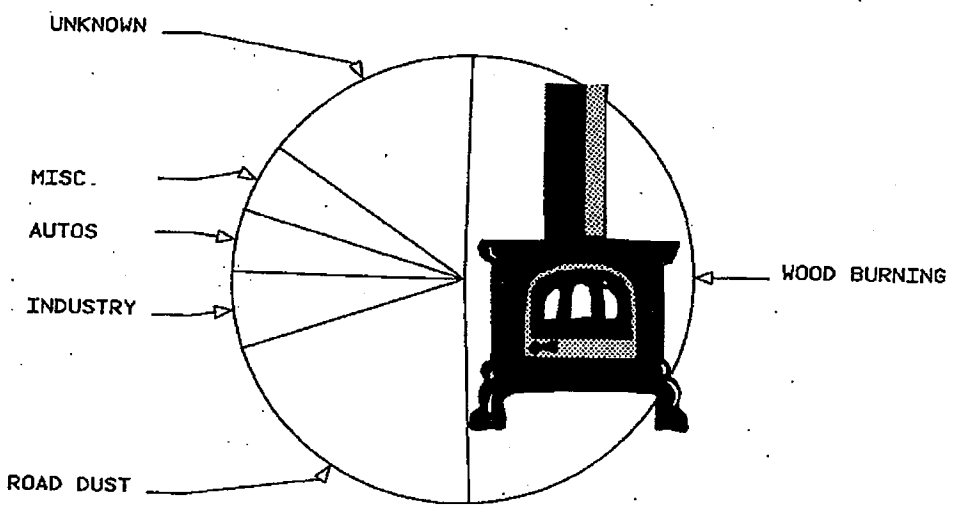
LANE REGIONAL AIR POLLUTION AUTHORITY



1983 ANNUAL REPORT

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Board of Directors
1983

Sandra Rennie, Chairperson.....Springfield
Bill Rogers, Vice-Chairperson.....Lane County
Emily Schue.....Eugene
Cynthia Wooten.....Eugene
Richard Hansen.....Eugene
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Marj Gossler.....Agriculture
Kathryn Barry.....Industry
Nate Coleman.....Industry
Harold Babcock.....Industry
Owen Brown.....Industry
Dick Nice.....Fire Suppression

Donald R. Arkell, Director

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I MESSAGE from the DIRECTOR

The year 1983 might be viewed as one of paradox. On the one hand we have developed an ability to deal with some pollutants in our environment using very up-to-date methods; yet on the other hand, we are now encountering new environmental problems which result from increased use of a comparatively old technology. The case in '83 involves residential wood burning.

Air pollution from woodstoves assumed center stage in 1983 as the Oregon Legislature debated, and finally adopted, a controversial proposal requiring new woodstoves and fireplace inserts sold in Oregon to be certified for low emissions after July 1, 1986. From the first local public comment on the bill at a hearing held by the LRAPA Board, through legislative adoption and development of standards, it was clear that traditional regulation was not the answer.

The increased evidence of air pollution from home woodburning in Eugene/Springfield prompted an emphasis on local public education regarding the use and maintenance of woodstoves, and support for reasonable action. Clearly, the need for this "back-to-basics" approach illustrates that our technical sophistication sometimes doesn't answer technically unsophisticated problems.

As we look forward to 1984 and beyond, there appear to be other, newer air quality issues which may not fit into the boxes we have built. These issues include toxic air pollutants and, later, indoor air quality.

We are learning from the woodstove experience that we cannot always remain locked into our current methods of solving problems, however sophisticated the methods may be. Many of the new issues will be unconventional. They will undoubtedly challenge us to provide innovative, yet common-sense solutions.

Donald R. Arkell

II ABOUT LRAPA.....

The Lane Regional Air Pollution Authority (LRAPA) is the local air pollution control agency in Lane County. The Authority'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 Authority was formed in 1968 by means of an intergovernmental agreement entered into by the cities of Eugene and Springfield, and Lane County. Cottage Grove later became an active participant in the agreement.

LRAPA's legal authority is outlined in ORS (Oregon Revised Statutes) 468, which authorizes regional authorities in Oregon; provides for Board of Directors membership; provides funding by local and state entities; provides for state oversight; and establishes powers and duties of regional authorities.

The LRAPA Board of Directors is the policy-making arm of the Authority, composed of seven local government representatives: three from Eugene, two from Springfield, and one each from Cottage Grove and Lane County. The LRAPA staff is composed of engineering, technical, and other professional specialists, headed by a Director responsible to the Board for overall program management.

The Authority has exclusive responsibility for all air pollution sources in Lane County except motor vehicles, field burning, and slash burning, which are retained under the jurisdictions of the State Department of Environmental Quality and the Department of Forestry.

The Authority, like all other state and local air pollution control agencies, implements the requirements of the Federal Clean Air Act, functioning in partnership with the Department of Environmental

Quality and the Environmental Protection Agency who, along with local entities, fund the Authority.

The Authority's program contains all of the elements necessary to fully exercise the statutory requirements of all air pollution control programs nationally and in Oregon, including rulemaking, enforcement, and monitoring. In addition, the Authority plays an active role in community development and planning, in recognition of the high priority placed on protecting the environment as economic growth occurs.

Finally, the Authority carries the community's views on matters of air pollution control to state and national agencies and organizations through routine intergovernmental contact and professional associations. The Authority thus influences state and federal requirements that affect Lane County.

III BOARD of DIRECTORS

The makeup of the Lane Regional Air Pollution Authority Board of Directors changed in 1983. Lane County and Eugene appointed new representatives to the Board; Bill Rogers and Richard Hansen, respectively. Rogers and Hansen joined Sandra Rennie, John Lively, Bill Whiteman, Emily Schue, and Cynthia Wooten on the Board. Rennie was elected Board Chair for 1983, and Rogers was named Vice-Chair.

The year began with the Board considering the issue of woodstove air pollution and what to do about it. Following discussion at two separate meetings, and after conducting the first public hearing in Oregon on a legislative proposal dealing with the issue, the Board took a position supporting House Bill 2235. That bill, which eventually passed both Houses and was signed into law by the Governor, restricts the sale of new woodstoves in Oregon after July 1986 to only those units certified as meeting emission and efficiency standards. Boardmembers Sandra Rennie and Bill Whiteman stated LRAPA's position on the issue at a hearing before the House Environment & Energy Committee in late February.

Rennie and Whiteman testified that while the bill is not a "panacea" that will immediately reverse the rapidly-rising trend in local woodstove emissions, it does represent a reasonable start toward eventual control of those emissions. Both boardmembers expressed the concern that woodheating emissions, if unchecked, will adversely affect future industrial expansion and growth in Oregon, particularly in the urban areas of the state.

The Board also remained committed to a strong local woodstove public education program, recognizing that the new woodstove law would not produce significant emission reductions if citizens fail to properly operate and maintain their woodstove and fireplace inserts.

Meanwhile, a longtime industrial air pollution problem in Springfield was successfully ended in 1983 when the Kingsford Company reached compliance with the Authority's emission standards. The charcoal manufacturing company spent over $3-million in process modifications designed to enable the company to meet the standards, reducing particulate emissions from 2,700 tons per year to 300 tons per year.

