

# **LANE REGIONAL AIR POLLUTION AUTHORITY**



## **1988-1990 AIR QUALITY REPORT**

## ...from the Director

This air quality report gives the reader an overview of the local air pollution control program as it exists today, and identifies several new aspects which hint at where LRAPA's program **may** be in the future.

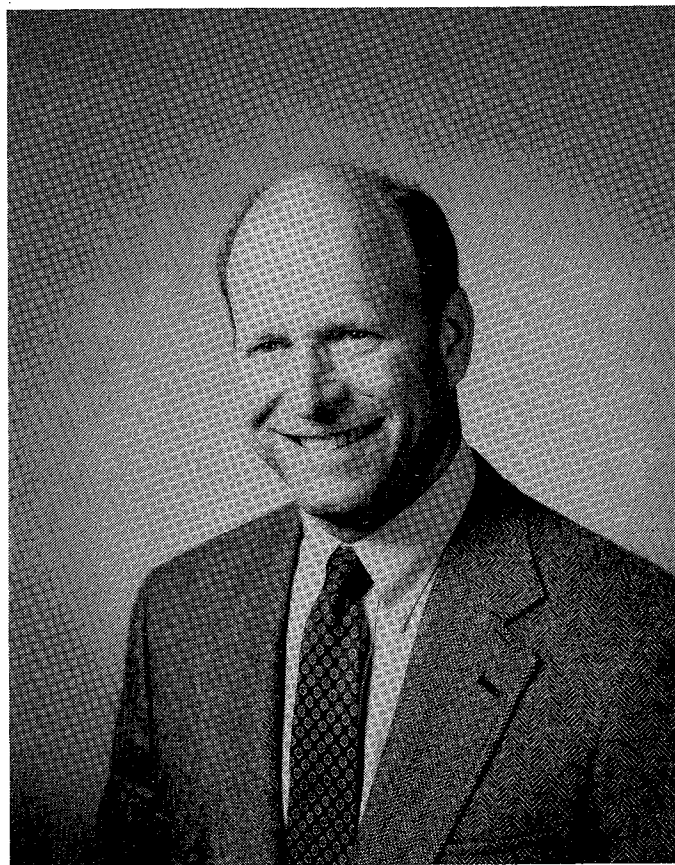
LRAPA is in a period of transition in a number of important ways. The traditional method of approaching air quality management through control regulations affecting industrial facilities is now being augmented with strategies which affect individuals. There is no longer much argument that individual actions, choices, and habits, are affecting the quality of air we all breathe, to an extent greater, in many cases, than smokestack emissions. The emergence of woodstove air pollution and the certainty that population growth will increase automobile air pollution are illustrative of this shift.

There are indications that we, as a society, may finally be willing to address these problems in a meaningful way together.

In Oregon there is serious legislative interest in market oriented approaches to some of the persistent air quality problems within our state. A legislative work group is now considering a proposal to create a funding mechanism to provide financial incentives for businesses and individuals to make choices which have less adverse air quality effect. These choices would be made for economic rather than regulatory reasons. The sources of funding would be a broad variety of operations and activities which cause the most air pollution, thus adding further incentive to reduce waste. Although the future of this proposal is uncertain, the "polluter pays" concept is gaining momentum, not only in Oregon, but nationally as well.

LRAPA will be updating its strategic plan of operation in early 1991. A theme that will run through this process will involve "people pollution," and what to do about it locally, without infringing unreasonably on personal freedoms. Programs that the agency has enacted during the past few years, such as the voluntary wood burning curtailment program, will provide a foundation for future control efforts that are likely to be necessary.

I trust you will find this report to be informative. LRAPA places great emphasis on local priorities when planning and conducting the local air pollution control program. The agency welcomes comments or suggestions about this report and the overall program.



**Donald R. Arkell**  
Director

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# AIR QUALITY REPORT

*There are national standards for six outdoor air pollutants: PM10 (particulate less than 10 microns in size), carbon monoxide, nitrogen dioxide, sulfur dioxide, ozone, and lead. Communities are required to test the air continually for those pollutants which appear to merit testing, based on historical data and trends, and population.*

*Historically, the pollutant of the most concern in Lane County has been PM10 ("total suspended particulate, prior to that), due to the mix of local sources as well as the meteorological and topographical characteristics of the south Willamette Valley in which the county is located. Carbon monoxide and ozone are also of concern, for the same reasons. The Lane Regional Air Pollution Authority has, in the past, tested the air for sulfur dioxide, and continues to measure lead concentrations. However, ambient levels of both of these pollutants have been very low.*

## Lane County Topography, Meteorology, Air Quality

Lane County is located at the southern end of Oregon's Willamette Valley and stretches from the Cascade Mountains to the Pacific Ocean. The county's population is 280,000, or 10% of the population of the entire state of Oregon. The incorporated cities of Eugene and Springfield comprise the second largest urban area in Oregon, with an estimated 151,000 residents. The unincorporated areas adjacent to Eugene and Springfield include another 50,000 residents.

Because the urban area represents, by far, the most populated (in terms of people and industry) portion of Lane County, air quality problems, and the potential for future problems, occur principally in this area.

