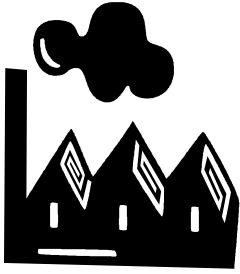


WATER - our MOUNTAIN GOLD



Suggestions from the
Central Sierra Watershed Committee

AIR POLLUTION Effects on Humans and Ecosystems

The San Joaquin Valley fails to meet air quality standards for PM10 and Ozone

Air Pollution can cause asthma, and trigger heart-related deaths. Once inside the human body, pollutants can cause several short- and long-term problems. Both ozone and particulate matter irritate the lungs, reduce resistance to infection and aggravate existing conditions, such as bronchitis and asthma. Air pollution also weakens manmade materials; hampers the natural beauty of the region; harms forest ecosystems; damages crops; lowers real estate values; and discourages tourism.

What is PM 10? Particulate matter is made up of tiny, airborne pieces of soot, dust, fly ash, smoke and other solids or liquids. When inhaled, particulate matter can sneak through the body's natural defense system, which includes nasal passages, mucous membranes and tonsils. The fine particles can carry into the body toxic chemicals that become lodged in the lungs, causing serious health problems. Some sources of particulate matter in the foothills are unpaved roads, construction and demolition, wild fires, and fires conducted for agricultural, residential and land management purposes.

Sources of PM10 Emissions in the San Joaquin Valley Air Basin are estimated at 481 tons per day (2000 Estimate). Sources include 26% from unpaved roads; 26% from farming operations; 15% from paved roads; 12% from windblown dust; 12% from waste burning; 6% from construction & demolition; and 3% other.

What's Ozone? Ozone is a poisonous gas that helps protect humans when it occurs where it belongs: in the upper stratosphere. High above the Earth's surface, the ozone layer helps filter out the sun's harmful ultraviolet rays. But at ground level, ozone can be inhaled by people and can destroy lung and airway tissue, causing serious health problems. It is also harmful to animals, interferes with plant photosynthesis and erodes buildings and other man made material. A large part of the Valley's ozone problem is due to mobile sources, such as cars and trucks.

Ozone in our mountain communities: Eight hour averaged ozone levels are higher in the foothill areas of the District than in many valley floor areas. During morning hours pollutants are held close to ground level by temperature inversions where temperature increases with height. As the day heats up, the surface layer where atmospheric mixing occurs grows. In addition, this heating causes upslope wind flow, and pollutants from SJV cities to be transported into mountain areas. On poor air quality days this mixing of the atmosphere is limited to the 3000-4000 foot level. Ozone levels transported into foothill and mountain areas stay moderately high into nighttime hours. This phenomenon occurs because ozone is both created and destroyed by fresh emissions. Once ozone is away from significant hydrocarbon and oxides of nitrogen sources concentrations can remain relatively high even into the night, thus creating broad peaks that result in high eight-hour averaged concentrations.

Incentives Promote Clean-Air Choices: Voluntary Programs

Financial incentive programs include Clean Green Yard Machines and the Light- and Medium-Duty Vehicle program encouraging residents to invest in cleaner lawnmowers, passenger cars and medium-sized commercial vehicles.

The Light- and Medium-Duty incentive program, established in 2001, is helping pay for more than 270 clean-air vehicles in the Valley. Private citizens, companies and government agencies receive up to

\$3000 per vehicle to buy natural gas, propane, hybrid and electric vehicles. The Air District has helped 2100 consumers in the Valley permanently retire their gas-powered lawnmowers in exchange for discounts on battery-powered mowers.

Rules passed to reduce air pollution

1. Regulation VIII, which contains rules addressing fugitive PM10, was amended in late 2001. The rules were tightened to reduce the amount of airborne particles kicked up into the air by earthmoving operations, construction sites, unpaved and paved roads, as well as mining and oil operations. Road owners have the option of submitting a fugitive PM10 management plan to show how they'll reduce dust emissions to 50 percent of a set standard. Without the plan, a road owner would have to ensure that dust from the road does not exceed 20 percent opacity. This means the dust cloud can block no more than 20 percent of the light coming through it. Otherwise, the road owner might be in violation of the regulation. The road owner also would be required to suppress dust on the road with water, approved oil treatments, or other methods.

2. Rule 4901 (Wood Burning Fireplaces and Wood Burning Heaters): This rule imposes mandatory "no burn nights" when the Air Quality Index reaches the unhealthy level of 150. This restriction does not apply to homes located above 3000 feet, without natural gas service, or for which the wood heater is the sole source of heat. The rule also limits the number and type of wood burning devices in new development, based on neighborhood density. The rule requires older, non-EPA-Phase II certified wood stoves to be removed or replaced at the sale of existing homes (this requirement does not apply to open-hearth fireplaces for which no EPA standard has been developed).

For more information please contact the San Joaquin Valley Air Pollution Control District at 559.230.6000. or on the web at www.valleyair.org.

The CSWC meets on the last Wednesday of every month at the Sierra Ambulance Office, 40755 Winding Way, Oakhurst, at 9 AM, and is open to the public. For information, please email leavesofgrass@netptc.net.

The mission of the Central Sierra Watershed Committee is to promote the quality, quantity, and aesthetic values of our water resources through the conservation and restoration of our watersheds.

CSWC members include: Interested citizens, ranchers, homeowners; local Native American tribes; North Fork Community Development Council; Chowchilla-Redtop and Coarsegold Resource Conservation Districts; Chowchilla City Council; Upper Merced River Watershed Council; California Water Institute; Sierra Foothill Conservancy; Madera Irrigation District; Yosemite/Sequoia Resource Conservation & Development Council; US Army Corps of Engineers; Regional Water Quality Control Board; Madera County Environmental Health & Engineering; CA Department of Water Resources; Madera County Board of Supervisors; Madera Agriculture Commissioner; San Joaquin Valley Air Pollution Control District; Natural Resource Conservation Service; and the United States Forest Service.

Note: The contents of this article do not necessarily reflect the views of the State.