Under an original control plan approved by the Board in 1981, Kingsford was to achieve compliance by December 31, 1982. However, control efforts initially undertaken by the company failed to result in compliance by that deadline. Consequently, Kingsford came back to the Board in early 1983, asking for an extension of the deadline to October 31st. The Board granted the variance following assurances from LRAPA staff that the company had made a "good faith" effort to comply with the Authority's rules and that, given more time, further process modifications would likely result in attainment. Kingsford then used the six-month variance period to perform the additional projects. Source tests conducted in September confirmed an emission rate of slightly less than 8 pounds of particulate per ton of charcoal produced, compared with LRAPA's emission standard of 10 pounds per ton.

When final compliance was reached, the Board hailed the achievement as an example of industry/government cooperation in solving a community air pollution problem. Several boardmembers toured the Kingsford facility in November.

The Board adopted a new fee schedule in November to offset the rising costs involved in reviewing and processing permit requests. Although industry representatives attended the Board's public hearing on the matter, no testimony was offered.

Under the new schedule, the permit filing fees were increased according to state-adopted schedules. New fees were adopted for other special activities such as indirect source permits, special permits for open burning of demolition, land clearing, industrial and commercial wastes, and variance requests for temporary exceedances of LRAPA emission limits by permitted sources.

In other 1983 actions, the Board modified Lane County's ozone standard, and approved a "hold the line" budget for the coming fiscal year.

The Board voted unanimously to change the local 1-hour ozone standard to match the existing State and Federal standards for that pollutant. The local standard was increased to 235 micrograms per cubic meter from 160 micrograms. The EPA earlier concluded that the old standard was unnecessarily strict and that public health would still be protected under the new standard.

A minimum-level air quality program funded with a continued level of reduced local government dollars characterized the 1983-84 LRAPA budget approved by the Board in April. The approved budget amounted to $515,000, compared to a $500,000 budget for the previous fiscal year. The $15,000 increase was primarily due to a cash carry-over.

Besides supporting mandatory programs required by the Clean Air Act, such as air quality monitoring and industrial source enforcement, the new budget would also support active agency participation in local economic development programs to maintain acceptable air quality while growth takes place, as well as an extensive woodstove public education program.

IV ADVISORY COMMITTEE

The Lane Regional Air Pollution Authority Advisory Committee advises the Authority's Board of Directors on various air pollution matters. Representation on the Committee is broad-based, ranging from industrial and agricultural interests to public health and planning groups. The general public is also represented on the Committee.

The major project undertaken by the Committee in 1983 was an evaluation of the advantages and disadvantages of having a local air pollution authority. The Committee spent nearly three-quarters of the year conducting the study.

Results of the study generally concluded that a local agency is preferable to a state agency maintaining an air pollution control program in Lane County. Specifically, the study reached four basic conclusions:

* A local agency is more familiar with local air quality needs, problems, and solutions;

* LRAPA's level of staffing enables the agency to provide better service to Lane County's industries and citizens, and better coordination with other local governments, such as in the area of air quality planning;

* LRAPA's existence appears to offer a net economic benefit to the area due to the agency's local expenditures and additional, self-generated income such as federal and state grant money.

* Local air quality is perceived to be better under the LRAPA program, as evidenced by a survey conducted at last summer's Lane County Fair in which 76% of those surveyed indicated a general satisfaction with local air quality when they rated it either fair or good.

However, the report also concluded that these advantages are offset, to some degree, by the need for more financial support. The report says that increased financial support will be necessary if LRAPA's current level of operation is to continue in future years. The report suggested that the support should come from increased appropriations from local governments, increased permit fees, and/or increased state and federal grant money.

The LRAPA board members will use the report when their respective budget committees consider funding for intergovernmental agencies during the 1984-85 budget deliberation process.

In another project, the Advisory Committee also finalized the Authority's procedures for coordinating its air quality planning activities with industrial growth and development in Lane County communities. This project was initiated in 1982. Many of the procedures advocated by the Committee are now being implemented by LRAPA staff, including routine communication with planning and economic development groups.

V PROGRAMS

TECHNICAL SERVICES

ENGINEERING SERVICES

PROJECTS & PLANNING

TECHNICAL SERVICES

The Technical Services Program measures air pollution and analyzes the data to determine causes and ways to improve air quality.

Air quality monitoring is accomplished with a network of stationary sampling sites throughout Lane County. Figure 1 shows the locations of the monitoring sites. Table 1 provides a site-by-site description of the network. In addition to these sites, a mobile monitoring van is used for "hot spot" and special purpose monitoring. The air pollutants measured include carbon monoxide, ozone, and particulates. In addition, sampling for sulfur dioxide was begun in late 1983.

Monitoring Activities

The monitoring network underwent several changes in 1983. Because field and slash burning smoke will oftentimes impact West Eugene and miss the Authority's monitoring sites located closer to the urban core area, the particulate monitoring equipment at Westmoreland Elementary School was moved to the KUGN Radio Station in West Eugene in early October. The KUGN site also offers better exposure for meteorological equipment and easier access for servicing the equipment.

Particulate monitoring at Springfield City Hall was initiated in July. The City Hall site was selected as a replacement for the Springfield Police Administration Building and Springfield Library monitoring sites, primarily because it allowed for potentially expanded monitoring in Downtown Springfield and still enabled consolidation of LRAPA's sites in that area. In addition to offering significantly better exposure for particulate monitoring, the new site can also accommodate equipment necessary to measure other pollutants. The Authority began measuring sulfur dioxide at that location in December (levels have been minimally detectable), and may measure for carbon monoxide sometime in the future.

