LRAPA
Lane Regional Air Pollution Authority

Lane Regional Air Pollution Authority
2004 Annual Report

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LRAPA Organization

2004 LRAPA Board of Directors*

The LRAPA Board of Directors is a seven-member board which meets monthly to establish policy and adopt agency regulations. Board members are appointed by their respective city councils and the Lane County Board of Commissioners. Membership includes three representatives from the city of Eugene, one each from Lane County and the city of Springfield, one from either the city of Cottage Grove or city of Oakridge, and one at-large representative appointed by the board. Cities with more than one member may appoint the second or third member from the public within their jurisdictions.

Shannon McCarthy - Chair
4 yrs. service
Eugene City Council Appointment

Dave Ralston - Vice Chair
4 yrs. service
Springfield City Council Appointment

Betty Taylor
8 yrs. service
Eugene City Council

Pat Patterson
6 yrs. service
Cottage Grove City Council

Carol Tannenbaum
5 yrs. service
LRAPA Board Appointment

Gary Rayor
2 yr. service
Eugene City Council Appointment

Pete Sorenson
6 yrs. service
Lane County Board of Commissioners

2004 LRAPA Citizens Advisory Committee*

The LRAPA Citizens Advisory Committee includes local interested citizens representing specific areas of interest, including agriculture, community planning, fire suppression, industry, public health, the environment and the general public. The committee is called upon to advise the board and staff on a variety of air quality issues, rules and policies.

Russ Ayers - 5 yrs. service — Chair
Representing Major Industry
Doug Brooke - 5 yrs. service — Vice-Chair
Representing Industry
Dave Breitenstein - 7 yrs. service
Representing General Public
Larry Dunlap - 6 yrs. service
Representing Public Health
Paul Engleking - 7 yrs. service
Representing Environment
Rick Rogers - 6 yrs. service
Representing Fire Suppression
John Tamulonis - 7 yrs. service
Representing Planning
Bill Young - 4 yrs. service
Representing Agriculture
Dwight Coon - 2 yrs. service
Representing Agriculture
Gary Vander Meer - 2 yrs. service
Representing General Public
Lorena Young - 13 yrs. service
Representing General Public

2004 LRAPA Budget Committee*

The LRAPA Budget Committee consists of the LRAPA Board of Directors plus seven board-appointed citizens. The committee meets yearly to review and approve LRAPA's budget request.

Shannon McCarthy
Dave Ralston
Pete Sorenson
Carol Tannenbaum
Betty Taylor
Pat Patterson
Gary Rayor

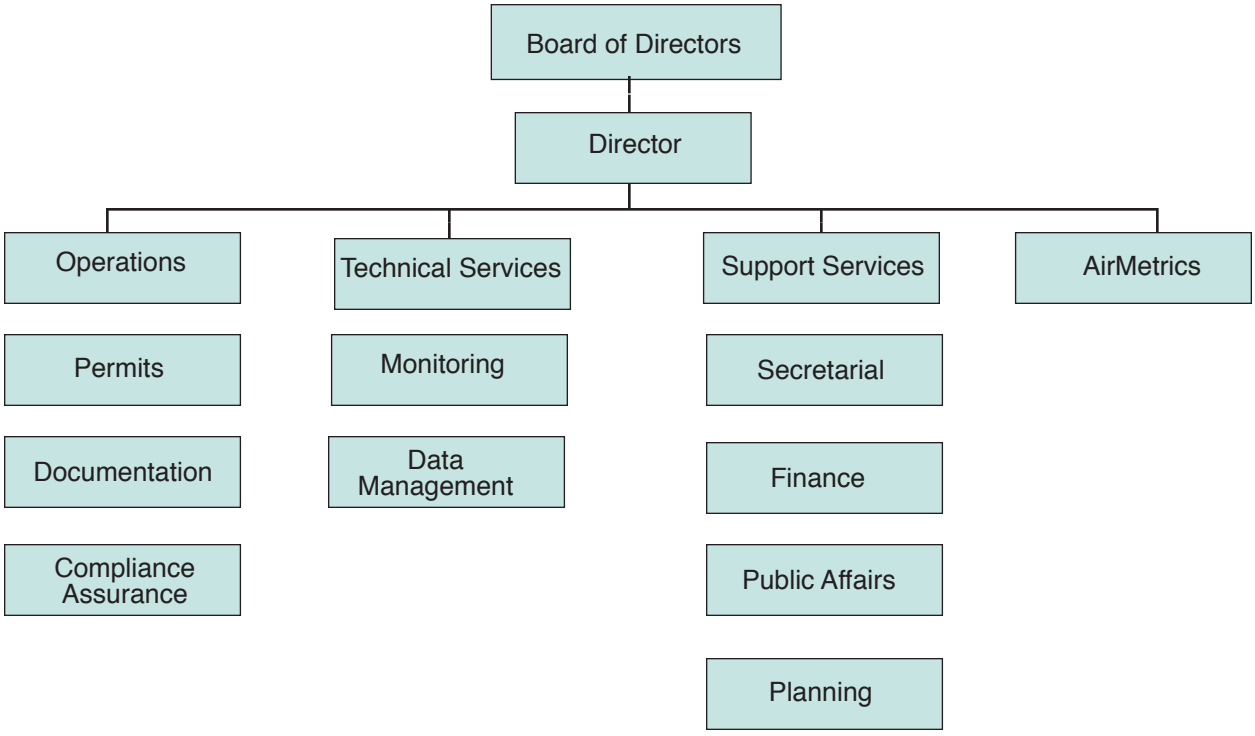
John Woodrow II
Kevin Wells
Landa Gillette
Kim Leval
Kevin Matthews
Eric DeFreest
Glenn Fortune

* This report reflects the 2004 board and committee members. Changes in memberships have occurred as of January 2005.

LRAPA Organization

The board of directors appoints the director of the agency, who has overall authority to appoint and direct the LRAPA staff. The director makes policy recommendations to the board and is responsible for implementing board decisions.

Staff Organizational Chart



LRAPA Phone Numbers

Business Office	736-1056
Home Wood Heating Advisory Line	746-HEAT
Backyard Burning Advisory Line	726-3976
24-Hour Complaint Line	726-1930
Toll-Free Line	1-877-285-7272
Website:	www.lrapa.org
E-mail:	lrapa@lrapa.org

Program Operations

The LRAPA staff consists of 18 professional and technical employees (17.9 full-time equivalencies) who perform permitting, enforcement, planning, clerical, financial, enterprise, and public information and outreach programs.

Operations — Permitting, Compliance and Enforcement

Permitting - establishes conditions under which regulated industrial sources may operate.
Compliance/Enforcement - assures permitted sources comply with permitting requirements; enforces agency rules and regulations through education and enforcement actions.

Technical Services — Monitoring and Data Management

Monitoring- collects ambient air quality data and provides quality assurance.
Data Management - determines whether ambient air quality standards are being met, and provides technical assistance for program priorities and planning.

Administration and Planning — Planning, Finance and Human Resources

Air Quality Planning - identifies present and potential future air quality problems and develops appropriate control strategies.
Finance - provides the agency with full financial management services.
Human Resources - manages agency personnel matters.