Air quality is generally better in the county's other communities, although seasonal air pollution problems can occur in some of these locations. For example, the community of Oakridge, located about 40 miles southeast of Eugene-Springfield, has serious air pollution problems in the wintertime caused by residential wood burning. The county's third largest city, Cottage Grove, located 20 miles

## LANE COUNTY, OREGON



### ***Do we meet standards?***

*The EPA has established outdoor health standards for each of the pollutants. Our status for the three major pollutants of concern is as follows:*

***PM10:*** *Eugene-Springfield and Oakridge have been identified as "problem areas," due to standard exceedances. Control plans are required for both communities. Rural areas are much cleaner, and within standards.*

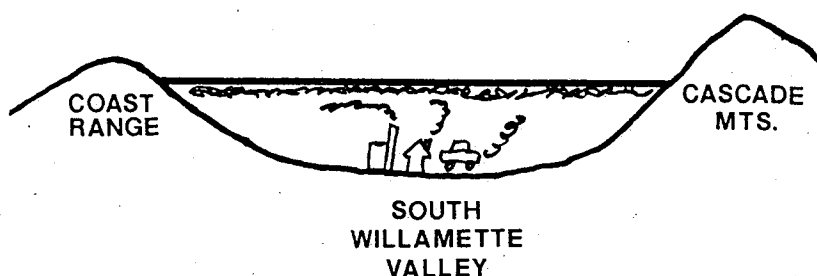
***Carbon Monoxide:*** *All of Lane County is in compliance with this standard, due to a lack of exceedances.*

***Ozone:*** *Though the standard has been exceeded in recent years at the Amazon Park site in south Eugene, the number of exceedances has not been high enough to warrant nonattainment status.*

south of Eugene-Springfield, experiences periodic air pollution problems throughout the year due to smoke from residential wood burning, forest slash burning, and Willamette Valley grass seed field burning. Slash burning and field burning will also occasionally impact the communities of Marcola (northeast of Springfield), and Veneta and Elmira (west of Eugene). On the other end of the air pollution spectrum, the city of Florence, located on the Oregon Coast, experiences good air quality throughout the year, due to the constant sea breezes flowing off the Pacific Ocean.

**Meteorology and topography** are very instrumental in causing the air pollution problems in the Willamette Valley portion of Lane County, including the Eugene-Springfield area, as well as in Oakridge.

The Eugene-Springfield metropolitan area is surrounded on three sides by elevated terrain, which can restrict horizontal movement of air. In addition, cold air can become trapped in the valley with warm air aloft, creating temperature inversion conditions. This combination causes periods of air stagnation which traps pollutants near the ground. It is not uncommon for these conditions to occur over a period of several days. The worst conditions tend to occur during the winter months. The inversion will be broken and atmospheric cleansing will take place when a storm front passes through the area.



Temperature inversions can be depicted as a lid over the valley, as shown above. They can occur anytime, though they are most frequent during the winter months. During these episodes, smoke and gas concentrations will climb.

The same meteorological phenomenon will occur during the winter months in Oakridge, which is located in a valley with hills bordering the north and south edges of the community. During these periods, PM10 concentrations will increase, sometimes dramatically.

### ***Eugene-Springfield Winter Air Stagnation Advisory Periods November-February***

<i>Winter Season</i>	<i>Total Number of ASA Days</i>
1978 - 1979	6
1979 - 1980	16
1980 - 1981	19
1981 - 1982	10
1982 - 1983	11
1983 - 1984	0
1984 - 1985	19
1985 - 1986	15
1986 - 1987	8
1987 - 1988	0
1988 - 1989	6
1989 - 1990	24

### ***Air Monitoring***

*LRAPA maintains an outdoor air monitoring network, with sites located in Eugene, Springfield, Saginaw, Cottage Grove, and Oakridge.*

*In addition to the permanent sites, special monitoring is conducted using portable sampling equipment, on an as-needed basis.*

*All monitoring is conducted according to federal and state criteria. Data collected from the monitoring sites is subject to a rigorous quality assurance program.*

*Monitoring is conducted for PM10, Carbon Monoxide, Ozone, and Lead.*

### Particulate Matter (PM<sub>10</sub>)

Site #	Site Name	Note	1985	1986	1987	1988	1989
2018039	Westmoreland Elementary School	a				30	28
		b	---	---	---	76	120
		c				74	91
		d				0	0
2018056	Lane Community College	a	32	31	37	29	27
		b	197	85	129	72	91
		c	156	72	124	69	79
		d	3	0	0	0	0
2018058	Key Bank - Hwy 99N	a	--	39	43	37	34
		b	267	151	175	129	146
		c	234	111	174	118	125
		d	14	1	3	0	0
2018060	Amazon Park	a	34	27	32	26	39
		b	189	118	122	95	92
		c	152	67	117	91	86
		d	2	0	0	0	0
2030002	Willamette Activity Center - Oakridge	a				34	--
		b	---	---	---	199	165
		c				177	122
		d				4	1
2033060	Springfield City Hall	a	--	--	35	34	28
		b	80	57	104	75	91
		c	62	52	96	67	71
		d	0	0	0	0	0

**Standards:**

24-Hour Average 150 micrograms/cubic meter  
Annual Average 50 micrograms/cubic meter

**Notes:**

- a Annual Arithmetic Mean
- b Highest 24-Hour Concentration
- c 2nd Highest 24-Hour Concentration
- d Number of Days Over Primary 24-Hour Standard
- Insufficient Number of Samples Obtained to Calculate Valid Mean
- No Data Collected at This Site During Year

## Eugene-Springfield Air Quality

The three pollutants of major concern in Eugene-Springfield are PM10, carbon monoxide, and ozone.