FIGURE I

1983 MONITORING NETWORK

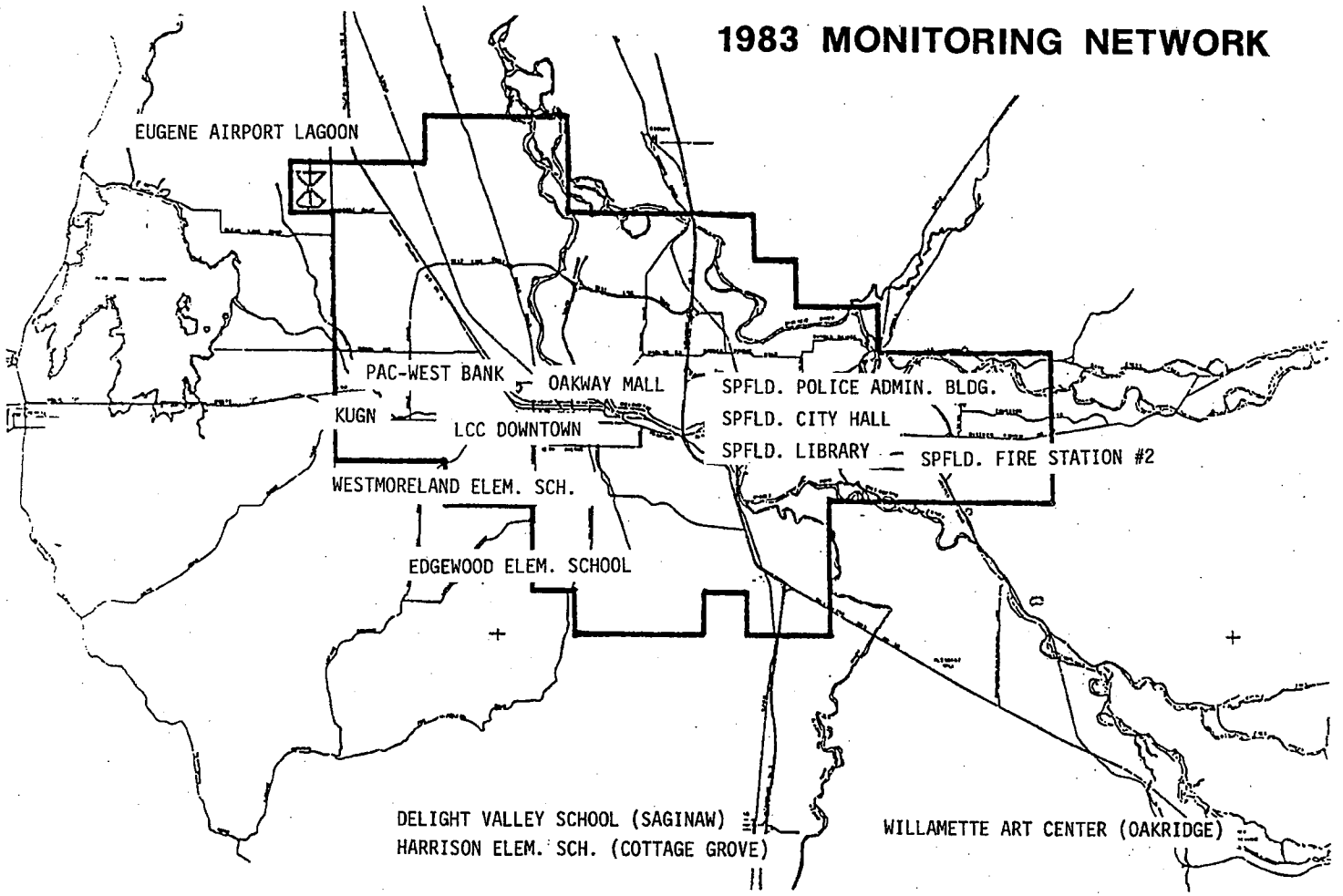


TABLE I

1983 MONITORING NETWORK

	PM	IP	Vis	CO	O_3	Met
Lane Community College (Downtown Eugene)	X	X	X	X		
Westmoreland Elementary School (Eugene)	X	X-1	X-2			X-2
Pacific Western Bank (Highway 99)	X	X-1				
Springfield Police Admin. Bldg.	X	X-3				
Springfield City Hall	X-4	X-5	X-5			X-5
Springfield Library			X-3			X-3
Springfield Fire Station #2 (East Main)	X	X-1				
Eugene Airport Lagoon	X	X-1				
Harrison Elementary Sch. (Cottage Grove)	X					
Willamette Art Center (Oakridge)	X-6					
Edgewood Elementary School (Eugene)					X	
Delight Valley School (Saginaw)					X	
KUGN (Eugene)			X-7			X-7
Oakway Mall (Eugene)						X

X-1 shut down September
X-2 operated January-August
X-3 operated January-June
X-4 start up July
X-5 operated July-December
X-6 start up December
X-7 start up October

PM Particulate Matter (Hi-Volume Sampler)
IP Inhalable (Fine) Particulate Matter (Lo-Volume Sampler)
Vis Visibility (Nephelometer Measuring Particulate Matter)
CO Carbon Monoxide
O_3 Ozone
Met Meteorological Site

A particulate site was reestablished in Oakridge late in the year, primarily to measure the impact of residential woodheating in a smaller community. LRAPA had a monitoring site in Oakridge several years ago, but discontinued the site prior to the emergence of woodstoves and fireplace inserts as air pollution sources. After reviewing Cottage Grove data indicating the presence of woodheating pollution, it was decided that monitoring should resume in Oakridge.

Finally, four inhalable particulate monitoring machines (Lo-Volume Samplers) were shut down in September (at Westmoreland Elementary School, Pacific Western Bank-Highway 99, Springfield Fire Station #2, and Eugene Airport Lagoon) after a model validation project was completed and enough data had been gathered to estimate inhalable particulate levels in the metropolitan area (see "1983 Air Quality," this section). The inhalable particulate sites at Lane Community College (Downtown Eugene) and Springfield City Hall were determined to be "representative" of the metropolitan area, until the Environmental Protection Agency approves the official monitoring equipment design for sampling inhalable, or fine particulates.

The monitoring data is analyzed to determine trends, whether or not there is compliance with federal air quality standards, and what corrective actions might be successful. Data analysis also assists the Authority, as well as city and county planning departments, in projecting future air quality.

1983 Air Quality

The 1983 CARBON MONOXIDE levels were slightly higher than 1982 levels. Two exceedances of the 8-hour standard were recorded in 1983, compared with one exceedance recorded the previous year. Both 1983 exceedances occurred during the winter season; on January 11 (11.1 milligrams per cubic meter of air) and on December 29 (10.8 milligrams). Because of these two exceedances, the Eugene-Springfield area is considered to have violated the 8-hour carbon monoxide standard.

The long term trends in local carbon monoxide levels are shown in Figure 2. The SQUARES indicate (with the left-side axis scale) the number of days in each year that the 8-hour concentration exceeded 10 milligrams per cubic meter. The CROSSES indicate (with the right-side axis scale) the highest 8-hour average measured that year. The TRIANGLES indicate (also with the right-side axis scale) the second-highest 8-hour average for that year. The highest 8-hour concentration measured each year no longer appears to be decreasing. The number of exceedances of the 8-hour standard each year also appears to have stabilized at between zero and two per year. Unfortunately, an area is allowed only one exceedance of the standard each year.

The apparent cause of the stable (or slightly increasing) carbon monoxide concentrations is the use of residential woodburning units, such as the woodstove. During the summer months, when woodstove use is at a minimum, the highest 8-hour carbon monoxide concentration each day typically occurs between the hours of 11-am and 7-pm. On the other hand, during the winter months the peak CO concentrations are usually measured between 4-pm and midnight.

The OZONE concentrations that were measured in 1983 were similar to those measured in 1982; low, with no exceedances of the 1-hour ozone standard recorded at either of the Authority's ozone monitoring sites. The local area remains within the federal three-year running average standard, which allows for three exceedances during three consecutive years. There have been three days during the last three years when the 1-hour standard was exceeded, with all three instances occurring in August of 1981.

The long term trend in local ozone levels (recorded at Edgewood Elementary School in South Eugene) is shown in Figure 3. Although the peak concentrations were slightly higher in 1983 than in 1982, the general continuation of low levels is probably due to meteorological conditions unfavorable for the formation of ozone (an absence of long periods of air stagnation and extremely warm temperatures) rather than a reduction in the precursor pollutants (hydrocarbons, nitrogen oxides) that lead to ozone formation.