Public Information — Public Affairs Program

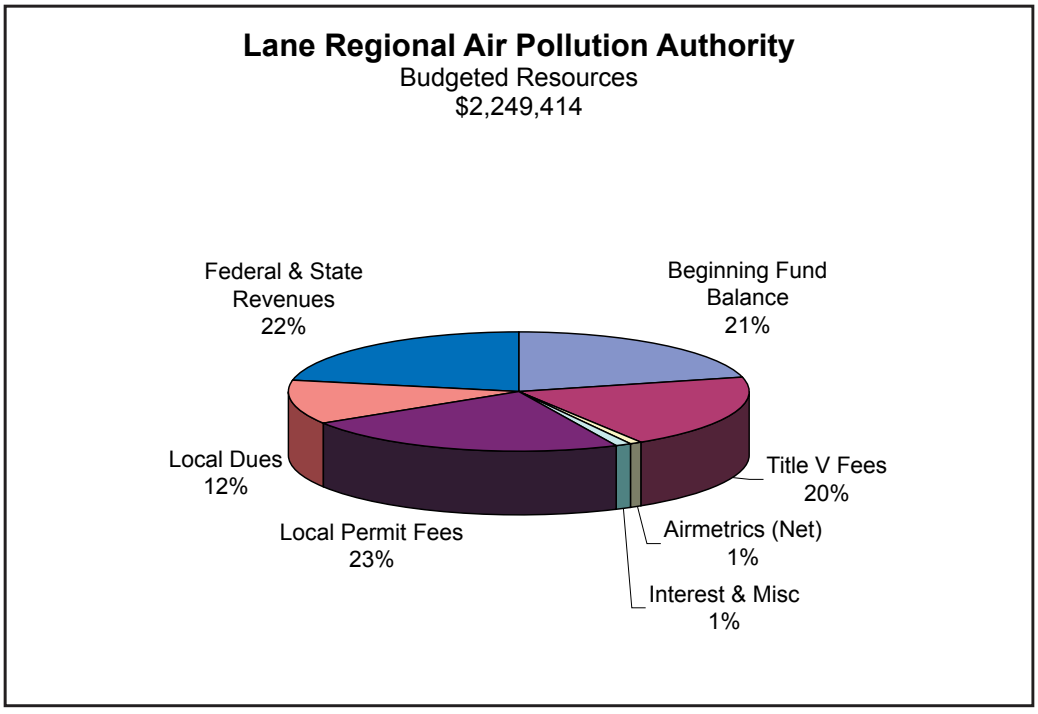
Public Information/Education - works with all sections of the agency to promotes public understanding, education and awareness of the agency and local air quality issues.

Airmetrics

Manufactures and markets portable air-sampling devices and services.

Funding/Budget

LRAPA's funding sources include: local contributions (Lane County and the cities of Eugene, Springfield, Oakridge and Cottage Grove); state and federal grants; industrial and open burning permit fees; asbestos demolition/renovation fees; AirMetrics sales and services; and miscellaneous contracts.



LANE COUNTY

THE SETTING, TOPOGRAPHY AND METEOROLOGY

THE SETTING: THE WILLAMETTE VALLEY

Lane County is located at the southern end of the Willamette Valley and stretches from the Cascade Mountains to the Pacific Ocean. The county's population is around 330,000 or about 10 percent of the state's total population. The incorporated cities of Eugene and Springfield comprise the second largest urban area in Oregon with an estimated 198,630 residents. (*U.S. Census*)

TOPOGRAPHY AND METEOROLOGY

Many of the inland areas of Lane County experience periods of air stagnation. When this happens during winter months, cold air often becomes trapped near the valley floor with slightly warmer air aloft, creating temperature inversion conditions. The combination of cold, stagnant air and restricted ventilation causes air pollutants to become trapped near the ground. Wintertime temperature inversions contribute to high particulate levels, while summertime inversions contribute to increases in ozone levels, both causing the local air quality to deteriorate.

The distant hills in this photo looking out over Eugene are obscured because of area haze. Local topography and weather often cause pollutants to build and obscure distant backgrounds.

National Ambient Air Quality Standards

The Environmental Protection Agency (EPA) has established health-based National Ambient Air Quality Standards (NAAQS) for six air pollutants (criteria pollutants): particulate matter (PM_{10} and $PM_{2.5}$), ozone (O_3), carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2) and lead (Pb). Three of the six pollutants are monitored in Lane County: Particulate matter, ozone and carbon monoxide.

Particulate Matter (PM)- Federal Standards

There are four particulate standards: two for particles 10 microns and smaller in size, and two for fine particulates measuring no larger than 2.5 microns in size.

- Annual PM_{10} Standard — The standard is met when the three-year average of the annual mean PM_{10} concentration at each monitoring site is less than or equal to 50 micrograms per cubic meter.
- 24-hour PM_{10} Standard — The standard is met when the second highest value at each monitoring site is less than or equal to 150 micrograms per cubic meter.
- Annual $PM_{2.5}$ Standard — The standard is met when the three-year annual mean at each monitoring site is less than or equal to 15 micrograms per cubic meter.
- 24-hour $PM_{2.5}$ Standard — The standard is met when the three-year average of the 98th percentile value at each monitoring site is less than or equal to 65 micrograms per cubic meter.

Ozone - Federal Standard

The ozone standard is attained when the consecutive three-year average of the annual fourth highest daily maximum eight-hour average concentration does not exceed 0.08 parts per million.

Federal Ambient Air Quality Standards

Pollutant	Federal Standard	Monitoring Status in Lane County
Particulate ($PM_{2.5}$)		
24-hour standard	65 ug/m³	Required
Annual standard	15 ug/m³	Required
Particulate (PM_{10})		
24-hour standard	150 ug/m³	Required
Annual standard	50 ug/m³	Required
Carbon Monoxide (CO)		
8-hour average	9 ppm	Required
1-hour average	35 ppm	Required
Ozone (O_3)		
8-hour average	0.08 ppm	Required
Sulfur Dioxide (SO_2)		
24-hour average	0.14 ppm	Not required
1-hour average	0.10 ppm	Not required
Nitrogen Dioxide (NO_2)		
Annual average	0.05 ppm	Not required
Lead (Pb)	1.5 ug/m³	Not required

ug/m³: micrograms per cubic meter

ppm: parts per million

Carbon Monoxide - Federal Standard

There are two carbon monoxide standards, a one-hour and an eight-hour standard.

- One-hour Standard — The standard is met when the maximum one-hour average concentration does not exceed 35 parts per million.
- The Eight-hour Standard — The standard is met when the maximum eight-hour average concentration does not exceed nine parts per million.

NAAQS and Local Air Quality

Lane County Attainment History

In Lane County, three criteria pollutants have historically been of concern: particulate matter, ozone, and carbon monoxide. The Eugene/Springfield area is monitored for all three pollutants, while the city of Oakridge is monitored for particulate matter only.

Particulate Matter (PM)

Particulate matter is measured at three locations in Eugene, two locations in Springfield, and one each in Oakridge, Cottage Grove, and Saginaw. In Lane County, two areas, the Eugene/Springfield urban area and the city of Oakridge, have been designated "non-attainment" for PM_{10}. Both areas currently meet the standard and are in the process of regaining attainment status.

- The Eugene/Springfield area was designated a "non-attainment" area on January 10, 1980, for exceeding the 24-hour secondary "total suspended particulate" (TSP) standard.
- The TSP standard was changed to the PM_{10} standard (particulate matter 10 microns in size or smaller) in 1987.
- The Eugene/Springfield area was redesignated a PM_{10} "non-attainment" area on August 7, 1987.

  — Last exceeded the standard in 1987.
- Oakridge was proposed a PM_{10} "non-attainment" area in September 1992, and designated on January 20, 1994.

  — Last exceeded the standard in 1993.
- On September 16, 1997, EPA established daily and annual $PM_{2.5}$ standards that were immediately challenged by industry.
- In March 1998, $PM_{2.5}$ monitoring began in Eugene/Springfield.
- In November 1998, $PM_{2.5}$ monitoring began in Oakridge.
- On February 27, 2000, the U.S. Supreme Court unanimously upheld the new standards.