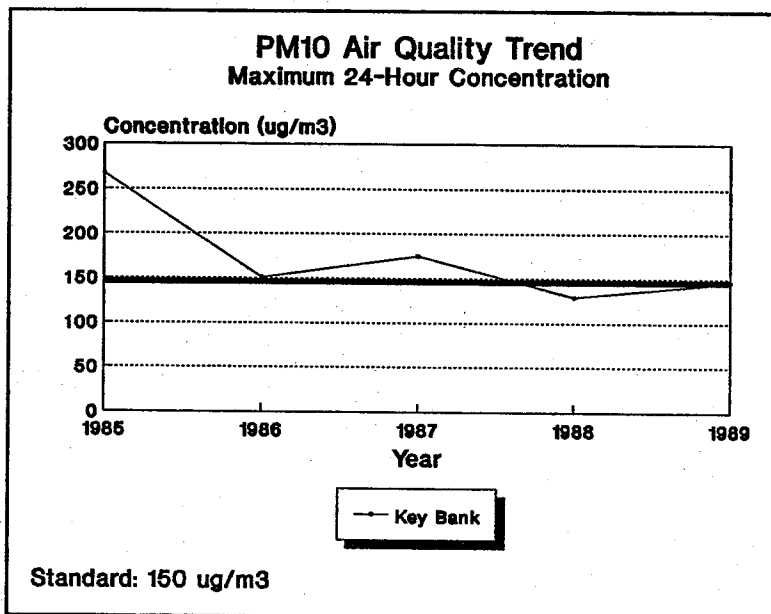
Due to the topographical and meteorological factors, and the prevalence of wood burning, PM10 concentrations reach their highest levels in the wintertime. Shorter-term episodes occur in the summer and fall months when field and slash burning occur.

Carbon monoxide concentrations also reach their highest concentrations in the cold winter months, especially during air stagnation periods.

Ozone concentrations are highest in the warm summer months since the formation of ozone is dependent on strong sunlight and warm temperatures.

Federal air quality standard exceedances for each of these pollutants have been rare in Eugene-Springfield since 1988, although ozone concentrations have occasionally approached the standard.

The 24-hour and Annual PM10 standards have not been exceeded since 1987, even with the continued widespread use of wood stoves for home heating purposes. A likely reason for the lower concentrations is that the recent winters have been relatively mild, with few prolonged periods of air stagnation and cold temperatures. However, the high wintertime concentrations and large number of standard exceedances in 1985 underscores the potential for episodes recurring.



## The Pollutants

**PM10:** Particulate less than 10 microns in diameter. For reference, the period at the end of a sentence is about 1,000 micrometers in diameter, and the diameter of a human hair is about 100 micrometers.

Health studies have shown that half of the PM10 particles inhaled get into the lower respiratory tract. In other words, they are small enough to bypass the respiratory system's natural defenses, such as the cilia or microns. These particles can take weeks, or even years to be expelled. PM10 also aggravates chronic lung disease, as well as heart and lung disease symptoms.

The primary local sources of PM10 include residential wood-burning, industrial boilers, and other combustion sources.

## Carbon Monoxide

Site #	Site Name	Note	1985	1986	1987	1988	1989
2018056	Lane Community College	a	12.7	10.3	8.2	8.3	7.0
		b	9.5	9.6	7.6	8.2	6.0
		c	1	1	0	0	0
2018060	Amazon Park	a	10.3	7.3	6.0	5.1	---
		b	8.5	6.1	5.9	4.5	
		c	1	0	0	0 (*)	
2018062	Sacred Heart General Hospital	a	---	---	---	---	9.6
		b					9.5
		c					0 (**)

Standard:  
8-Hour Average 10 milligrams/cubic meter

Notes:  
a Highest 8-Hour Concentration  
b 2nd Highest 8-Hour Concentration  
c Number of Exceedances  
--- No Data Collected at This Site During Year  
\* Site Operated January - February, 1988  
\*\* Site Began Operation in August, 1989

## Ozone

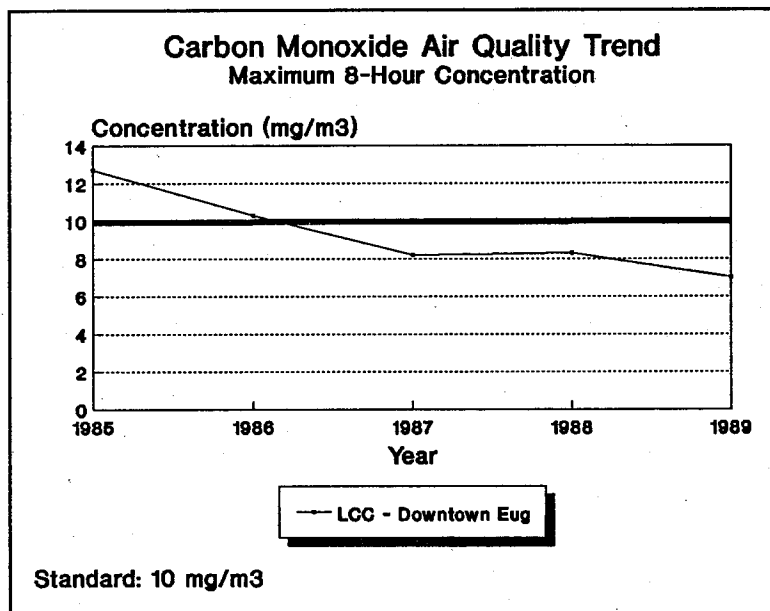
Site #	Site Name	Note	1985	1986	1987	1988	1989
2000036	Delight Valley School - Saginaw	a	202	210	224	232	174
		b	202	191	220	216	147
		c	0	0	0	0	0
2018060	Amazon Park	a	182	188	235	286	165
		b	175	184	218	241	149
		c	0	0	0	2	0

