

# Monitoring for Ozone Air Pollution in Quincy, WA

The Department of Ecology monitored outdoor levels of ground-level ozone pollution at the Quincy Municipal Airport over the summers of 2010 and 2011. The goal was to find out how much ozone formed during the typical “ozone season” (the time of year when conditions are most favorable for ozone formation).

## Is ozone a health problem in Quincy? If not, why monitor for it there?

Monitoring shows that ozone levels in the Quincy area meet the current federal health standard. Ecology monitored ozone in Quincy because we have very little information about ozone in rural areas of central and eastern Washington. Ecology wanted to better understand air quality conditions in parts of the state where no monitors exist. We also wanted to know if the forecast models we use are providing good estimates of ozone levels in the area.

## What is ozone?

There are two kinds of ozone. “Good” ozone forms naturally about 8 to 25 miles above the Earth’s surface. This is the ozone layer that helps protect life on Earth from the sun’s harmful rays. “Bad” ozone is the ozone at ground level, which is the main ingredient of smog. Ground-level ozone can cause health problems.

Ground-level ozone is a pollutant created when other pollutants react together in the presence of sunlight. The pollutants that form ozone come from motor vehicles, industry, gasoline vapors, chemical solvents, and even some plants. These pollutants form ozone over time as they drift away from their sources. This is why high levels of ozone often occur downwind of urban areas where the sources are located.

## What did we learn from monitoring?

In addition to finding out that ozone levels in the area meet federal health standards, Ecology learned:

- Ozone levels in Quincy did not change much from summer 2010 to summer 2011, as shown in Figure 1 below.
- The highest levels of ozone were usually blown into the Quincy area by light winds from the east/southeast.
- Although the forecast models tended to overestimate nighttime ozone levels in Quincy, they did a reasonably good job of predicting daytime ozone levels.
- As expected, ozone levels tended to peak in the late afternoon.

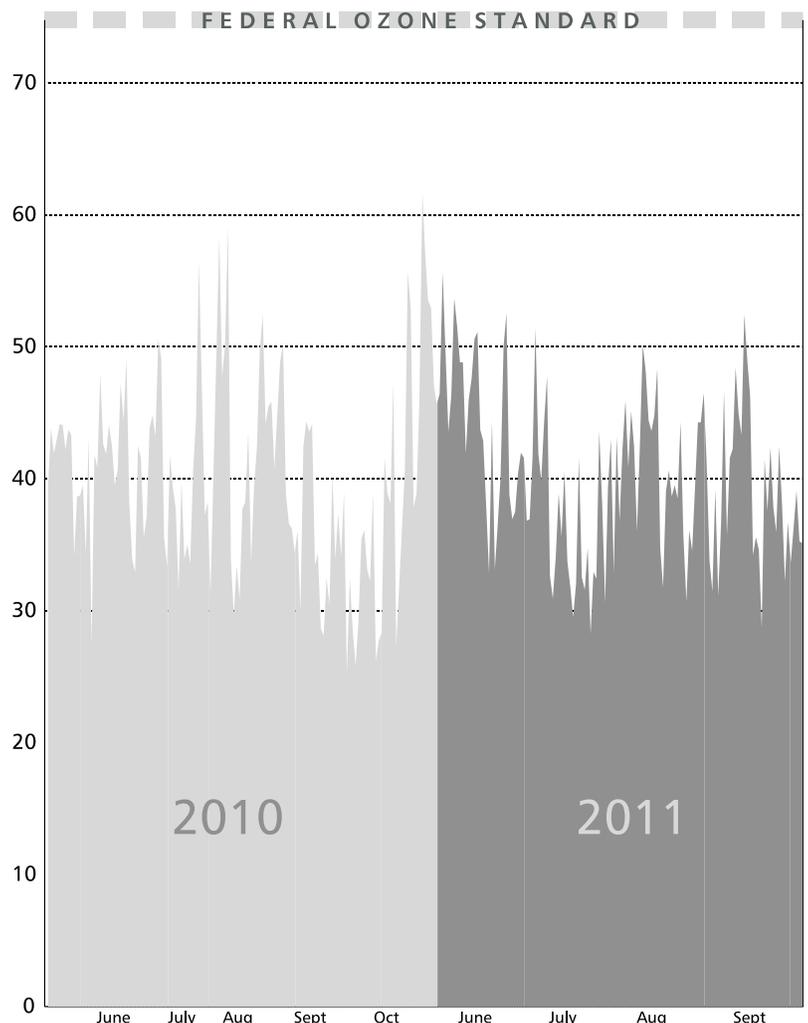


Figure 1:  
Comparing  
2010 and 2011  
summer Ozone  
concentrations  
at Quincy, WA