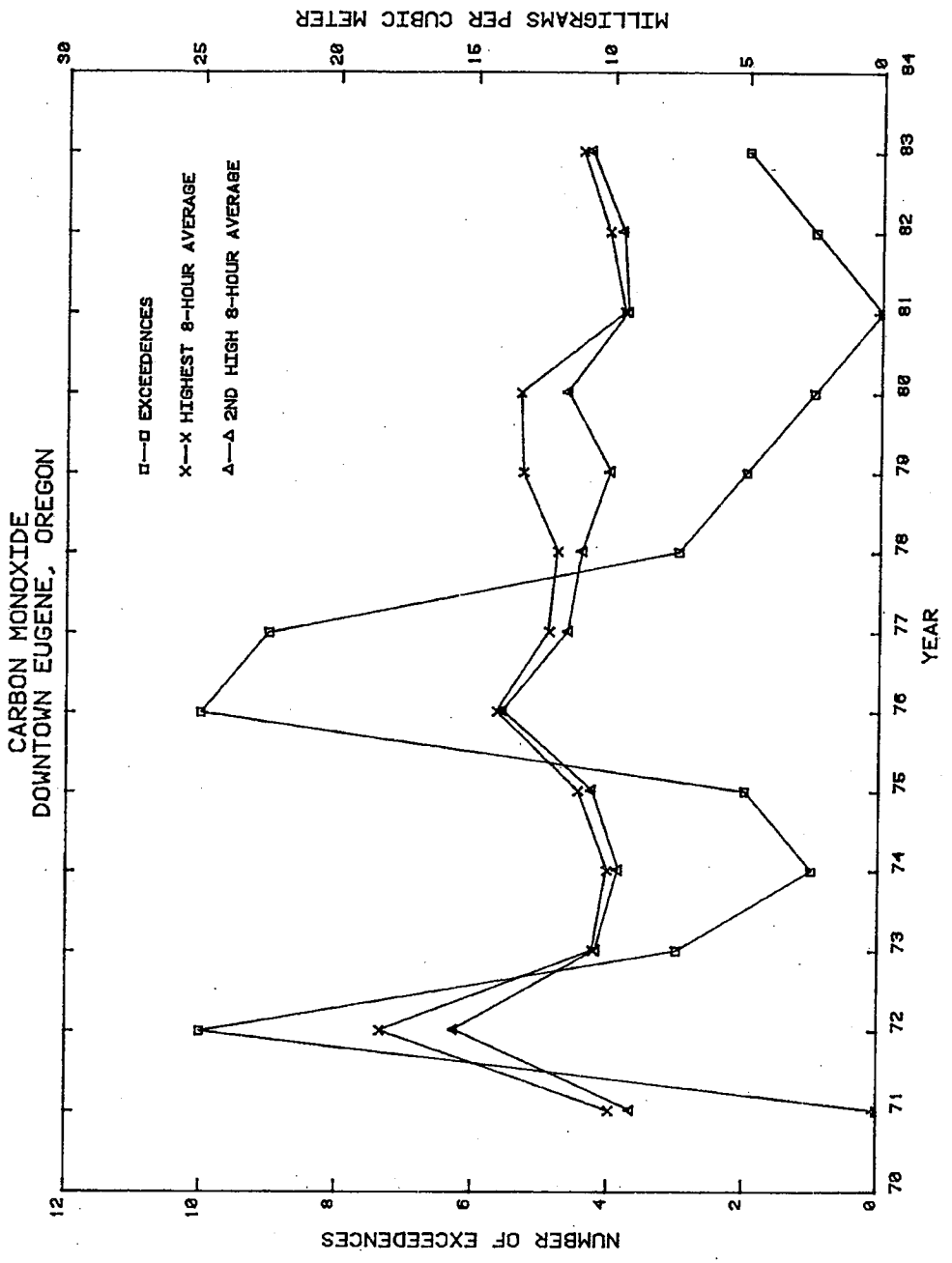
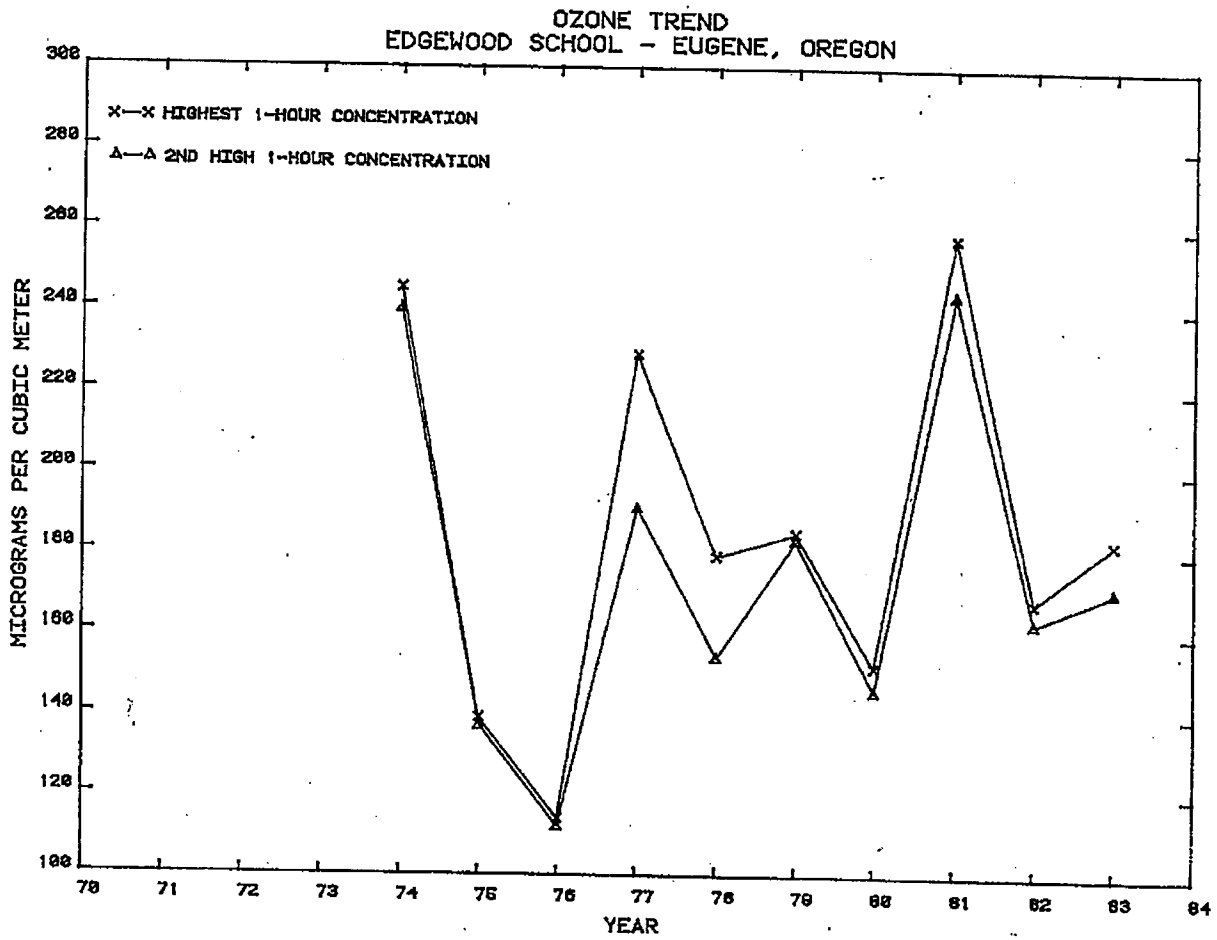

CARBON MONOXIDE
DOWNTOWN EUGENE, OREGON
□—□ EXCEEDENCES
X—X HIGHEST 8-HOUR AVERAGE
Δ—Δ 2ND HIGH 8-HOUR AVERAGE
NUMBER OF EXCEEDENCES
MILLIGRAMS PER CUBIC METER
YEAR
0
2
4
6
8
10
12
0
5
10
15
20
25
30
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84

FIGURE 2

FIGURE 3


OZONE TREND
EDGEWOOD SCHOOL - EUGENE, OREGON
×—× HIGHEST 1-HOUR CONCENTRATION
Δ—Δ 2ND HIGH 1-HOUR CONCENTRATION
MICROGRAMS PER CUBIC METER
300
280
260
240
220
200
180
160
140
120
100
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
YEAR

The PARTICULATE MATTER concentrations for 1981 through 1983 at all of the monitoring sites currently operated by the Authority are summarized in Table 2. The annual standards were not exceeded at any of the sites. The 24-hour standard was exceeded at the Westmoreland Elementary School and Pacific Western Bank monitoring sites.

