



COMPLIANCE ASSISTANCE PROGRAM

"Why is there a burn ban when I can see a beautiful blue sky?"

One would think that a good time to burn a pile of old tree limbs or leaves would be on a calm, clear day; or, during the cold winter nights, many of us would enjoy the cozy warmth of a wood stove or fireplace. *Then* we discover that a burn ban has been declared, preventing all such combustion. How can there be a burn ban when it looks so *nice* outside?

The answer lies mainly in two areas: weather conditions and particulate matter. You may have noticed that in Yakima County burn bans generally occur during the fall and winter months. It makes sense that burn bans would occur on those cold foggy days of January or February, for when there is little or no wind, smoke from combustion sources can become trapped in our valley. The air really "gets to looking ugly".

But even clear days can be deceptive, for it is what we can't see that makes all the difference. We cannot see temperature. Cold air is denser than warm air and it flows down slopes and gathers in pockets and valleys. A layer of warmer air can get trapped above this cold surface air and below another layer of higher-elevation cold air. This is called an inversion. Inversions work like a cap on a bottle and trap the air below. They can occur near ground level as well as higher elevations. Inversions can exist with a clear blue sky and a bright starry night.

Consider what can happen if we combine those conditions with something *else* we cannot see – fine particulate matter from combustion sources. In plain talk we call this "smoke". When we see smoke, we're really looking at all the tiny particles of wood that didn't get fully burned in the fire. We're looking at wasted heat – heat we never received because it was never used, but went up the chimney as unburned fuel. Other forms of fine particles combine with the smoke to make the air even more polluted. These particles are less than 2.5 micrometers in diameter, which is less than 1/7 the width of an average human hair. When these particles are inhaled, they lodge deep within lung tissue. This can lead to health problems – especially in infants and children, whose lungs are not fully developed; the elderly, whose lungs have been well-used and are less efficient, and those of us already compromised with medical conditions such as asthma, respiratory problems, and heart disease.

So the next time it really looks good outside on a beautiful winter day, don't assume that it's a great day to burn – be sure to contact the Yakima Regional Clean Air Agency first for the latest burn conditions. The health of your friends and family may very well be at stake.