  — Both Eugene/Springfield and Oakridge currently meet the $PM_{2.5}$ standards.
  — Oakridge occasionally experiences high concentrations of $PM_{2.5}$ but so far has not exceeded the standards.

Ozone (O3)

Ozone is measured at one site in Eugene and one in Saginaw. Lane County is in attainment with the federal ozone standards.

- In 1970, EPA established a one-hour ozone standard.
- In May 1974, the Eugene/Springfield area began monitoring ozone and has continued to measure ozone, although the area has remained in attainment.
- In 1997, the standard was changed to an eight-hour standard, but this was challenged by industry.
- In 2000, the U.S. Supreme Court unanimously upheld the eight-hour standard.

Carbon Monoxide (CO)

The Eugene/Springfield area was designated a "non-attainment" area for CO in the late 1970s, but was later redesignated an attainment area.

- In 1970, EPA established an eight-hour CO standard.
- In 1971, LRAPA began monitoring CO in downtown Eugene.
- On March 3, 1978, the Eugene/Springfield area was designated a "non-attainment" area for CO.

  — Last exceeded the standard in 1986.
- On February 4, 1994, the Eugene/Springfield area was redesignated an "attainment" area.

CRITERIA POLLUTANTS

Pollutant	Description	Sources	Health Effects	Environmental Effects
Particulate Matter PM	PM_{10} — Respirable particles less than 10 microns in size $PM_{2.5}$ — Respirable particles less than 2.5 microns in size	Wood burning; Industry; Fugitive dust; Construction activities; Street sand application; Combustion sources; Transportation; Open burning; NOx, SO_2, VOC gases	Aggravates ailments such as bronchitis and emphysema; Especially bad for those with chronic heart and lung disease, as well as the very young and old, and pregnant women	Causes reduced visibility and haze
Carbon Monoxide CO	An odorless, colorless gas which is emitted primarily from any form of incomplete combustion	Gasoline and diesel-powered mobile sources, such as autos, trucks, buses and locomotives; Wood burning; Open burning; Industrial combustion sources	Deprives the body of oxygen by reducing the blood's capacity to carry it; Harmful to unborn children; Causes headaches, dizziness, nausea; High doses may cause death	(None)
Ozone O_3	A gas associated with smog; formed when nitrogen oxides (NOx) and volatile organic compounds (VOC) react with one another in the presence of sunlight and warm temperatures	VOCs and NOx from gasoline-powered mobile sources; Industry; Power plants; Gasoline transfer and storage; Paints and solvents; Consumer products	Irritates eyes, nose, throat and respiratory system; Especially bad for those with chronic heart and lung disease, as well as the very young and old, and pregnant women	Can cause damage to plants and trees; smog can cause reduced visibility; Attacks rubber products
Nitrogen Dioxide NO_2	A gas produced as a by-product of high burning temperatures	Combustion processes — fossil fuel power, motor vehicles, industry; Home heating; Fertilizer manufacturing	Harmful to lungs, irritates bronchial and respiratory systems; Increases adverse symptoms in asthmatic patients	Contributes to acid fog and rain, which can damage plant and aquatic life; Can cause reduced visibility; Precursor to smog
Sulfur Dioxide SO_2	A pungent, colorless gas that combines with water vapor to become sulfurous acid (H_2SO_3), which, when combined with oxygen, produces sulfuric acid (H_2SO_4), a very corrosive and irritating chemical	Fossil fuel power plants; Nonferrous smelters; Kraft pulp production	Irritates respiratory system; Increases the risk of adverse symptoms in asthmatic patients	Contributes to acid fog and rain, which can damage plant and aquatic life; Dissolves stone and corrodes iron and steel; Can contribute to reduced visibility
Lead Pb	A widely used metal, which may accumulate in the body	Leaded gasoline; Battery manufacturing; Battery recycling; Smelting; Paint	Causes intestinal distress, anemia and damage to the central nervous system, kidneys and brain; Children more adversely affected than adults	Harmful to wildlife

Air Quality Index

The EPA developed the Air Quality Index to provide the public with timely and easy-to-understand information on the health implications of local air quality.

◆ **"Good"**
Air quality is considered satisfactory and air pollution poses little or no risk.

◆ **"Moderate"**
Air quality is acceptable; however, at these levels there may be a moderate heatlh concern for a very small number of individuals.

◆ **"Unhealthy for Sensitive Groups"**
Certain groups of people who are particularly sensitive to the harmful effects of certain pollutants are likely to be affected at this level.

◆ **"Unhealthy"**
The general public may begin to experience adverse health effects. Members of sensitive groups may experience more serious health effects.

Air Quality Index Summary

Eugene/Springfield (number of days)

Year	Good	Moderate	Unhealthy (Sensitive)	Unhealthy
2004	349	17	0	0
2003	343	22	0	0
2002	302	56	7	0
2001	304	54	7	0
2000	313	47	6	0

Totals using CO, $PM_{2.5}$ and O_3 data.

Air Quality Index Summary

Oakridge (number of days)

Year	Good	Moderate	Unhealthy (Sensitive)	Unhealthy
2004	277	75	9	1
2003	288	62	12	1
2002	247	94	14	3
2001	270	61	23	2
2000	276	71	16	1

Totals using CO, $PM_{2.5}$ and O_3 data.

OZONE DATA

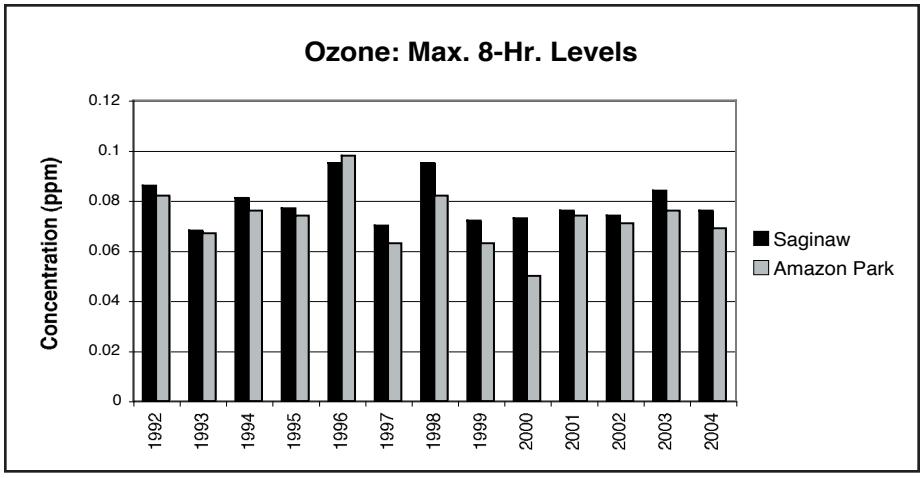
YEARLY EIGHT-HOUR OZONE LEVELS — 1994 - 2004 (ppm)