The long term trend in particulate matter concentrations appear to be downward. Figure 4 depicts the annual geometric means at three locations: Downtown Eugene, Downtown Springfield, and the Eugene Airport. The two downtown sites represent the major population center of Lane County, and the concentrations measured there should be indicative of the air quality to which the general population is exposed. The Airport site represents a "background" location that measures the quality of the air flowing into the metropolitan area. The difference in concentrations between the metro and background sites is the pollution that is caused by the area's population. While the annual concentration at the Airport has been relatively constant over the last 13 years, the concentrations at both metro sites have shown a significant decrease.

Figure 5 (Downtown Eugene) and Figure 6 (Downtown Springfield) show the long term trend in the 24-hour concentrations. The highest and second highest measurements and the number of samples that exceeded the 24-hour secondary standard concentration of micrograms per cubic meter of air during each year are depicted. The number of exceedances recorded each year has been decreasing. The highest concentrations recorded each year are also decreasing.

The annual arithmetic mean Inhalable Particulate Matter (known as "PM-10") concentration at the downtown Eugene site (Lane Community College building) measured 22 micrograms per cubic meter of air. The highest 24-hour concentration measured 71 micrograms per cubic meter. (These measurements were made with equipment that are not of the "approved design" and are, consequently, subject to change.) These levels are approximately half of the recently-announced new federal standards for particulate matter.

TABLE 2

COMPARISON OF TSP VALUES
AT SAMPLING SITES (ug/M^3)

1981 - 1983

First Column: Annual Geometric Mean
Second Column: Highest 24-Hour Average
Third Column: 2nd Highest 24-Hour Average
Fourth Column: Number of Standard Exceedences

Site	1981	1982	1983
Eugene Airport	31/96/82/0	27/115/85/0	25/120/88/0
Harrison Elem. Sch. (C.G.)	51/82/81/0	39/163/145/1	41/128/117/0
Westmoreland Elem. Sch.	51/124/110/0	40/226/201/3	36/156/141/1
LCC Downtown	49/110/99/0	39/206/137/1	34/101/87/0
Pac-West Bank, Hwy. 99	62/172/138/1	55/262/252/2	53/188/155/2
Oakridge	--	--	--/104/79/0
Spfld. Police Admin. Bldg.	48/104/89/0	37/160/136/1	36/108/94/0
Spfld. Fire Station #2	52/100/99/0	46/211/138/1	44/107/106/0
Spfld. City Hall	--	--	--/114/104/0

-- Incomplete Date

Annual Primary Standard: 75 ug/M^3
Annual Secondary Standard: 60 ug/M^3

24-Hour Primary Standard: 260 ug/M^3
24-Hour Secondary Standard: 150 ug/M^3

33

/88/0
/117/0
/141/1
/87/0
/155/2
/79/0
/94/0
/106/0
/104/0

FIGURE 4

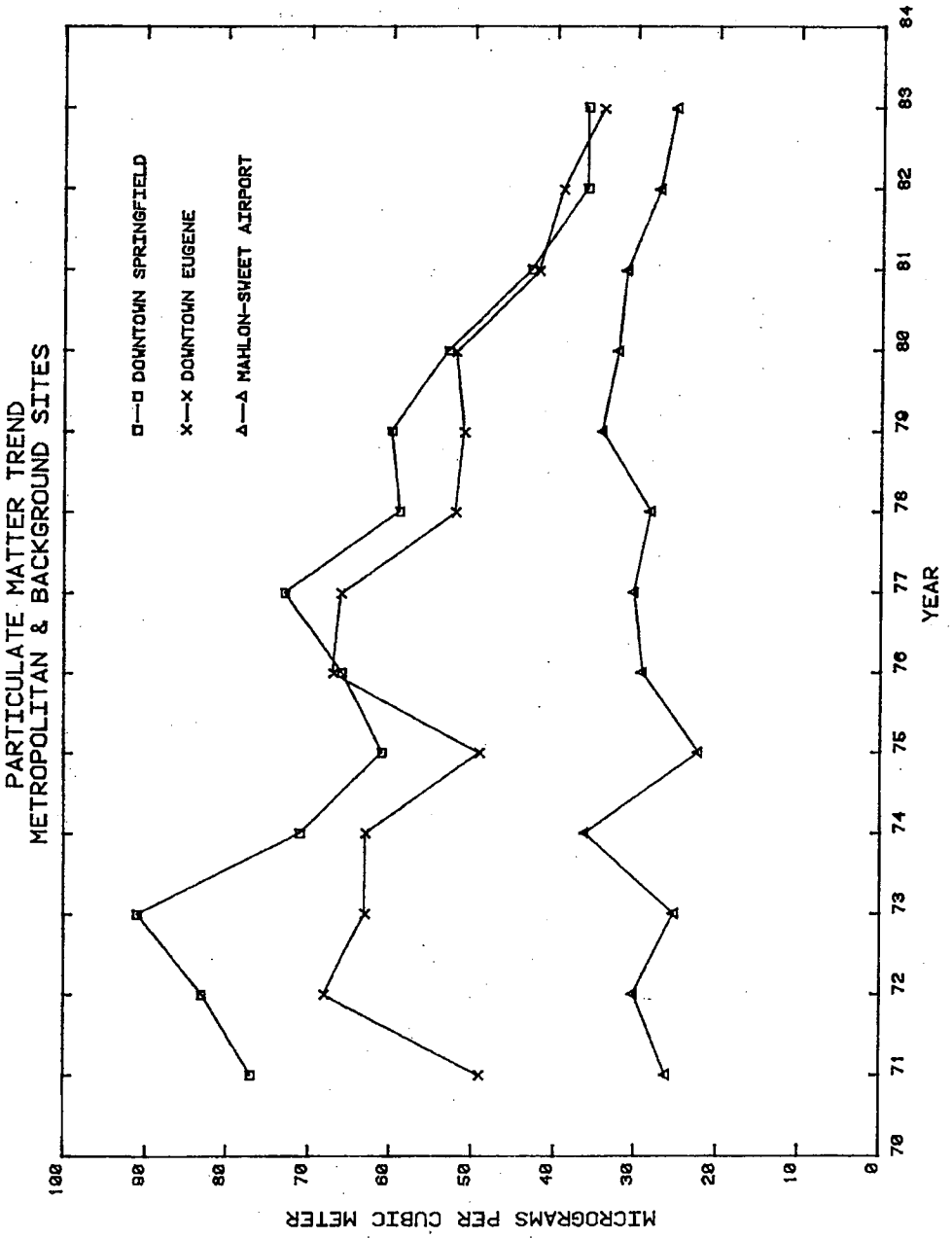
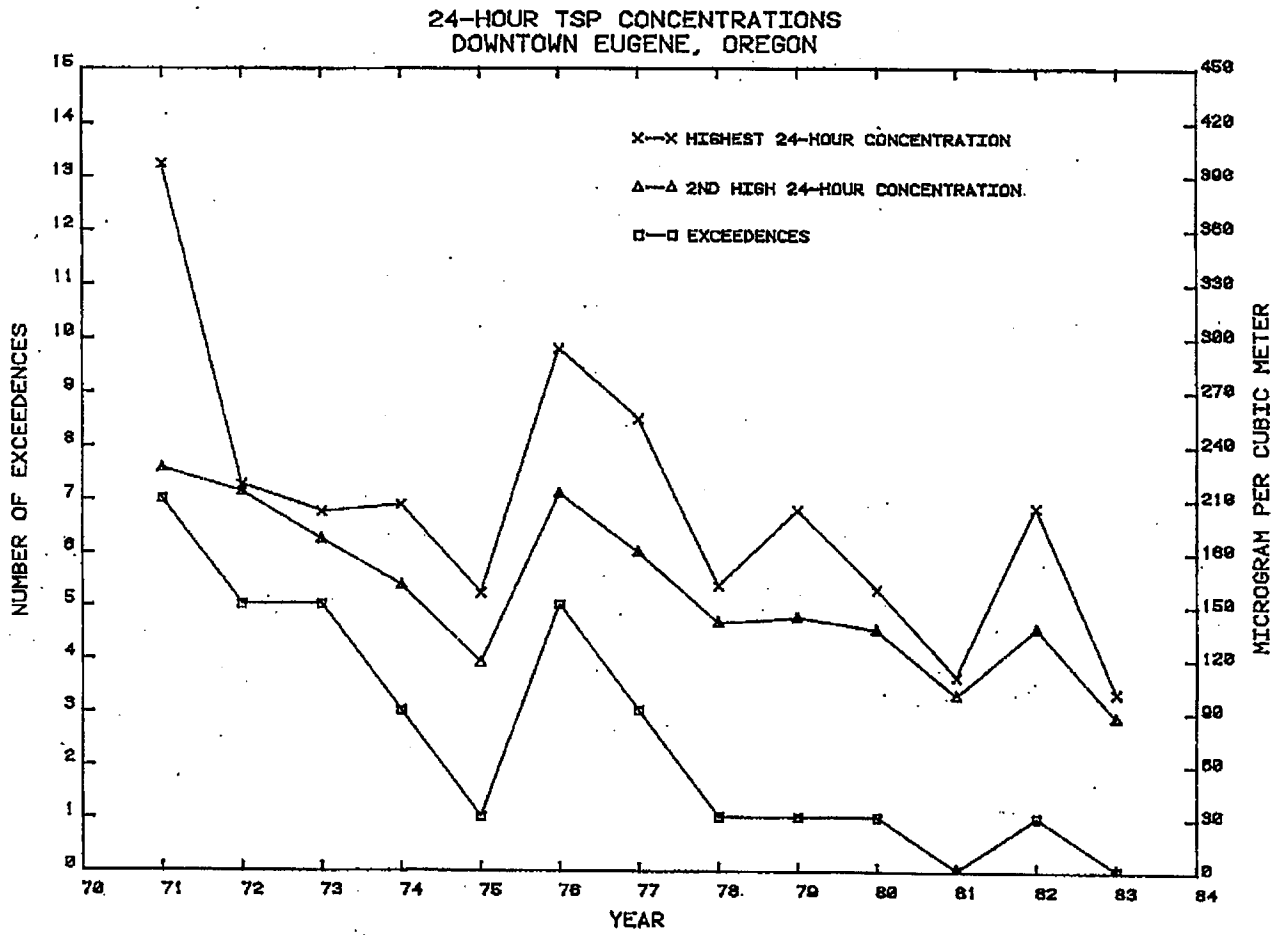