Standard:  
1-Hour Average 235 micrograms/cubic meter

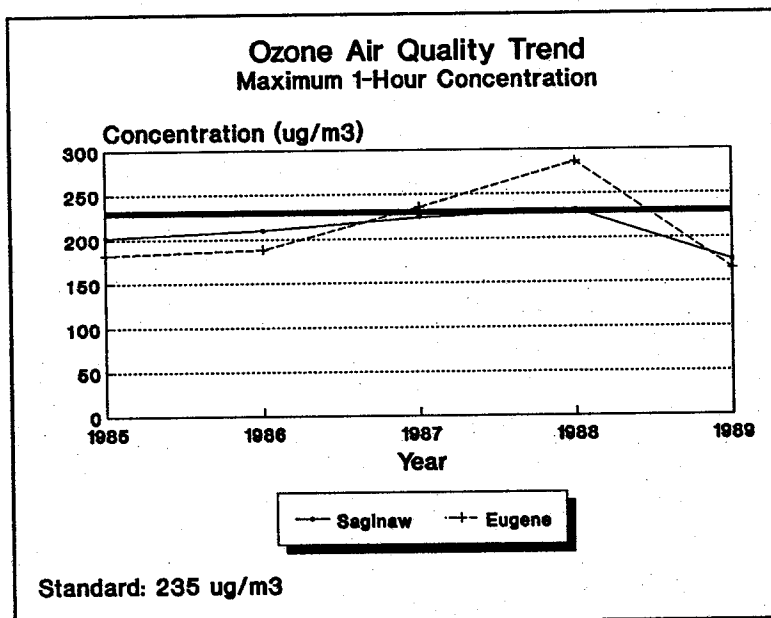
Notes:  
a Highest 1-Hour Concentration  
b 2nd Highest 1-Hour Concentration  
c Number of Exceedances



Similarly, there has been no carbon monoxide standard exceedance in Eugene-Springfield for the past few winters. The lack of such exceedances prompted a LRAPA request to EPA for redesignation of the area as being in attainment of the 8-hour carbon monoxide standard in 1989. An EPA response to the request should be forthcoming.



Historically, the carbon monoxide problem has been confined to a few "hot spot" intersections in Eugene where traffic is very congested. The intersections of 13th & Hilyard and 7th & Jefferson are two such identified "hot spots." When these intersections are identified, LRAPA seeks to have various measures taken that will assist traffic flow and decrease congestion. Such measures include traffic signal timing, additional turn lanes, and elimination of on-street parking.



## The Pollutants

**Carbon Monoxide:** Colorless, odorless, potentially lethal gas produced by incomplete combustion processes.

Carbon monoxide robs blood of oxygen, and can cause heart difficulties in those with chronic lung disease. High concentrations can also result in dizziness, headache, and nausea.

The major local sources of carbon monoxide include the automobile, industrial combustion processes, and residential wood-burning.

## The Pollutants

**Ozone:** Toxic gas with a pungent odor, associated with photochemical smog. Ozone is formed when nitrogen oxides and hydrocarbons photochemically react with one another in the atmosphere, in the presence of strong sunlight and warm temperatures.

High ozone concentrations can cause eye irritation, as well as strong irritation of the upper respiratory passages.

Major local sources of the two precursors to ozone (nitrogen oxides and hydrocarbons) include automobiles, industrial combustion processes, gasoline station pumps, gasoline storage tank facilities, and dry cleaners.

Two exceedances of the federal 1-hour ozone standard were recorded in 1988, although none were registered in 1989. Three exceedances over any continuous three-year period are allowed. Therefore, two additional exceedances recorded in 1989 and 1990 would result in Eugene-Springfield falling out of compliance with the federal standard.

Overall, Eugene-Springfield air quality has been pretty good since 1988. On the Air Pollution Index scale, a large majority of the days have fallen into the "good" category. Only two "unhealthful" days have occurred; both in the summertime when temperatures were hot and ozone concentrations were high.

AIR POLLUTION INDEX SUMMARY EUGENE-SPRINGFIELD				
1988 Number of Days				
	Good	Moderate	Unhealthful	Total
CO	104	13	0	117
O3	91	43	2	136
PM	64	49	0	113
Totals	259	105	2	366
1989 Number of Days				
	Good	Moderate	Unhealthful	Total
CO	85	32	0	117
O3	104	19	0	123
PM	85	39	0	124
Totals	274	90	0	364

### Oakridge Air Quality

Generally, Oakridge air quality is good nine months out of the year. However, during the remaining three months, from December through February, the opposite is frequently the case. While there have been only five standard exceedances since 1988, there have been many more wintertime days when concentrations approach the standard.

LRAPA's monitoring site in Oakridge is located in the lower west end of town, formally known as Willamette City; an area in which smoke from throughout the community will concentrate on stagnant days. The agency plans to conduct a "saturation study" in early 1991 to verify this notion.

## Air Pollution Index

Air quality information is reported daily to the public through the use of the Air Pollution Index, or "API." LRAPA calculates the API in the late afternoon (covering the previous 24 hours) and provides a forecast for the next 24-hours. The API is used nationally for this purpose.

The API standardizes reporting of air pollution levels into a single number that falls into the following categories:

0 - 50 Good  
51-100 Moderate  
101-199 Unhealthful  
200-299 Very Unhealthful  
300+ Hazardous

The API is broadcast during the weather segments of the early evening newscasts on KEZI-TV, KVAL-TV, and KMTR-TV, and appears on the weather page of the Register-Guard and the Springfield News.

# AIR POLLUTION EMISSIONS

*"Emissions" are contaminants discharged into the ambient air, and are different from the ambient concentrations measured at LRAPA's monitoring sites. In other words, emissions originate from the smokestack, the tailpipe, or the burning pile; concentrations of the collective emissions are measured at the monitoring sites and are used as the yardstick for standard attainment or nonattainment.*

## Eugene-Springfield Emissions

The Lane Regional Air Pollution Authority calculates local emissions on either a tons-per-year or tons-per-day basis. For planning purposes, PM10 emissions were calculated both ways.