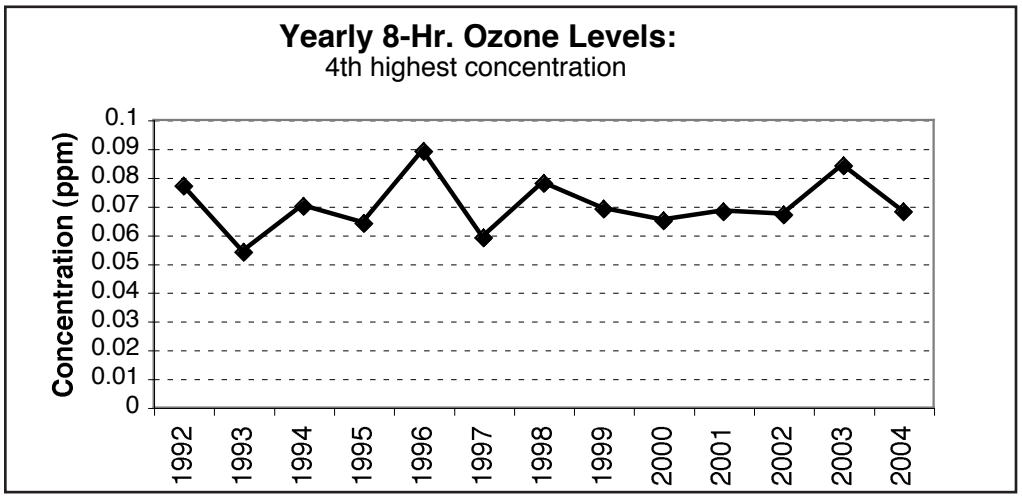
Site #	Site Name	Notes	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
2000036	**Delight Valley School — Saginaw**	**a**	.081	.077	.095	.070	.095	.072	.073	.076	.074	.084	.076
		b	.070	.064	.089	.059	.078	.069	.065	.067	.065	.079	.068
		c	1*	0	6*	0	2	0	0	0	0	0	0
2018060	**Amazon Park**	**a**	.076	.074	.098	.063	.082	.063	.050	.074	.071	.076	0.69
		b	.068	.060	.084	.057	.073	.057	.047	.062	.067	.071	.064
		c	0	0	0	3*	0	0	0	0	0	0	0

Standard:
Fourth highest 8-hour average: 0.08 parts per million (technically must be ≥ 0.085 ppm for an exceedance)

Notes:

a	Highest 8-hour concentration
b	4th highest 8-hour concentration
c	Number of exceedances
---	No data collected at site during year
*	Prior to the 1998 established standard; not a formal exceedance





PARTICULATE MATTER DATA

YEARLY PM_{10} LEVELS — 1994 - 2004 (ug/m³)

Site #	Site Name	Notes	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
2018056	Lane Community College (dwntwn)	a	21	21	18	21	17	19	19	19	17	15	15
		b	66	52	60	52	63	47	51	53	46	32	36
		c	42	49	46	49	56	45	50	35	45	30	35
		d	0	0	0	0	0	0	0	0	0	0	0
2018058	Key Bank— Hwy 99N	a	28	26	22	22	19	20	21	21	21	19	18
		b	117	84	70	85	68	79	78	70	71	48	64
		c	102	70	64	62	67	67	54	65	67	47	44
		d	0	0	0	0	0	0	0	0	0	0	0
2018060	Amazon Park	a	20	19	17	19	15	18	18	18	---	---	---
		b	71	63	61	54	59	60	58	62	---	---	---
		c	46	57	45	53	49	46	55	35	---	---	---
		d	0	0	0	0	0	0	0	0	---	---	---
2030003	Willamette Activity Ctr.— Oakridge	a	26	23	22	21	19	20	23	24	25	21	18
		b	144	142	84	96	80	99	89	108	94	76	80
		c	143	135	78	90	79	73	73	80	83	63	53
		d	0	0	0	0	0	0	0	0	0	0	0
2033060	Springfield City Hall	a	24	22	19	21	19	16	20	19	17	15	---
		b	74	48	58	57	62	57	56	45	55	40	---
		c	51	44	55	49	59	56	46	38	51	36	---
		d	0	0	0	0	0	0	0	0	0	0	---
2009002	Harrison Elem. Sch. — Cottage Grove	a	23	22	19	20	17	19	18	17	19	16	14
		b	109	93	52	75	50	49	38	44	57	44	38
		c	57	46	49	54	48	41	35	37	54	41	32
		d	0	0	0	0	0	0	0	0	0	0	0
2018063	Santa Clara	a	20	18	17	---	---	---	---	---	---	---	---
		b	107	68	59	56	---	---	---	---	---	---	---
		c	100	63	56	32	---	---	---	---	---	---	---
		d	0	0	0	0	---	---	---	---	---	---	---

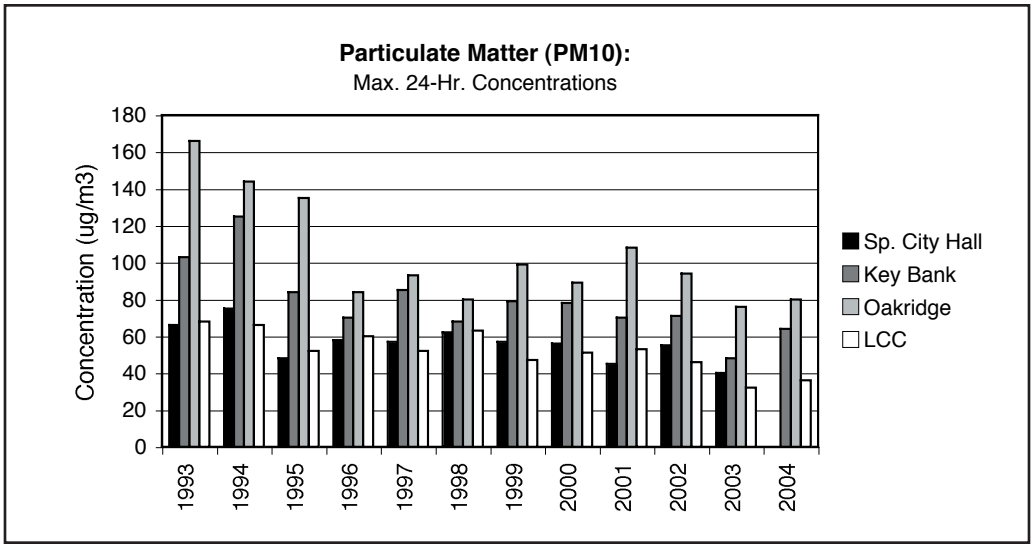
Standards:

24-hour average — 150 micrograms/cubic meter

Annual arithmetic mean — 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 24-hour standard
- --- No data collected at site during year



YEARLY $PM_{2.5}$ LEVELS (ug/m³) — 1999 - 2004

Site #	Site Name	Notes	1999	2000	2001	2002	2003	2004
2033061	**Springfield High School**	a	---	8.8	8.4	8.3	7.8	---
		b	36.5	37.3	43.7	35.3	27.5	---
		c	26.5	29.4	26.5	26.2	23.2	---
		d	0	0	0	0	0	---
2018060	**Amazon Park**	a	8.6	9.4	9.4	9.9	9.0	8.7
		b	52.6	58.8	50.6	56.2	39.5	37.9
		c	36.3	39.5	34.3	46.2	30.7	27.8
		d	0	0	0	0	0	0
2030003	**Willamette Activity Ctr. - Oakridge**	a	13.0	13.1	13.7	14.0	12.2	11.9
		b	72.0	74.2	95.7	80.3	69.0	69.3
		c	57.0	52.0	59.5	55.4	53.3	46.1
		d	1	1	3	3	1	1
2000036	**Delight Valley School - Saginaw**	a	6.7	6.7	7.0	6.7	6.2	6.0
		b	24.7	20.9	26.8	22.0	17.0	13.8
		c	20.8	18.8	17.1	18.1	15.9	13.1
		d	0	0	0	0	0	0
2033060	**Springfield City Hall**	a	---	---	---	---	---	7.6
		b	---	---	---	---	---	21.0
		c	---	---	---	---	---	20.8
		d	---	---	---	---	---	0

