | 0 | 36,383 | 36,838 | 27,422 | 0 | 0 | 0 | 0 | 40,579 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 158,454 | 178,906 | 217,476 | 219,760 | 223,961 | 237,625 | 243,243 | 249,987 | 311,220 | 380,214 |
| NM | 341,563 | 324,547 | 291,630 | 294,397 | 298,706 | 297,251 | 302,800 | 309,864 | 253,334 | 187,944 |
| Total | 500,017 | 503,453 | 509,106 | 514,157 | 522,667 | 534,876 | 546,043 | 559,851 | 564,554 | 568,158 |

### People Breathing Year Round Particle Pollution (Annual PM-2.5)

| Grade | 00-02 | 01-03 | 02-04 | 03-05 | 04-06 | 05-07 | 06-08 | 07-09 | 08-10 | 09-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 158,454 | 178,906 | 217,476 | 219,760 | 223,961 | 237,625 | 243,243 | 249,987 | 311,220 | 380,214 |
| B | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 158,454 | 178,906 | 217,476 | 219,760 | 223,961 | 237,625 | 243,243 | 249,987 | 311,220 | 380,214 |
| NM | 341,563 | 324,547 | 291,630 | 294,397 | 298,706 | 297,251 | 302,800 | 309,864 | 253,334 | 187,944 |
| Total | 500,017 | 503,453 | 509,106 | 514,157 | 522,667 | 534,876 | 546,043 | 559,851 | 564,554 | 568,158 |

