



## **OUTDOOR AIR POLLUTION**

### **FACT SHEETS ON HEALTH AND ENVIRONMENT IN WASHINGTON**

#### **INTRODUCTION**

There are two main types of pollutants in outdoor air:

- Common or criteria air pollutants: These include the air pollutants that have ‘national ambient air quality standards’ established under the federal Clean Air Act. There are six common or criteria air pollutants: ozone, particulate matter, carbon monoxide, nitrogen dioxide, sulfur dioxide and lead. The Environmental Protection Agency calculates an Air Quality Index<sup>1</sup> based on the levels of ozone, particulate matter, carbon monoxide, sulfur dioxide and nitrogen dioxide.
- Toxic or hazardous air pollutants: These include other air pollutants that are known or suspected to cause cancer or other serious health effects, such as reproductive disorders or birth defects. Toxic air pollutants include volatile organics and solvents such as benzene, some heavy metals, pesticides, industrial and commercial chemicals, and by-products of combustion processes, such as dioxins and PAHs (polyaromatic hydrocarbons).

#### **OUTDOOR AIR IN WASHINGTON STATE**

- In Washington state, there are three “nonattainment areas,” where levels of common air pollutants exceed the national ambient air quality standards: Spokane (carbon monoxide), Wallula (particulate matter), and Yakima (carbon monoxide).<sup>2</sup>
- King County ranked among the worst 10% of all counties in the United States in terms of population at risk for non-cancer health effects due to toxic air pollutants.<sup>3</sup>
- An estimated 1,730,356 people in King County face a cancer risk more than 100 times the goal set by the Clean Air Act because of exposure to toxic air pollutants.<sup>4</sup>
- Acrolein is the air toxic with the most potential to cause respiratory problems.<sup>5</sup> Snohomish, King, Pierce, Thurston, Yakima, Cowlitz, Clark and Douglas counties have the highest hazard quotient for acrolein. Lincoln, Ferry, Adams, Grant and Columbia counties have the lowest hazard quotient.<sup>6</sup>

- Benzene is the most significant air toxic linked with cancer. People are mostly exposed to benzene through vehicle exhaust and smoke from fires.<sup>7</sup> Most counties in Washington had a median cancer risk from benzene of 10 in one million in 1996. Snohomish, King, Pierce, Kitsap and Clark counties had a risk of 30 in a million.<sup>8</sup>
- Air with an air quality index of less than 50 is considered good. An Air Quality Index (AQI) of more than 200 is considered very unhealthy. Washington counties with the worst air quality in 2005 were Benton and Walla Walla, each with an AQI of 501. King, Pierce and Snohomish counties had AQIs of 132, 120, and 114 respectively.<sup>9</sup>

## COMPARING WASHINGTON STATE NATIONALLY

- Outdoor air quality in Washington state is relatively good compared with other states and nationally, as there are relatively few “nonattainment areas” for the common or criteria air pollutants. Depending on the specific contaminant, levels of toxic air pollutants in western Washington are generally comparable with levels in other states. Levels in eastern Washington tend to be lower.
- The Seattle/Bellevue/Everett area had one day with an Air Quality Index of greater than 100 in 2004. This is much lower than cities such as Los Angeles/Long Beach, with 65 days over 100, and Bakersfield, California, with 103 days over 100. Chicago, Miami, and Jersey City also had only one day over 100 in 2004. Vancouver and Tacoma had zero days with an Air Quality Index greater than 100.<sup>10</sup>
- Washington ranks 30th among all states in terms of health risks from criteria air pollutants. The states with the highest health risks are California, Texas, Arizona and Ohio.<sup>11</sup> However, Washington is among the dirtiest states in terms of carbon monoxide emissions.<sup>12</sup>

## SOURCES

1 <http://airnow.gov/index.cfm?action=airnow.main>

2 <http://www.epa.gov/airtrends/factbook.html>

3 <http://www.epa.gov/ttn/atw/nata1999/>

4 <http://www.epa.gov/ttn/atw/nata1999/>

5 <http://www.epa.gov/ttn/atw/nata1999/natafinalfact.html>

6 <http://www.epa.gov/cgi-bin/broker?>

geo=STWA&pol=43505&rsk=n&city=1&typ=r&\_service=nata&\_program=nata.scl.xrmap.scl&\_debug=2&nata2=1

7 <http://www.epa.gov/ttn/atw/nata1999/natafinalfact.html>

8 <http://www.epa.gov/cgi-bin/broker?>

geo=STWA&pol=43505&rsk=n&city=1&typ=r&\_service=nata&\_program=nata.scl.xrmap.scl&\_debug=2&nata2=1

9 [www.scorecard.org/env-releases/cap/rank-counties-exposure.tcl?fips\\_state\\_code=53](http://www.scorecard.org/env-releases/cap/rank-counties-exposure.tcl?fips_state_code=53)

10 [http://www.epa.gov/airtrends/pdfs/aqi\\_bycity\\_ozone-05.xls](http://www.epa.gov/airtrends/pdfs/aqi_bycity_ozone-05.xls)

11 [www.scorecard.org/env-releases/cap/rank-states-risk.tcl](http://www.scorecard.org/env-releases/cap/rank-states-risk.tcl)

12 [www.scorecard.org/env-releases/cap/state.tcl?fips\\_state\\_code=53#air\\_rankings](http://www.scorecard.org/env-releases/cap/state.tcl?fips_state_code=53#air_rankings)