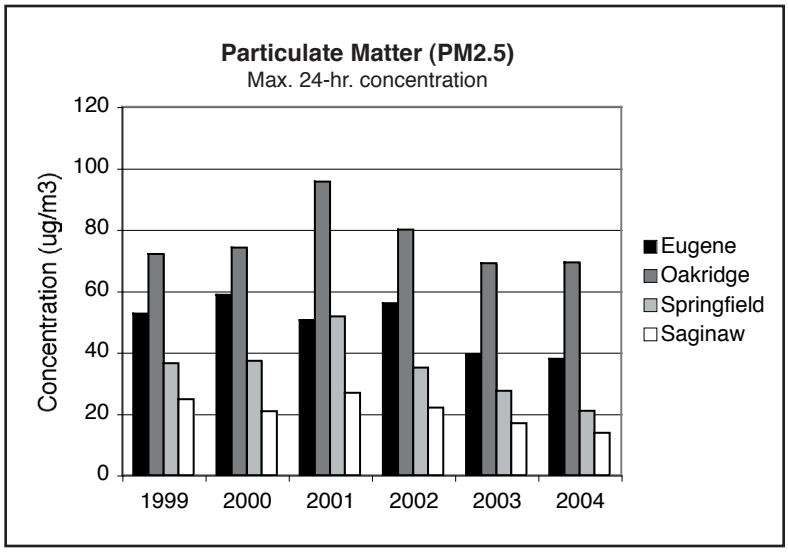
Standards:

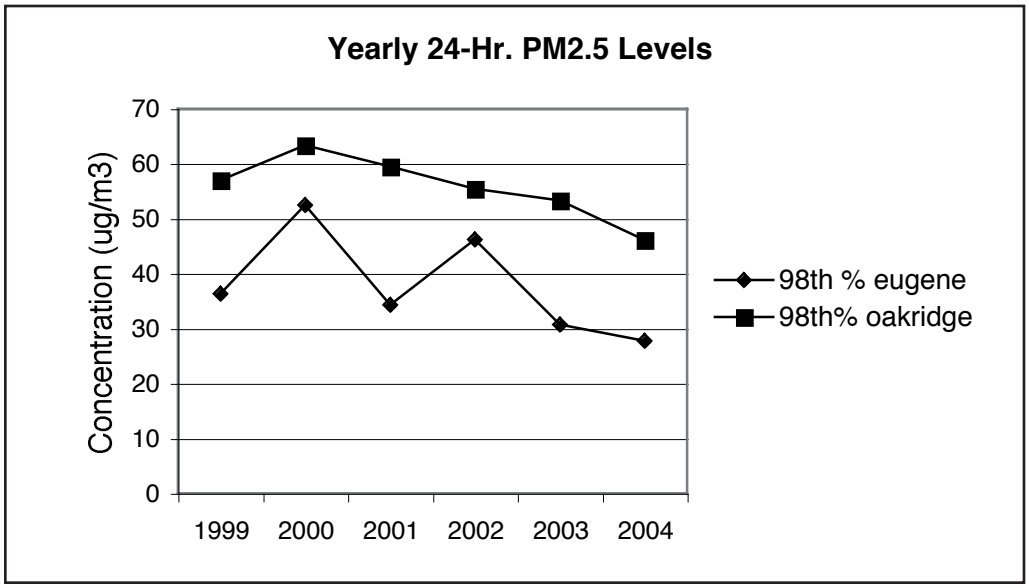
Annual arithmetic mean — 15 micrograms/cubic meter

24-hour average — 65 micrograms/cubic meter of the 98th percentile of measured concentrations

Notes:

- a — Annual arithmetic mean
- b — Highest 24-hour concentration
- c — 98th percentile concentration
- d — Number of days over 24-hour standard
- --- — No data collected at site during year





Carbon Monoxide Data

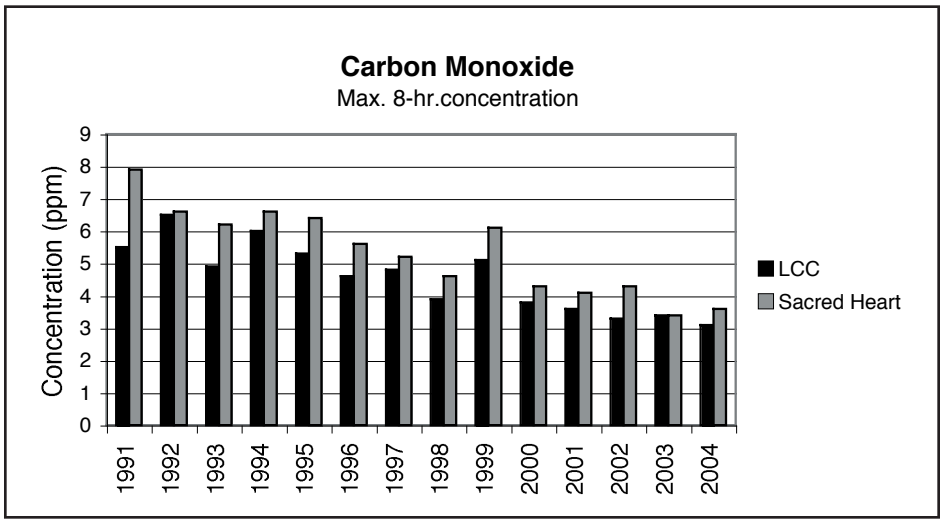
Yearly Carbon Monoxide Levels — 1994 - 2004 (ppm)

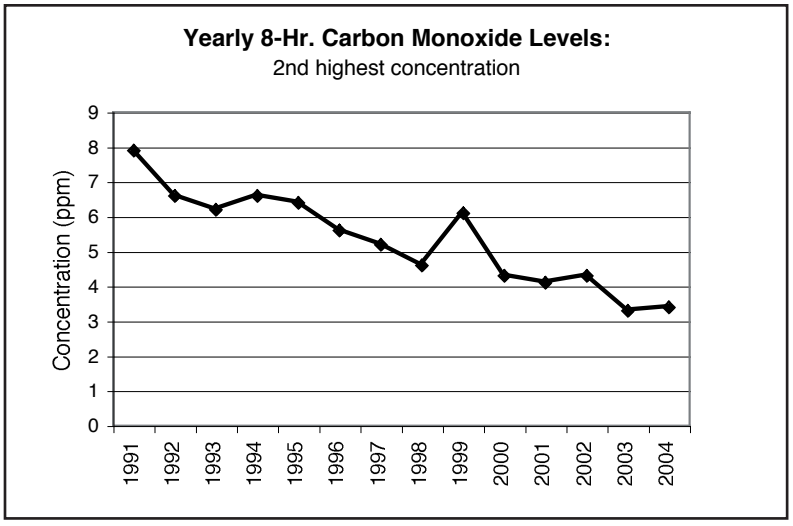
Site #	Site Name	Notes	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
2018056	Lane Comm. College (downtown)	a	6.0	5.3	4.6	4.8	3.9	5.1	3.8	3.6	3.3	3.4	3.1
		b	4.5	4.7	4.6	4.7	3.9	3.9	3.5	3.6	2.9	2.8	2.6
		c	0	0	0	0	0	0	0	0	0	0	0
2018058	Sacred Heart Medical Center	a	6.6	6.4	5.6	5.2	4.6	6.1	4.3	4.1	4.3	3.4	3.6
		b	6.3	5.7	5.5	5.2	4.6	4.9	4.3	3.9	4.2	3.3	3.4
		c	0	0	0	0	0	0	0	0	0	0	0