FIGURE 5


24-HOUR TSP CONCENTRATIONS
DOWNTOWN EUGENE, OREGON
X—X HIGHEST 24-HOUR CONCENTRATION
Δ—Δ 2ND HIGH 24-HOUR CONCENTRATION
□—□ EXCEEDENCES
NUMBER OF EXCEEDENCES
MICROGRAM PER CUBIC METER
YEAR
0
1
2
3
4
5
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7
8
9
10
11
12
13
14
15
30
60
90
120
150
180
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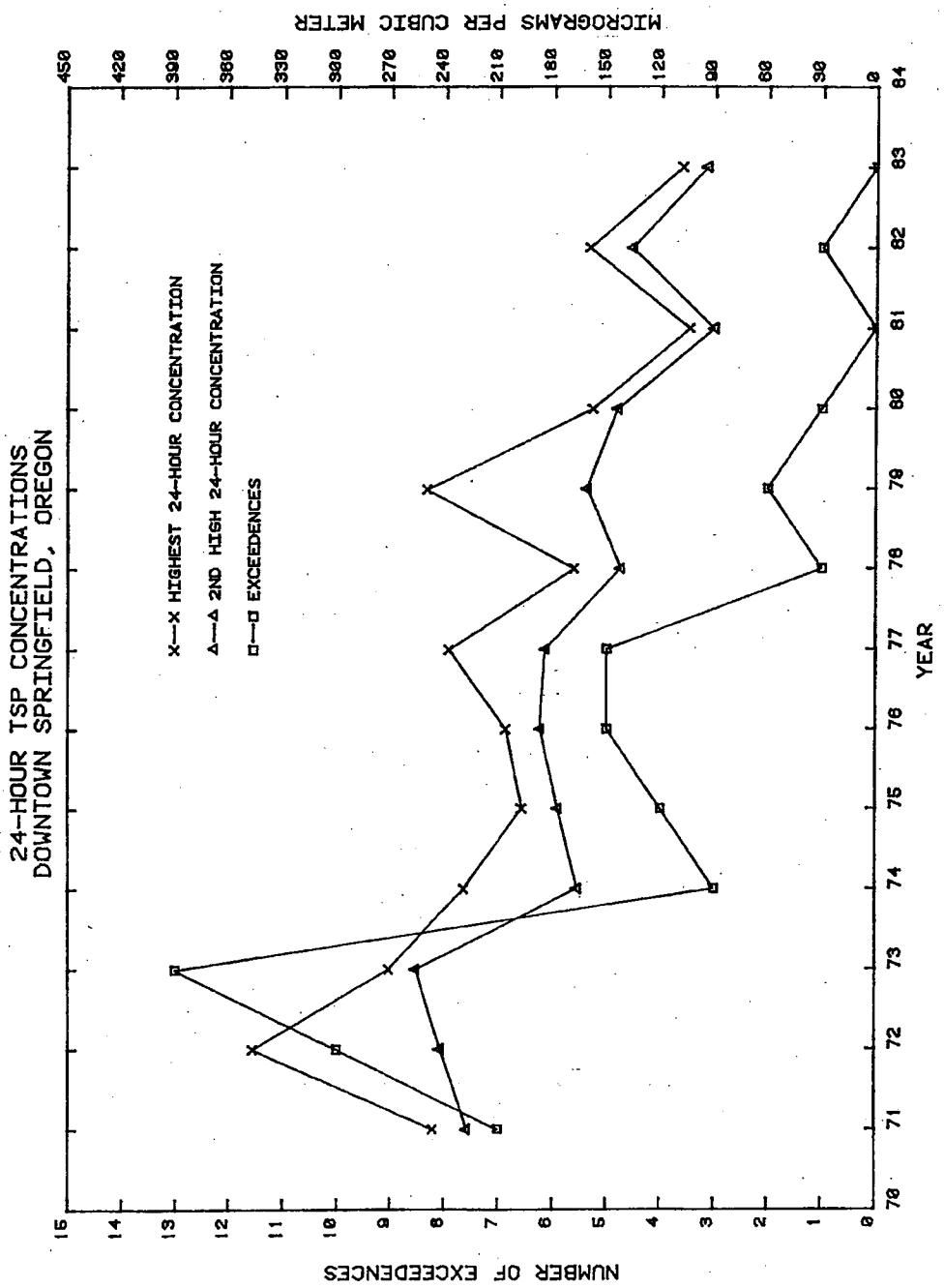
24-HOUR TSP CONCENTRATIONS
DOWNTOWN SPRINGFIELD, OREGON
X—X HIGHEST 24-HOUR CONCENTRATION
Δ—Δ 2ND HIGH 24-HOUR CONCENTRATION
□—□ EXCEEDENCES
MICROGRAMS PER CUBIC METER
NUMBER OF EXCEEDENCES
YEAR
YEAR

FIGURE 6

Ten total hours of smoke impact in the Eugene-Springfield area were attributed to field burning in 1983. The impact hours occurred during three days in September when unanticipated changes in wind flow patterns caused significant smoke intrusions into the metropolitan area. However, the 1983 field burning season compares very favorably with the 1982 season when there were 27 hours of smoke impact in the Eugene-Springfield Metropolitan Area.