The significance of residential wood heating as a air pollution source is reflected in the latest PM10 emission calculations.

On an annual basis, industry is responsible for more PM10 emissions year-round because residential wood heating takes place over a five month period. However, residential wood burning contributes a higher percentage of PM10 during a typical winter day.

Similarly, other emission sources such as road dust and field burning, are seasonal activities as opposed to being year-round sources of PM10. And, the field burning total only reflects burning conducted inside the metropolitan area.

Two categories listed in the PM10 Emissions Inventory warrant some additional discussion. First, contrary to popular perception, the automobile is **not** a major source of PM10. In fact, it is a minor source. It is, however, the primary source of carbon monoxide emissions. Second, open burning (backyard burning and outdoor burning that is allowed under a special burning permit) is also responsible for a very small amount of PM10 emissions. Open burning is viewed as a significant source of localized air pollution (burning that impacts a neighbor or surrounding neighbors), but is viewed as a very minor source of metropolitan area wide air pollution.

Looking at residential wood burning emissions further, LRAPA has used data collected from previous home wood heating use surveys conducted by the agency and population growth factors obtained from the Lane Council of Governments, to project PM10 emissions from

### Eugene-Springfield PM10 Emissions (tons per year)

Agricultural Tilling	19
Field Burning	157
Home Gas Heating	7
Home Oil Heating	16
Home Wood Heating	2429
Industry	3804
Motor Vehicle Exhaust	133
Open Burning	13
Railroads/Airports	37
Road Dust	437

### Eugene-Springfield Worst Case Winter Day PM10 Emissions (tons per day)

Home Wood Heating	21.2
Large Hog Fuel Boilers	6.0
Road Dust	1.2
Particleboard Operations	1.0
Pulp Mill Operation	0.7
Motor Vehicle Exhaust	0.4
Charcoal Manufacturing	0.2
Small Hog Fuel Boilers	0.2
Home Oil Heating	0.2
Wood Fired Veneer Dryers	0.1
Home Gas Heating	0.1
Railroads/Airports	0.1

this source through the year 2000. Total emissions are projected to decline with the replacement of older units with new cleaner burning units.

Eugene-Springfield PM10 Emission Calculations Residential Wood Burning 1985-2000					
year	pop.	total homes w\stvs	total homes w\fp	total cords burned	total emis- sions
1985	185,000	20,791	22,533	66,660	2,429
1992	215,436	24,212	26,240	77,628	2,415
2000	250,220	28,121	30,477	90,161	2,166

Carbon monoxide emissions have been calculated for the central Eugene area where the highest concentrations have been previously measured. The largest emitters, by far, are motor vehicles, with residential wood-heating being a secondary source.

### **Oakridge Emissions**

The other community in Lane County for which a detailed emissions inventory is calculated is Oakridge, which has been identified as a PM10 problem area, due to standard exceedances during the winter months.

The Oakridge PM10 emissions inventory will serve as a planning tool in the development of a PM10 control plan which must be forwarded to the Environmental Protection Agency in 1991.

The same comparisons between industry and residential woodheating PM10 emissions that have been made in Eugene-Springfield can be made in Oakridge. On a daily basis, wood heating is the most significant PM10 source in the community.

### **Central Eugene Carbon Monoxide Emissions (tons per year)**

<i>Transportation</i>	6264
<i>Home Wood Heating</i>	1232

### **Oakridge PM10 Emissions (tons per year)**

<i>Home Wood Heating</i>	100
<i>Industry</i>	143
<i>Motor Vehicle Exhaust</i>	2
<i>Open Burning</i>	1
<i>Paved Road Dust</i>	18
<i>Unpaved Road Dust</i>	11

# CONTROLLING AIR POLLUTION

*Air pollution in Lane County is not caused by a single source. Rather, many different sources are responsible. Some are more serious than others. Some are seasonal; others occur year-round. Some are local; others enter the local airshed from outside the county. Some are particularly harmful to human health; others present nuisance or aesthetic problems. Some are easy to deal with, from a technical standpoint; others are more difficult to control because they do not originate from a single point such as a smokestack. Some are traditional, business-oriented sources; others originate from the individual lifestyle.*

*The Lane Regional Air Pollution Authority employs a variety of methods to control the air pollution sources. The agency conducts an enforcement program that is either triggered by staff observation of a violation, routine staff inspection, or complaint follow-up. The agency conducts an aggressive public information and education program aimed at air pollution prevention. And, for those source outside of LRAPA's jurisdictional authority the agency takes citizen complaints and acts as a conduit between local residents and the appropriate state agency.*

## **Enforcement**

LRAPA conducts an enforcement program for those sources which fall under its jurisdiction. Typically, LRAPA initiates enforcement action in instances of excessive amounts of industrial air pollution, illegal open burning activities, improper handling or transport of asbestos materials, or failure to obtain the necessary air pollution permits prior to construction or operation.

The agency's enforcement policy is to "endeavor by conference, conciliation and persuasion to solicit compliance prior to initiating and following issuance of any enforcement action." An enforcement action is only taken once all other options have been exhausted, except in the case of a flagrant violation or repeat violation. Consequently, the number of individual enforcement actions taken by the agency each year is not high. However, new federal mandates or changes in philosophy may result in increased enforcement actions in the future.