Standard:
8-hour average — 9 parts per million

Notes:

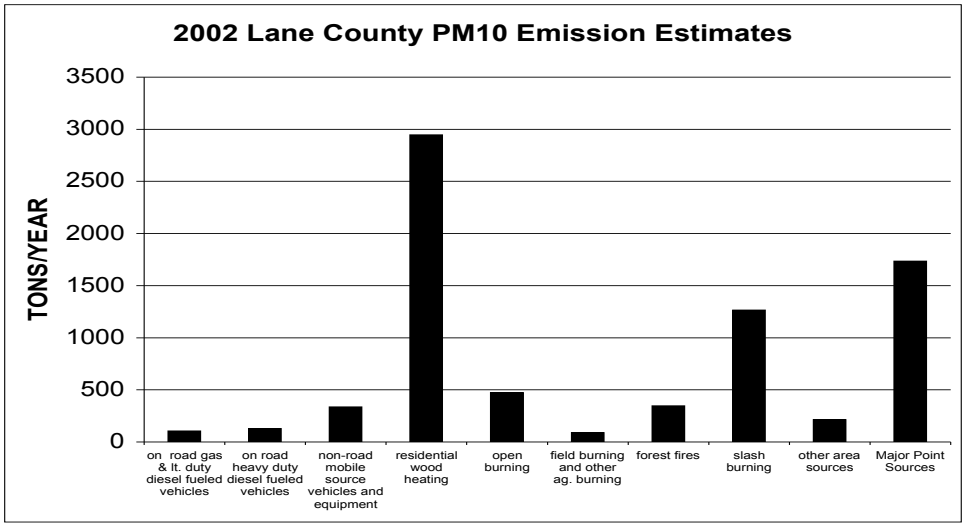
a	Highest 8-hour concentration
b	2nd highest 8-hour concentration
c	Number of exceedances
---	No data collected at site during year

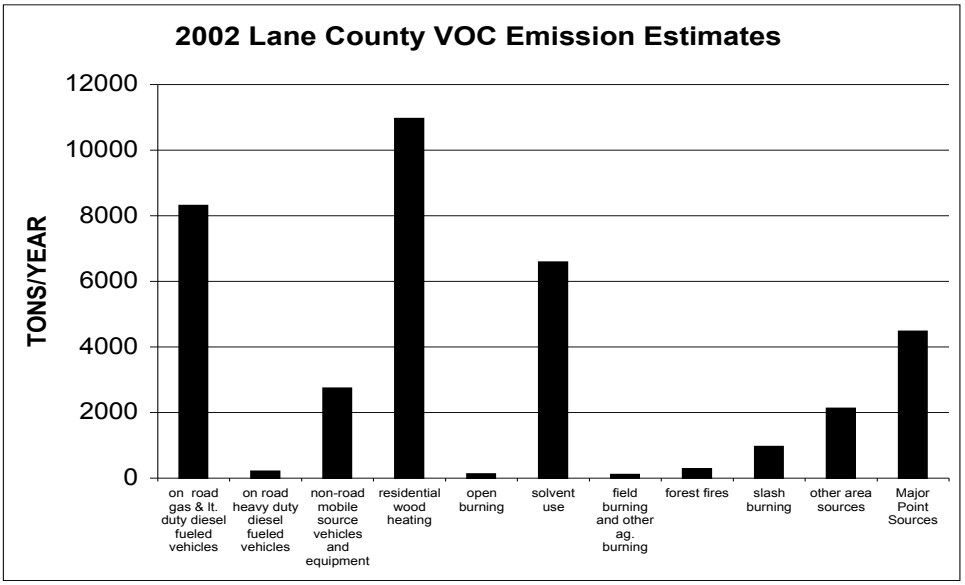




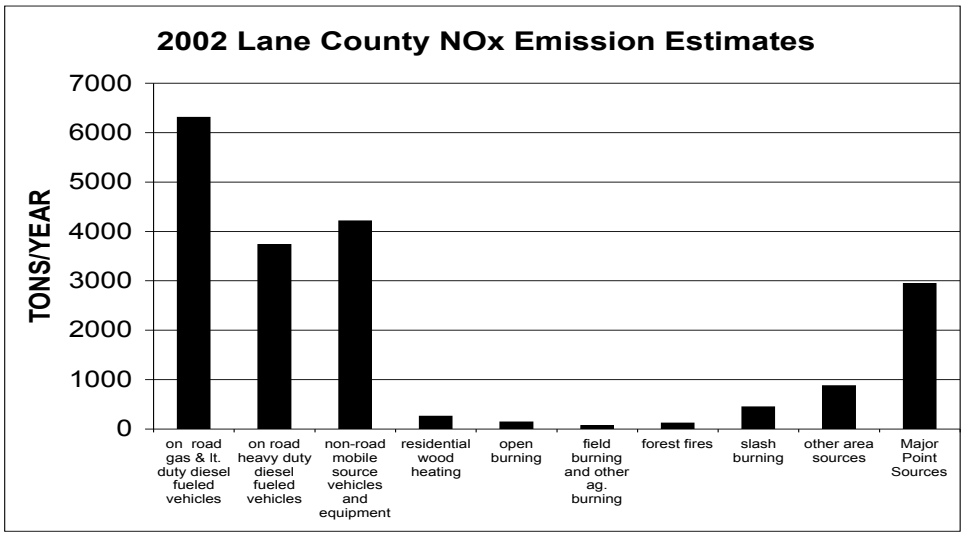
LANE CO. EMISSION INVENTORY

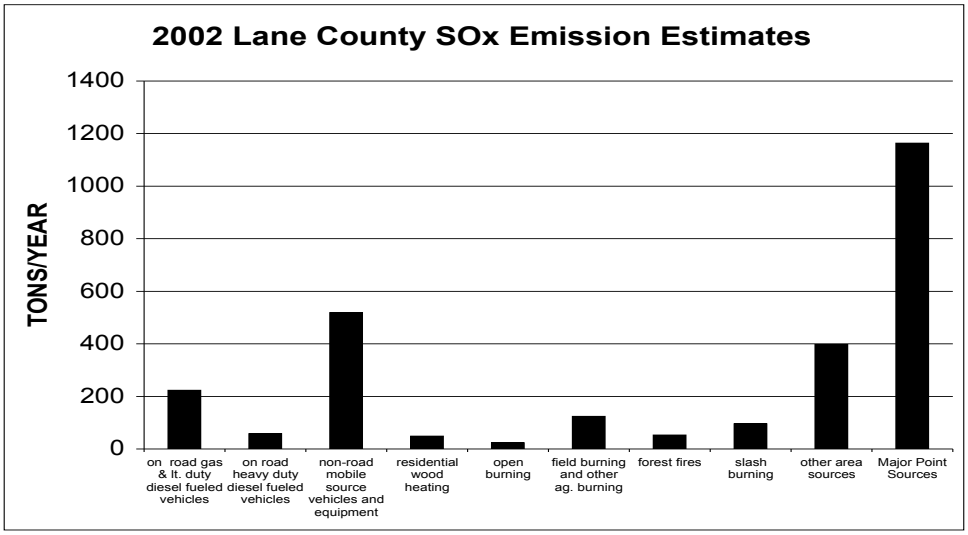
The Environmental Protection Agency (EPA) requires states to submit county emission inventories for the criteria pollutants every three years. Data in the inventory includes most, but not all sources of pollutants (as required by EPA). For example, biogenic sources - volatile organic compounds from vegetation - are not included in the inventory, nor are emissions from facilities that emit small amounts of pollutants. For these reasons, the emission inventory is a good initial look at the county's emissions, but should not be considered a complete data base. The Lane County emission inventory includes particulate matter (PM_{10}), volatile organic compounds, nitogen oxides, sulfur oxides, and carbon monoxide.