The peak 1983 field burning smoke impact hour in Eugene was 2.64 b-scat (10 b-scat equals approximately 3 miles visibility; 30 b-scat equals approximately 1 mile visibility) on September 9th, while the peak impact hour in Springfield was 6.83 b-scat on September 6th. These compare with a peak wintertime hourly impact in Eugene of 29.07 b-scat (January 1st) and 16.55 b-scat in Springfield (January 16th). The winter peaks can be attributed primarily to particulate emissions from woodstoves and fireplace inserts.

An AIR POLLUTION INDEX (API) is calculated daily for carbon monoxide, ozone, and particulate matter. The pollutant with the highest index is deemed to be the API for that day. The API summary for 1983 is shown in the table below. Of the 365 days in 1983, 74% registered "good" levels, 25½% had "moderate" levels, and ½% of the days were considered to be "unhealthful."

TABLE 3	GOOD	MOD	UNH	TOT
Carbon Monoxide	121	65	2	188
Ozone	136	22	0	158
Particulate Matter	13	6	0	19
TOTAL	270	93	2	365

During the latter half of 1983 the Lane Regional Air Pollution Authority began a program to provide API forecasts each afternoon for the following day. The forecasts, printed in the local daily newspaper, proved to be fairly successful, with the pollutant being correctly forecast 87% of the time. The API forecast level was, on the average, within 7.5 of the actual level the following afternoon. The forecasting program will continue in 1984.

Special Monitoring Projects

Technical Services also conducts special monitoring projects, as necessary, to further aid our understanding of local air quality. Two such projects were either undertaken or planned in 1983.

A supplemental federal grant enabled the Authority to conduct a special carbon monoxide survey in the Eugene-Springfield Metropolitan Area late in the year, running into early 1984. The purpose of the project was to determine the validity of the Authority's existing carbon monoxide monitoring site at the Lane Community College building in Downtown Eugene. The project involved continuously measuring carbon monoxide levels at various locations throughout the metropolitan area during the six-week study period. Results of the study will not be known for several months.

A separate supplemental grant was also obtained to establish a "residential" monitoring site in South Eugene. Although the federal money was received in 1983, the site was not expected to be established until early 1984 due to equipment availability, securing permission from the City of Eugene, and adverse wintertime weather conditions. When completed, the site will continuously measure carbon monoxide, ozone (to be relocated from Edgewood Elementary School), and particulate matter.

ENGINEERING SERVICES

The Lane Regional Air Pollution Authority has enforcement power to insure that air contaminant emission standards, as adopted by the Board of Directors, are continually met. The Engineering Services Program maintains regular, frequent contact with the regulated community under a working policy of preventing excessive emissions by voluntary compliance rather than punitive action. This policy assists local industries to control and reduce air pollution emissions in a positive manner. After the conciliatory approach has been exhausted the Authority pursues the punitive approach.

Engineering Services activities include inspecting industries, issuing permits, performing engineering evaluations, responding to complaints about specific sources, responding to special open burning requests, and initiating enforcement actions.

Field Activities

In the process of conducting scheduled site inspections, the field engineer also performs routine surveillance of numerous other sources in assigned geographic areas of Lane County. These inspections aid in preventing minor air pollution problems from becoming major ones. In addition, they provide a "presence" in the field that helps to deter excessive emissions and violations of emissions regulations. Field follow-up is also required to investigate reported upsets of air pollution control equipment. An effort is made to eliminate recurrance of upsets and to maximize the operation of the pollution control equipment. This assures a more continuous, consistent emission control program. A total of 85 upsets were reported by local industry in 1983.

Individual attention is provided in the investigation of specific air contaminant emission complaints. The Authority tries to mitigate these complaints as they arise. Often these complaints serve as a

basis for correcting problems not previously noted by the company or by the Authority's surveillance process. During the course of the year 102 source-specific complaints were dealt with by the field staff. This is in addition to 262 complaints received on field burning, slash burning, residential woodheating, and general poor air quality.

Although the Authority pursues a conciliatory enforcement approach, specific violations are filed each year. A total of 14 administrative warnings, notices of violations, and civil penalties were issued in 1983 for violations of permit conditions, excessive emission discharges, and open burning violations.

During the course of the year the Engineering Services staff considered 17 special open burning requests. These requests are to burn waste that is prohibited from being burned without special authorization. Each request requires a field inspection to assess the situation.

Engineering Activities

The Authority recently adopted emission control measures that incorporate "banking" emission reductions and "offsetting" or "trading" other emissions. During 1983 the Engineering Services section developed these basic programs to allow specific industries to bank emissions for further growth and to achieve compliance with Plant Site Emission Limits through the use of offsetting emissions within the facility. These programs require the same stringent degree of control to be applied to the sources while offering them the latitude to achieve this control in the most cost effective manner. The banking concept also allows industries to make immediate emission reductions and set these emissions aside for their use at a future date through expediting immediate controls.

The Engineering Services section continued to develop Plant Site Emission Limits on regular permitted sources during the year, and to perform routine construction reviews to assure conformance with emission limitations.

Specific Source Highlights

The Engineering Services section completed its first full year working with the Weyerhaeuser Pulp Mill in Springfield. Since assuming jurisdiction over the mill in 1982, the Authority has developed an active working relationship with the mill.

Weyerhaeuser completed the first year's operation of new electrostatic precipitators in 1983. Particulate emissions are considerably lower as a result of the new equipment. However, some unforeseen problems with Total Reduced Sulfur (TRS) emissions have resulted in minor excursions above allowed TRS levels, resulting in continuing efforts by the Authority and the company to improve that part of the operation. The Authority maintains an active surveillance of the kraft mill and has, on occasion, initiated enforcement action when necessary.

The Kingsford Company, one of two charcoal manufacturing plants in Oregon, demonstrated compliance with the Authority's emissions standard in the fall of 1983 (see Board of Directors section). This followed several months of evaluating and making process modifications in lieu of buying add-on polluton control equipment. This allowed the company to achieve compliance at a considerable savings. Kingsford's success in a continuous program of emission reduction is a key element of the Eugene-Springfield Air Quality Maintenance Area Plan for particulate control.

PROJECTS & PLANNING

Through the Projects & Planning Program the Authority relates to and coordinates with local governments to develop a cohesive approach to community growth and development. This procedure was evident when the Authority adopted an air quality maintenance area plan which established policies for protecting air quality as growth and development occurs. This forward planning approach with other organizations helps avoid conflicts with Federal Clean Air Act requirements as growth takes place. In short, the purpose of Projects & Planning is to provide a point of focus for air quality in community development projects. In so doing, the Authority maintains contact with other local government agencies and community groups such as the planning departments, chambers of commerce, and economic development organizations.