Enforcement Actions		
	1988	1989
Administrative Warnings	5	14
Notices of Violations	11	16
Notices of Violations with Civil Penalty	9	8

### Citizen Complaints

Many times enforcement actions will be taken as the result of a citizen complaint. In those cases where complaints concern sources outside of LRAPA's jurisdiction, such as field or slash burning, those complaints are forwarded to the appropriate state agency. When a complaint is received concerning a source that the agency does regulate, immediate investigation is attempted by LRAPA's field staff. In these cases, the agency will discuss the results of the investigation with the citizen filing the complaint.

Complaints		
	1988	1989
Agricultural Burning	0	11
Asbestos	0	2
Backyard Burning	59	46
Diesel Smoke	0	2
Dust	13	8
Field Burning	344	349
General Air Quality	13	9
Home Heating (Wood)	26	29
Industry	110	100
Noise	0	1
Odor	25	28
Slash Burning	67	41
Training Fires	6	1
Unknown	2	30
Wild Fires	1	23

### ***If you have an air pollution complaint...***

*During normal business hours, call LRAPA at 726-2514. During the evenings or on weekends, call LRAPA's recorded message complaint line at 726-1930.*

*LRAPA strives to resolve each complaint whose source falls within the agency's jurisdiction. An attempt is made to relate the outcome of the complaint investigation to the citizen who complained.*

### ***A couple of points might be helpful:***

- 1. What looks bad may or may not be harmful. For example, a white plume from a smokestack in the winter may just be water vapor that is not so visible in the summer. Or, a dusty street, which may be a nuisance, may not be causing a health problem because dust is largely composed of particles too big to be inhaled into the deep respiratory passages.*
- 2. The air pollution problem may be coming from a legal activity, such as backyard burning on an allowed day.*

*In any case, you should call LRAPA with the information. LRAPA watches for problems, but cannot catch them all. Citizen input helps.*

## Eugene-Springfield PM10 State Implementation Plan

Another method of air pollution control involves planning, to either correct an existing air quality problem or to prevent the occurrence of a problem in the future.

The Environmental Protection Agency adopted a new particulate standard in 1987, replacing the former *total suspended particulate* standard with a *fine particulate (PM10)* standard. The new standard is designed to be more protective of the public health, since it more directly controls those particles that are capable of penetrating far enough into the respiratory system to cause significant harm.

Based on past air quality data, Eugene-Springfield was classified as a *Group 1 Area* for this pollutant, requiring the development of a control plan to reduce PM10 concentrations.

LRAPA staff and the agency's citizens' advisory committee began working on developing the plan in August 1987. First on the agenda was the development of data bases and the identification of a computer simulation model to provide an evaluation of the problem. The committee then identified all potential control measures for inclusion in the analysis. A computer simulation of the airshed was then performed which identified the areas of high air pollution potential and the sources contributing to those high levels. Future year model simulations were also performed using the best available estimates of population and industrial growth. Then, a control plan could be developed which would insure attainment and maintenance of the PM10 standard through the year 2000. After review and analysis of all available technical data, and after conducting a public forum, the advisory committee developed a set of recommendations.

The recommended plan concentrates on the control of emissions from home wood heating devices. Although other sources contribute to the problem and were considered for control measures, residential wood burning emissions have, by far, the greatest impact during the cold winter days when this area violates the standard. The computer simulation indicates that control of this source, alone, can bring Eugene-Springfield into attainment with the standard.

The plan was the subject of a public hearing before the LRAPA Board of Directors in early 1990, and was formally approved by the board in April of 1990.

### **Eugene-Springfield State Implementation Plan Highlights**

- ✓ Voluntary wood burning curtailment program continues through the 1990-1991 heating season.
- ✓ Mandatory wood burning curtailment program to be implemented in November, 1991, if determination is made that voluntary program is *not* working. LRAPA would enforce the program.
- ✓ Sole source of heat and low income households will be exempt from mandatory program.
- ✓ LRAPA will define "seasoned wood," and implement a voluntary certification program for firewood dealers.
- ✓ LRAPA will continue a public education program about wood stove air pollution and the curtailment program.
- ✓ LRAPA will examine the possibility of a local government prohibition of the installation of non-certified wood stove and fireplace inserts.



Because LRAPA does not currently have statutory jurisdiction over residential wood heating as a source of air pollution, and because the major ingredient in the control plan was the implementation of a mandatory wood burning curtailment program in November 1991, other units of local government must adopt enabling ordinances authorizing mandatory curtailment. The Lane County Commissioners, and city councils of Eugene and Springfield, will be considering the ordinances in late 1990. Once the ordinances are adopted, the control plan will be formally submitted to EPA for approval.

### **Oakridge PM10 State Implementation Plan**

Originally, Oakridge was classified as a Group II Area for PM10, meaning that past monitoring data indicates the potential for future problems with this pollutant. Group II areas must continue monitoring, and agree to initiate the planning process if additional standard violations are recorded.

Standard violations were registered in Oakridge during the winters of 1988/89 and 1989/90, so the planning process is just getting underway in that community. A control plan should be developed by the spring of 1991.

### **The Individual and Air Pollution**

The role of the individual in causing air pollution problems in Lane County, and the importance of citizen participation in reducing pollution became quite evident in the 1980s. The emergence of residential wood burning as a significant air pollution source is the best example of this trend. Automobiles and backyard burning offer two similar examples, though their place in the county's overall air pollution profile is less prominent than that of wood stoves.

Voluntary wood burning curtailment programs have been operating in Eugene-Springfield and Oakridge the past several winters. The goal of these programs is to reduce the impact of wood stoves on air quality during those few days in the wintertime when the air is extremely stagnant. Ideally, if the programs were working, there should be few days in which air pollution was at unhealthy concentrations.