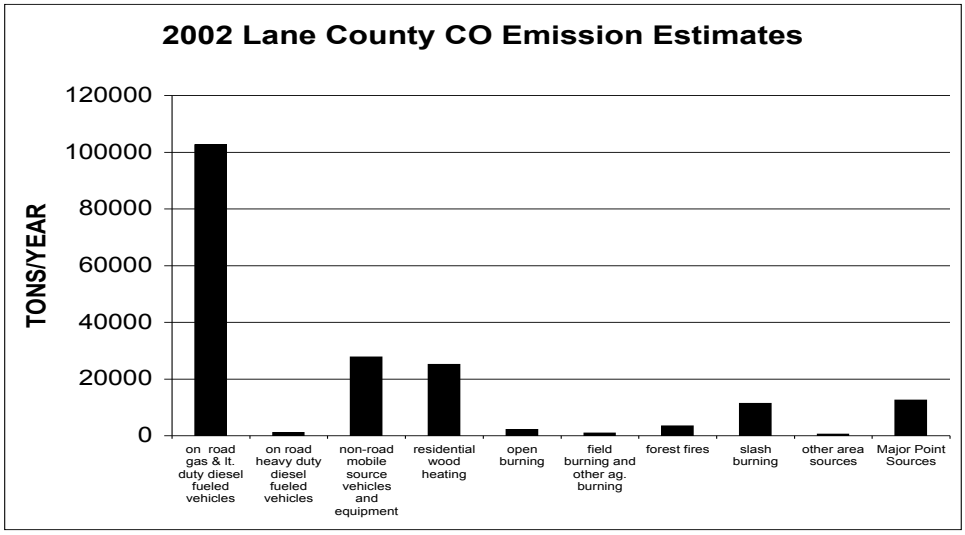




LANE CO. EMISSION INVENTORY







Lane County Home Wood Heating Programs

The Eugene/Springfield urban area and the city of Oakridge have home wood heating advisory programs due to episodes of poor wintertime air quality. Residential wood stove smoke is a major source of PM_{10} and $PM_{2.5}$ emissions in these areas. In fact, according to LRAPA's emission inventory, residential home wood heating smoke accounts for 40 percent of all particulates emitted in Lane County. Home wood heating advisory programs in Lane County use a simple "green, yellow, red" advisory system to inform residents whether or not wood-burning is allowed. The programs do not generally ban all burning, but rather ban visible emissions during "red" advisory periods. Residents are notified of the daily advisories through local media, such as newspapers, radio and television stations. In addition, LRAPA has a 24-hour advisory line for up-to-date information and uses an automated phone notification system with its Oakridge program. While home wood heating is allowed on most days, the agency encourages residents to avoid burning to reduce the health impacts associated with the inhalation of wood smoke.

Eugene/Springfield Program

The Eugene/Springfield urban area began its home wood heating advisory program in 1986 to reduce pollution caused by home wood heating, a major wintertime source of particulates. Eugene/Springfield was designated a federal non-attainment area on August 7, 1987, after violating the federal PM_{10} standards on various occasions in past years. The program changed from voluntary to mandatory in January 1991, as part of LRAPA's federally required implementation plan designed to bring the area back into compliance with the PM_{10} standards.

The Eugene/Springfield mandatory program is now in its 14th season. Residents living within the Eugene/Springfield Urban Growth Boundary (ESUGB) are affected by the program, which runs from November 1 through the end of February. Residents with economic hardship may be granted an exemption from the program on a yearly basis.

In addition to the visible emissions ban, the mandatory program includes a Phase II "red" advisory, which prohibits all burning in wood stoves (without an exemption) in cases of severe deterioration in air quality. Violations of the program can result in fines up to $500 per incident, issued by LRAPA.

In 2002, local ordinances were amended to:

- Ban burning of garbage in woodstoves/fireplaces,
- Add a 40 percent opacity limit on chimneys, and
- Incorporate the $PM_{2.5}$ standard into the HWH season program.

The amendments were adopted on 7/22/02 in Eugene, 10/30/02 in Springfield, and 9/24/03 in the Eugene Springfield UGB by Lane County.

Oakridge Program

The city of Oakridge adopted a voluntary home wood heating advisory program in 1989, after air quality data showed Oakridge exceeded the federal PM_{10} standard on numerous occasions. Five years later, on January 20, 1994, EPA officially declared Oakridge a PM_{10} non-attainment area. A plan to get the area back into attainment with the standards was adopted by EPA in March 1999, and became effective on May 14th of that year. Unlike Eugene/Springfield's strategies which were mandatory, the Oakridge plan included voluntary measures.

On February 20, 2003, the Oakridge City Council adopted a home wood heating ordinance that:

- Changed their voluntary measures to mandatory,
- Prohibited burning garbage in woodstoves and fireplaces,
- Incorporated a 40 percent opacity limit on chimneys,
- Incorporated the $PM_{2.5}$ standard into the program, and
- Required the removal of uncertified woodstoves from property to be sold or rented.

The Oakridge mandatory program uses the same basic principles as does the Eugene/Springfield mandatory program, but is enforced by the city of Oakridge, rather than LRAPA.

In an effort to help with the mandatory program, LRAPA contacted Oakridge residents with recorded phone messages asking them to refrain from burning when air quality was forecast to be unhealthy for sensitive groups of people. The agency used the phone system 19 times during four-month season. This season was the first time Oakridge air quality met the federal standards on a daily basis during the home wood heating season since LRAPA began monitoring fine particulates in 1999.

LRAPA uses the $PM_{2.5}$ standard when determining home wood heating advisories. Advisories are determined by comparing current pollution levels to current meteorological conditions and weather forecasts.

* "Green" advisories are called when pollution levels are forecast to be less than 40 ug/m^3 (micrograms per cubic meter) – the standard being 65 ug/m^3.
* "Yellow" advisories are called when pollution levels are forecast to be greater than or equal to 41 ug/m^3, but less than 54 ug/m^3.
* "Stage I Red" advisories are called when pollution levels are forecast to be greater than or equal to 55 ug/m^3, but less than 65 ug/m^3.
* "Stage II Red" advisories are called when levels are forecast to be greater than or equal to 65 ug/m^3.