This intergovernmental contact was evident in 1983 when the Authority commented on numerous proposed planning commission actions, with regard to potential air quality impacts. The Authority specifically commented on projects involving a proposed motorcross track near Goshen, the paving of several parking lots in Springfield, the proposed expansion of the Eugene Speedway, the proposed expansion of Willamette Poultry in Creswell, a proposed new electroplating plant in Eugene, and rezoning requests which involved indirect source permits.

The Authority also reviewed and commented on several environmental impact statements and environmental assessments, including the Bureau of Land Management's Vegetation Management Plan and the Bonneville Power Administration's Weatherization Program.

The Authority's comments on BLM's Vegetatation Management Plan focused on slash burning and air quality standard nonattainment areas in Western Oregon. While acknowledging that the air quality discussions in the plan were technically correct, the Authority expressed concern that the BLM drafts did not mention the existence of nonattainment areas such as Eugene-Springfield and Portland, and that

a significant increase in forest slash burning could increase the incidence of smoke intrusions into the nonattainment areas. The Authority commented that these intrusions may create a need for revisions in existing nonattainment control plans, which could result in negative economic social effects inside the nonattainment areas.

Weatherization is often listed as a voluntary means of reducing air pollution from residential woodheating. However, there is a growing awareness that air pollution inside the tightly-weatherized home may be significant. The BPA Weatherization Program's environmental impact analysis showed very high indoor impacts from many pollutants, some associated with the woodstove and fireplace insert. The Authority questioned the use of OSHA workplace standards to evaluate health effects from indoor air pollution. The Authority urged that the Environmental Impact Statement acknowledge that the very young, the elderly, and the invalid individuals are those spending most of their time inside their homes where high indoor air pollution levels may exist.

The major State Implementation Plan-related project completed during 1983 was the Reasonable Further Progress (RFP) reports for particulate matter and carbon monoxide. These reports provided an updated emissions inventory and an evaluation of the local area's progress toward achieving the air quality standards. Significant reductions in emissions were achieved for both pollutants, with the 1982 levels well below those required to demonstrate RFP.

TABLE 4

Source Category	Particulate Emissions (Tons/Year) 1978	1982
Residential Woodheating	1,724	2,866
Fugitive Dust	3,896	2,932
Industrial Processes	8,747	5,348
Other Sources	364	321
Total	14,731	11,467

The reduction in particulate emissions from 1978 (the base line year) to 1982 was primarily due to industrial emission controls, the paving of unpaved roads, and VMT (vehicle miles traveled) reductions in the Eugene-Springfield Air Quality Maintenance Area. The air quality benefits of these reductions were tempered by the significant increases in emissions from residential woodheating. The use of fireplace inserts and woodstoves has increased dramatically over the past several years.

TABLE 5

Source Category	Carbon Monoxide Emissions (T/Y) 1977	1982
Industrial Processes	2,293	2,301
Residential Woodheating	10,106	17,660
Transportation	59,586	37,462
Other Sources	461	471
Total	72,446	57,894

Carbon monoxide emissions were reduced over the period from 1977 (the base line year) to 1982, primarily from the replacement of older vehicles with newer, less polluting vehicles and, more recently, from a reduction in the total vehicle miles traveled.

As part of the effort to provide for needed special projects, the Projects & Planning Program was involved in obtaining two supplemental grants from the EPA (discussed in "Special Monitoring Projects," Technical Services section). One will provide for a residential monitoring site within the AQMA. The other provided for a special carbon monoxide study to evaluate the validity of the permanent monitoring site in downtown Eugene. Both of these projects will be completed in 1984.

Additional analysis of the results of the 1982 woodstove survey were performed in 1983. The results indicated that: 1) The higher a

person's income, the more likely he is to burn wood, primarily in a fireplace; 2) the use of woodstoves and fireplace inserts is more likely with persons in the lower income brackets; 3) the highest concentration of residential woodburning, in cords burned per square mile, is located in South and West Eugene (ZIP 97405); 4) the highest percentage of residences that burn wood are in the River Road/Santa Clara area (ZIP 97404), where almost 85% of the respondents indicated that they burned some wood. A follow-up survey will be conducted in 1984 to update this information.

VI OTHER PROGRAM HIGHLIGHTS

The Lane Regional Air Pollution Authority undertook several significant activities in 1983 that were not directly related to the three traditional program areas. Two of these activities involved communicating with Lane County citizens and, in so doing, became perhaps the most visible elements in the Authority's overall program during the year.

Eugene-Springfield is one of several areas in Oregon where residential woodheating has been identified as a significant and growing source of air pollution. The Authority increased its woodstove public information and education effort in 1983, in an attempt to improve individual woodstove operation practices, thereby reducing woodstove air pollution. And there was some indication that this informational and educational program was becoming effective. In more than one occasion during a serious wintertime air pollution episode, the Authority extensively utilized the local media to caution citizens about high air pollution levels and urge residential woodburners to either cut down on their burning or return to their standard form of home heat, whether it be electricity or natural gas. Air pollution levels during the next 24 hours were lower on several of those occasions, even though air stagnation conditions persisted.

Extensive media use was only one component of the woodstove information and education program undertaken during the year. The Authority sponsored woodstove operation seminars at dealer showrooms, stressing proper woodstove instalation, operation and maintenance. Public presentations were made at colleges and universities, as well as before various citizen and civic groups. The Authority produced and distributed informational fliers to Eugene-Springfield residents as enclosures in monthly utility billing statements. Information was also distributed to the public through woodcutting permit agencies, woodstove manufacturers and retailers, the local extension office, local government building departments, and neighborhood newsletters.

The woodstove information and education program will be maintained, if not further intensified in 1984, as the importance of proper woodstove selection, operation and maintenance becomes more apparent. Both the Board of Directors and the Advisory Committee have recognized the importance of public education and awareness on this issue, and have committed the Authority to place high priority in this effort in future years.

While the woodstove information and education program involved communicating to Lane County citizens, another 1983 activity involved communication to the Authority from local citizens.

The Authority conducted an informational survey at the 1983 Lane County Fair, in an attempt to better understand the public perception of local air quality.

A majority of those completing the informal survey felt that local air quality is "fair," as opposed to either "good" or "poor": 44% described local air quality as "fair"; 32% said it is "good"; 3% said "very good"; 13% said "poor"; and 8% said "very poor."

Field burning was identified most frequently as the worst cause of local air pollution. Next was residential woodheating, followed by automobiles, slash burning and industry, in that order.

Survey respondents felt that more controls should be placed on slash burning, field burning, woodstoves, automobiles, and industry, in that order. Current controls should be maintained on backyard burning and road dust. Very few of those responding felt that less control should be placed on any of the sources.

When asked if they were satisfied with the field burning smoke management program compared with past years, 46% said yes, 38% said no, and 16% said they did not know.

Finally, those responding felt that local control of air pollution problems is preferable to state control by a margin of better than two-to-one (56% to 23%). The remainder favored some combination of local-state-federal control.

Though the survey could not be classified as procedurally or statistically absolute, the results did give the Authority an indication of how local citizens view our air quality, what they think are the major polluters, and what they think should be the degree of control required for each source.

The constant challenge facing the Lane Regional Air Pollution Authority is to conduct an air pollution program that not only satisfies federal and state requirements, but also meets the needs of the citizens the Authority serves. Surveys such as this, as well as the woodstove survey conducted in 1982 and other program efforts, better enable the Authority to meet this challenge.