The success of the voluntary programs depend on the willingness of local citizens to curtail burning or not to burn on those days when air quality is either deteriorating or is already poor. Beyond that, citizens must be willing

## **Wood Burning Advisories**

*(November - February)*

### **Eugene-Springfield**

**Green:** *Air quality is acceptable and wood burning is okay.*

**Yellow:** *Air quality is deteriorating and wood burning should be reduced.*

**Red I:** *Air pollution is approaching unhealthy concentrations. Residents may operate their stoves, provided there are no visible emissions from the chimney.*

**Red II:** *Air pollution is unhealthy and all wood burning should be halted.*

*Advisory issued through the local media, TCI Cable Channels 9 and 13, and LRAPA's burning advisory line - 726-3976.*

### **Oakridge**

**Green:** *Burn only dry, well-seasoned wood.*

**Yellow:** *Don't burn unless absolutely necessary.*

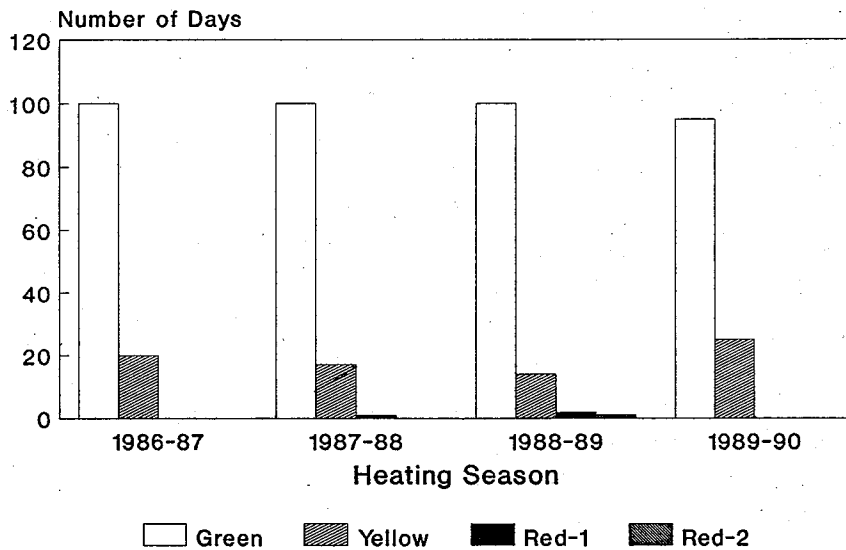
**Red:** *Stop using wood stoves and fireplaces.*

*Advisory issued through the local media, Oakridge Cable Channel 9, and the Oakridge Fire Department - 782-2414.*

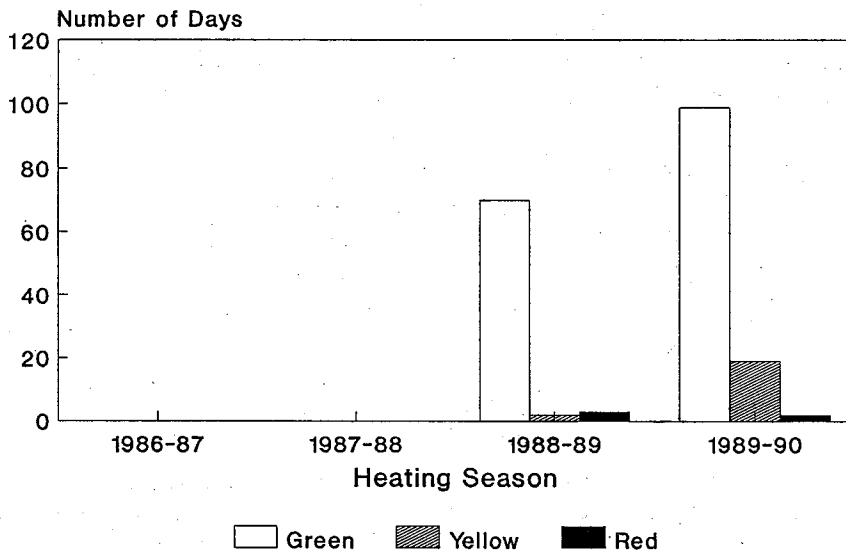


to observe good wood burning practices when they do burn, in order to minimize the impact of this source on local air quality.

### Wood Burning Curtailment Program Eugene-Springfield



### Oakridge



The automobile has been a significant source of air pollution for decades. Although automobile air pollution is not as acute in Lane County as in other areas of the country, particularly in larger cities, LRAPA still has reason for concern. While an area wide carbon monoxide problem does not exist, "hot spot" areas (usually congested intersections) have been identified in Eugene, and mitigation measures have been required. If growth projections for the metropolitan area prove accurate, the potential

### Good Wood Burning Tips

- ✓ Burn seasoned wood.
- ✓ Build small, hot fires.
- ✓ Don't burn garbage or trash.
- ✓ Follow the daily wood burning advisory.
- ✓ Don't burn in moderate temperatures.
- ✓ Keep your chimney clean.

### Reduce Auto Pollution

- ✓ Burn unleaded gasoline.
- ✓ Check emission control system periodically.
- ✓ Report any individual, service station, or repair shop found to be tampering or misfueling.
- ✓ Keep automobile tuned to factory specifications.
- ✓ Ride the bus, carpool, ride a bicycle, or walk whenever possible.

exists for future carbon monoxide problems in Eugene-Springfield.

Individual attention to driving habits, the proper fuels to burn, and to the operating condition of their vehicles will help in keeping automobile air pollution under control.

While not viewed as a large source of metropolitan area air pollution, backyard burning can cause localized air pollution problems. Eugene and Springfield ordinances ban backyard burning year-round. Problems exist in River Road/Santa Clara and other unincorporated portions of the metropolitan area, as well as in other communities in the county.