NM – Not Monitored

Figure WY-1

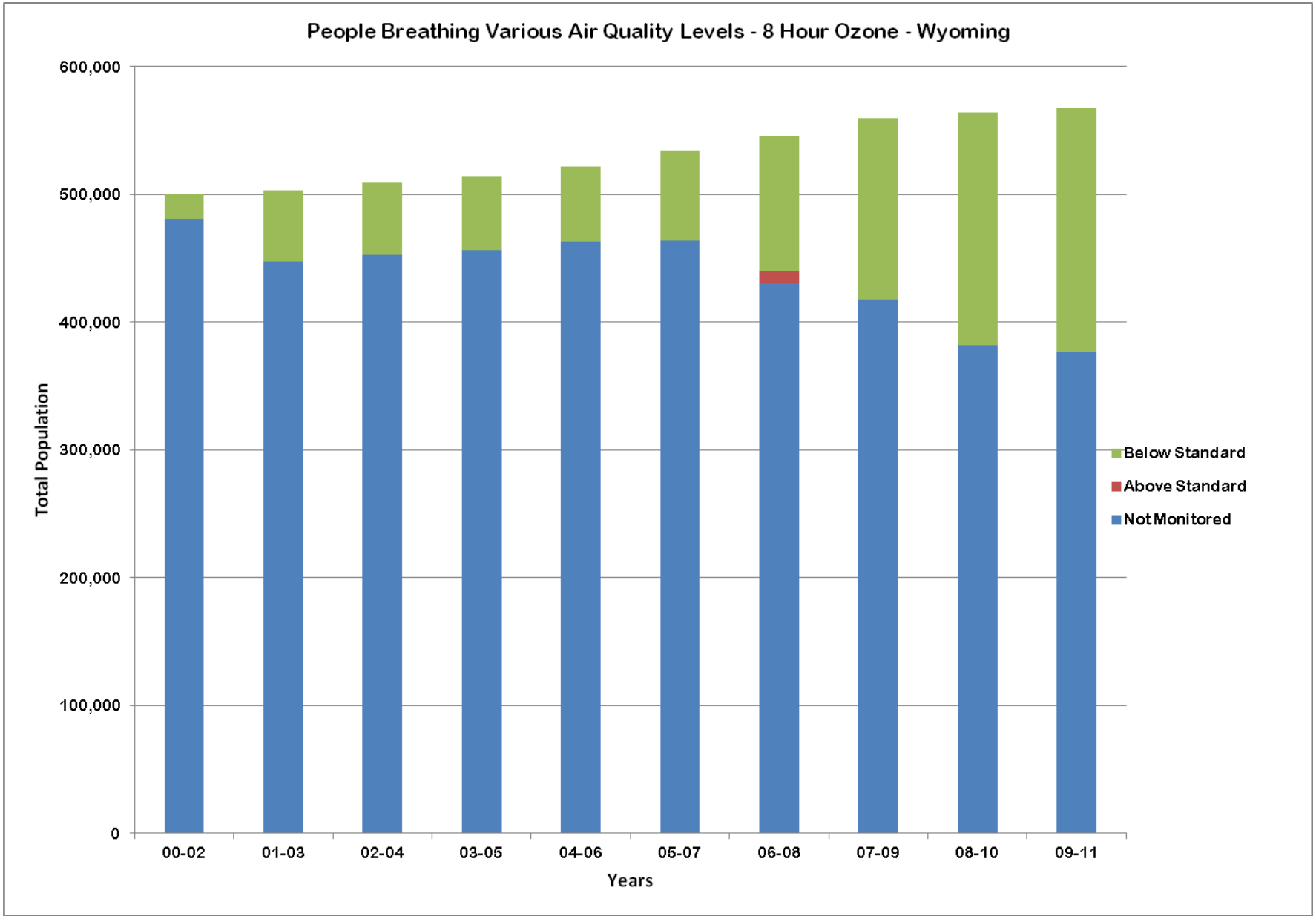

People Breathing Various Air Quality Levels - 8 Hour Ozone - Wyoming
600,000
500,000
400,000
300,000
200,000
100,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure WY-2