Backyard burning is allowed (except inside the Eugene and Springfield city limits) from October 1 through June 15 each year, on days in which ventilation is determined to be good enough to disperse the smoke. A backyard burning advisory is issued daily by the Authority. Violators of the backyard burning regulations are subject to enforcement action.

In each of these cases (wood stove, automobile and backyard burning air pollution), individual recognition of his contribution and his willingness to modify his actions to help solve the problem are absolutely essential to reducing the overall pollution concentrations.

The days in which traditional and outside sources of air pollution, such as industry smokestacks and field burning, cause air pollution episodes or exceedances of federal air quality standards, are diminishing. As future growth occurs, individual-caused air pollution will become more predominant.

### **The Importance of Public Education**

Another tool to fight air pollution is an informed public; a public that is aware of air pollution and is willing to either undertake lifestyle changes necessary to reduce pollution, or will bring pressure to bear on fellow citizens and elected officials to correct the problem.

LRAPA conducts an active public information and education program that includes agency-produced brochures and other written materials; television public service announcements; speeches and presentations to schools, civic groups and organizations; and an on-going media relations program that involves press releases and interviews.

## **Backyard Burning Specifics**

*Backyard burning is allowed throughout most of Lane County from October 1 through June 15, on designated burning days. Eugene and Springfield have banned such burning inside the city limits.*

*"Backyard burning" refers to the burning of leaves, grass clippings, small tree and shrub branches. Where possible, these materials should be composted.*

*Material not allowed for burning includes household garbage, plastics, tires, oil, roofing materials, and large tree stumps.*

*Construction, demolition, and industrial waste can only be burned with a special permit from LRAPA.*

*Most Lane County fire districts require burning permits.*

*LRAPA issues a daily backyard burning advisory that takes into consideration existing and forecasted weather and air pollution conditions. The advisory can be obtained by calling 726-3976.*

# LRAPA: THE ORGANIZATION

*The Lane Regional Air Pollution Authority (LRAPA) celebrated its 20th anniversary in 1988, beginning its third decade of service to Lane County.*

*LRAPA is the only local air pollution control agency in Oregon, having survived over the years when similar agencies in Salem and Portland did not. This is testimony to the strong commitment held by Lane County and its citizens to control over its own air pollution environment.*

*LRAPA's purpose is to conduct an air quality program that reflects local priorities and, at the same time, meets minimum federal and state criteria for air pollution control.*

## The LRAPA Program

LRAPA's program contains four basic elements: Engineering Services, Monitoring and Data Analysis, Program Planning and Development, and Special Services.

**Engineering Services** performs inspections and engineering evaluations, issues permits, responds to complaints about specific sources, and initiates enforcement actions when necessary.

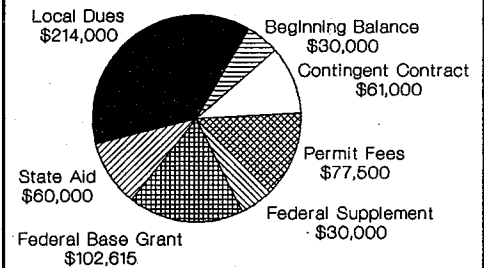
**Monitoring and Data Analysis** collects ambient air quality data and performs analysis to determine causes of air pollution. Using existing data and available computer models, this section also projects future air quality under identified circumstances.

**Planning and Program Development** provides a point of focus for air quality in community development projects, attempting to mitigate air quality problems as future growth and development occurs. This section was also responsible for coordinating the development of a PM10 State Implementation Plan for Eugene-Springfield.

**Special Services** conducted by LRAPA includes an active public information and education program, technical assistance for students and interested citizens, and personal attention for those individuals requiring specific information.

## Where does LRAPA get its money?

### LRAPA General Fund FY 1989-90 Resources



General Fund Total: \$738,615

*LRAPA's funding comes from many sources, including local government contributions, state and federal grants, supplemental federal grants for special projects, permit fees, and miscellaneous contracts. In addition, a beginning fund balance is budgeted to provide for expenses incurred during the early part of the fiscal year, before other revenues are received.*

*Typical of a service-oriented agency, LRAPA's largest expense item is in the area of personnel costs. Historically, LRAPA has attempted to hold these costs down. In fact, the current staffing level is down nearly a third since 1979.*

## **A Look at the Future**

The only ingredient missing in Lane County which would cause the serious and persistent air quality problems that many large cities have, is a large population. Significant population growth continues to be forecast in Lane County in the 1990's, yet the capacity of our airshed to assimilate the additional air pollution from motor vehicles, woodstoves and other people-related sources will remain relatively constant.

The Authority's policies, rules and regulations to protect and enhance air quality will continue to direct the program forward. More emphasis will be placed on preventive planning, as we continue to resolve immediate problems. New rules are now being developed to reduce evaporative emissions of organic substances from selected local sources, to lessen ozone formation and lower risks from toxic air pollutants.

In addition, greater emphasis will be placed on transportation-related air pollution, and the promotion of alternative modes. LRAPA will continue to be a significant player in the development of transportation plans in the siting, construction and use of major streets and roads.

Indeed, LRAPA's eye is on the future in attempting to preserve the environment and quality of life that currently exists in Eugene-Springfield, Cottage Grove, Oakridge, Junction City, Veneta, Elmira, Florence, and all of the other communities in Lane County.

### ***LRAPA Telephone Numbers***

<i>Office</i>	<i>726-2514</i>
<i>Complaint Line</i>	<i>726-1930</i>
<i>Backyard Burn</i>	
<i>Advisory</i>	<i>726-3976</i>
<i>Wood Burn</i>	
<i>Advisory</i>	<i>726-3976</i>