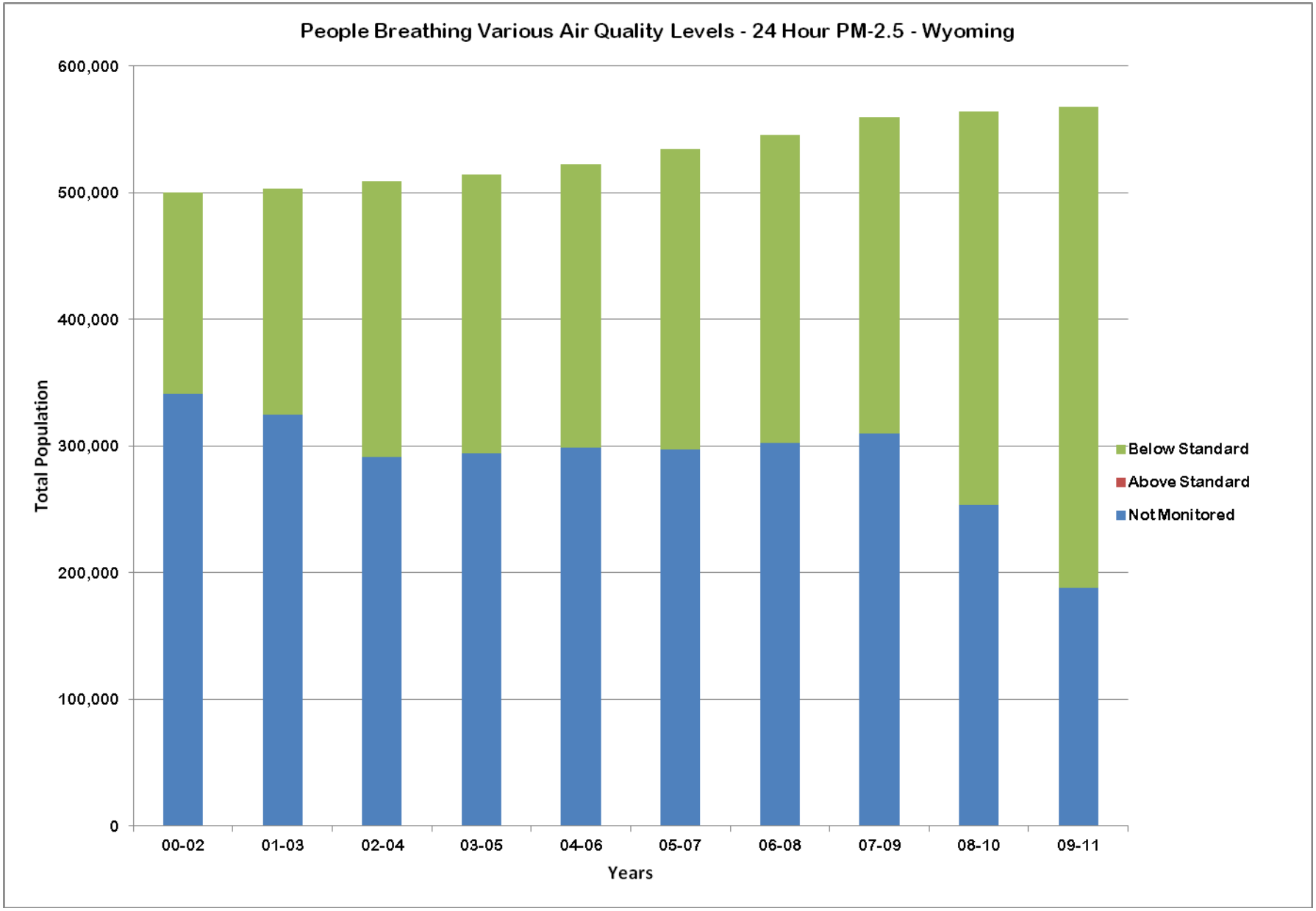
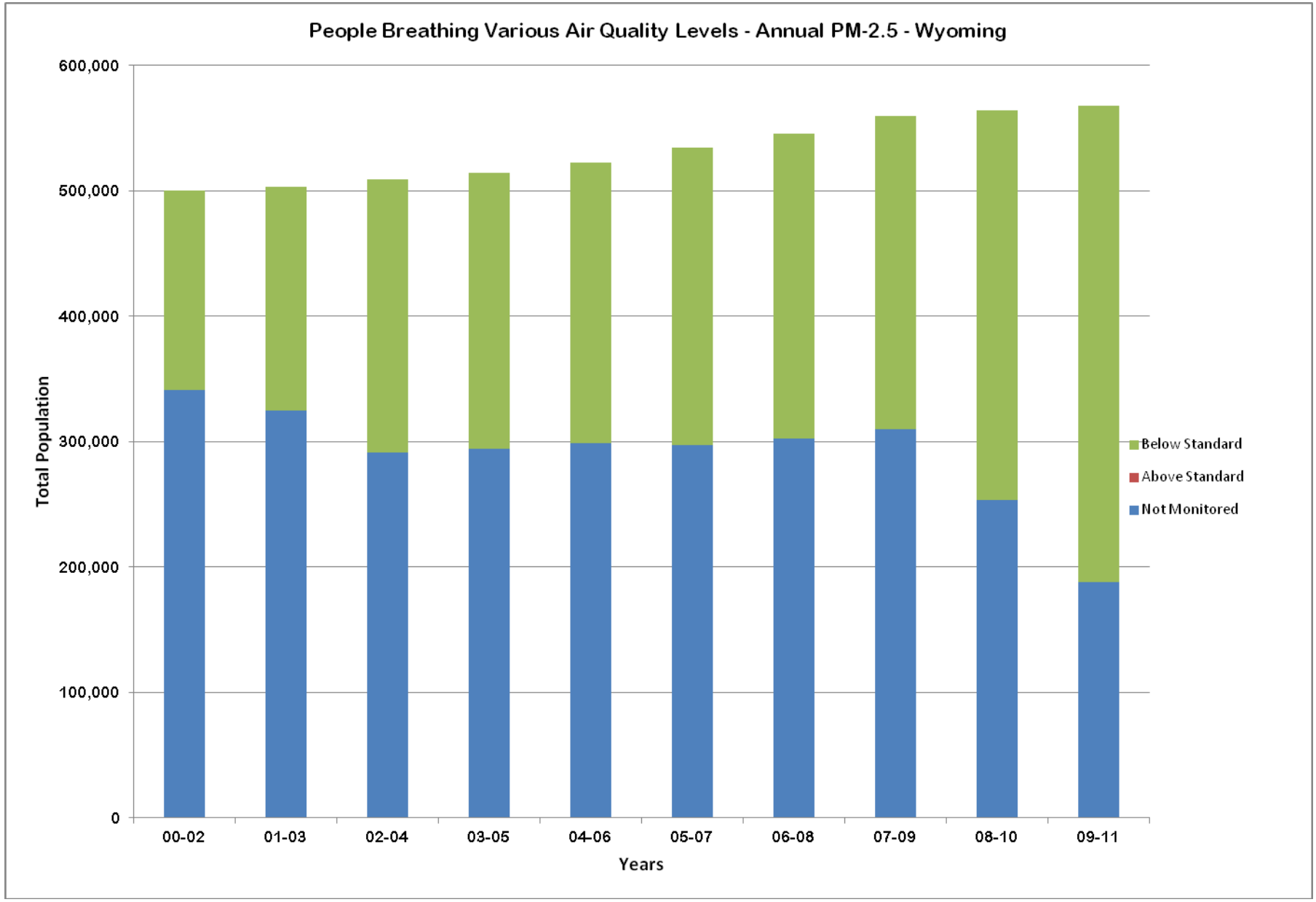

People Breathing Various Air Quality Levels - 24 Hour PM-2.5 - Wyoming
600,000
500,000
400,000
300,000
200,000
100,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Figure WY-3


People Breathing Various Air Quality Levels - Annual PM-2.5 - Wyoming
600,000
500,000
400,000
300,000
200,000
100,000
0
Total Population
00-02
01-03
02-04
03-05
04-06
05-07
06-08
07-09
08-10
09-11
Years
Below Standard
Above Standard
Not Monitored

Indiana Department of Environmental Management

# The States' View of the Air 2013

## State of Indiana

Keith Baugues
**Assistant Commissioner —** *Office of Air Quality*

Indiana Department of Environmental Management
**www.idem.IN.gov**

June, 2013