EUGENE/SPRINGFIELD HWH ADVISORIES
1994 - 2004 SEASON

Season Year (Nov. - Feb.)	Yellow	Red I	Red II	PM Exceedances
*2004-2005	6	0	0	0
*2003-2004	0	0	0	0
*2002-2003	4	0	0	0
*2001-2002	5	0	0	0
*2000-2001	6	0	0	0
*1999-2000	0	0	0	0
*1998-1999	0	0	0	0
1997-1998	0	0	0	0
1996-1997	0	0	0	0
1995-1996	0	0	0	0
1994-1995	0	0	0	0

**Based on $PM_{2.5}$ monitored levels*

OAKRIDGE HWH ADVISORIES
1994 - 2004 SEASON

Season (Nov. - Feb.)	Yellow	Red	PM Exceedances
*2004-2005	37	0	0
*2003-2004	15	0	1
*2002-2003	29	0	2
*2001-2002	11	0	3
*2000-2001	35	2	2
*1999-2000	11	0	2
*1998-1999	6	0	1
1997-1998	1	0	0
1996-1997	5	0	0
1995-1996	5	0	0
1994-1995	7	3	0

**Based on $PM_{2.5}$ monitored levels*

Firewood	Available Heat
Tree Species	Million Btu/Cord 20% Moisture
Alder	20
Apple	35
Ash	27
Birch	24
Cedar	16
Cherry	25
Cottonwood	17
Elm, American	18
Fir, Douglas	23
Fir, White	19
Hemlock	21
Juniper	25
Madrone	34
Oak, Red	29
Oak, White	33
Maple	25
Pine, Lodge pole	20
Pine, Ponderosa	18
Pine, White	18
Poplar	12
Walnut, Black	25
Walnut, English	25
Willow	16

Wood Burning Advisories

(November — February)

Eugene/Springfield and Oakridge

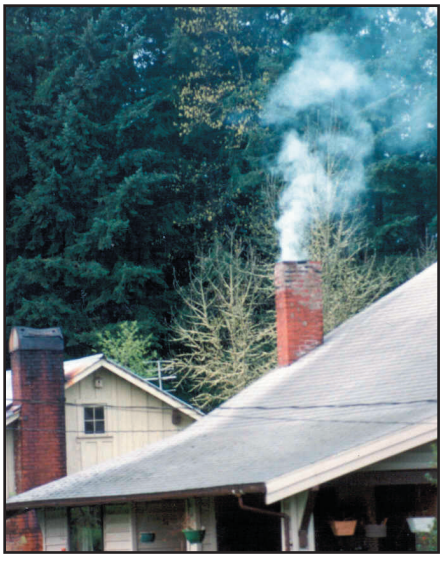
Green— Means air quality is good at this time and unrestricted use of a wood heating device is allowed.

Yellow— Means air quality is deteriorating. Residents are asked to cut back on home wood-heating use.

Red I— Means air quality is reaching an unhealthy stage. Visible smoke from a chimney will result in a violation, unless the resident has an exemption. Burning is allowed if done without producing any visible smoke.

Red II— Means all burning must stop. Use of a pellet stove is allowed if no visible smoke is emitted into the air.

Chimney smoke should be negligible when a woodstove/fireplace is being properly used.



A smoky chimney indicates improper use of a woodstove/fireplace and emits excess pollution into the air.

Program Summaries

Operations — Permitting

LRAPA-issued operating permits are required for a number of industries and businesses in Lane County. Of the 205 permitted sources in Lane County, 186 have basic Air Contaminant Discharge Permits (ACDP), and 19 hold Title V Federal Operating Permits.

ACDPs are issued to all industries required by LRAPA rules to obtain permits, except those "major" sources subject to federal operating permit requirements. Industrial sources are classified as "major" sources if they have the potential to emit more than 100 tons of any criteria pollutant (see pg. 7), or 10 tons or more of any single hazardous air pollutant (HAP) or 25 tons or more of any combination of HAPs on an annual basis.

Industrial source categories in Lane County which require operating permits include: food and agriculture, wood products manufacturing, chemical products manufacturing, mineral products manufacturing, metal products manufacturing; waste treatment, fuel burning, fuel transfer operations, coating operations, sources of toxic air pollutants, and any source emitting more than 10 tons per year of any combination of criteria pollutants.

2004 Permitting Summary –

- Permits issued or renewed 25
- Permits modified 15
- Industries inspected 166

  Note: Some industries have multiple inspections in a year.

Asbestos Abatement

Remodeling and renovation projects in Lane County that include asbestos abatement must register with LRAPA. In 2004, LRAPA documented 372 notifications of asbestos abatement projects. LRAPA inspected 84, or 23 percent, of all projects. Seventeen violations were found. By category, the total number of abatement projects included:

- Residential 153
- Schools 28
- Business/Industry 137
- Other 54

Enforcement

LRAPA initiates enforcement actions in instances of excessive industrial air pollution, illegal open burning activities, improper handling or transport of asbestos-containing materials, and failure to obtain necessary air pollution permits prior to construction or operation.

Typically, the dollar amount of penalties collected annually does not strictly reflect the penalties assessed or settled during the year, due to pending cases and collections received on previous years' penalties.

LRAPA collected $31,097 in penalties during 2004. All penalties collected are forwarded to Lane County; however, attorney fees associated with contested cases are deducted first.

- Administrative warnings/ Notices of non-compliance: 52
- Notices of violation w/ civil penalty: 31

Complaint Response

It is LRAPA's policy to investigate in a timely manner every complaint called into the agency. Staff investigated 1,525 formal complaints in 2004. Field burning complaints, however, are typically not investigated by staff, but forwarded to the Oregon Department of Agriculture, which has jurisdiction.

The number of complaints, and percent changes from the previously are as follows by category:

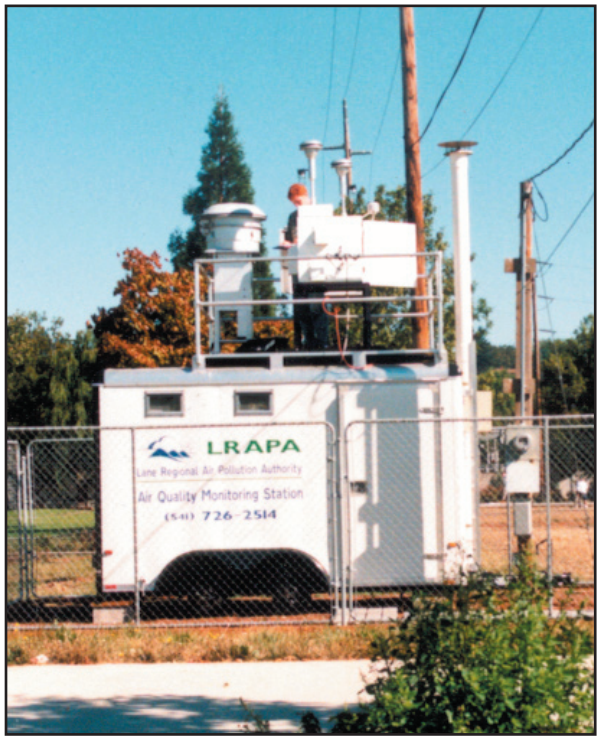
- Backyard burning ..... -10%
- Dust ..... +13%
- Field burning ..... +7%
- General air quality ..... -67%
- Home wood-heating ..... +15%
- Industry ..... +66%
- Miscellaneous ..... +106%
- Open burning ..... +81%
- Slash burning ..... -11%
- Unknown ..... +7%
- Total complaints ..... +44%

Technical Services —

Monitoring and Data Management

LRAPA's monitoring network consists of ten monitoring sites, including three meteorological sites. LRAPA's network samples for particulate matter, ozone, carbon monoxide, and hazardous air pollutants (added in 2002).

The agency's in-house laboratory analyzes samples collected from the monitoring network, and staff regularly calibrates all network equipment.



LRAPA monitoring site: one of four sites equipped to collect and log both pollution and meteorological data.

AirMetrics

AirMetrics is an LRAPA enterprise which manufactures an inexpensive, portable, battery-operated air sampler patented as the MiniVol. The sampler has been adapted to sample gaseous pollutants, such as carbon monoxide and nitrogen oxides, as well as particulates (PM_{10} and $PM_{2.5}$).

The MiniVol and related products are sold worldwide with nearly 50 percent of annual sales being international.

Sales for the '03-'04 fiscal year totaled $565,033, with a net profit to the agency of $31,094. Revenues generated by the enterprise are allocated to help defray capital costs.

Education and Outreach —

LRAPA understands that public education is an integral part of any program if lasting behavioral changes to reduce air pollution are to occur.

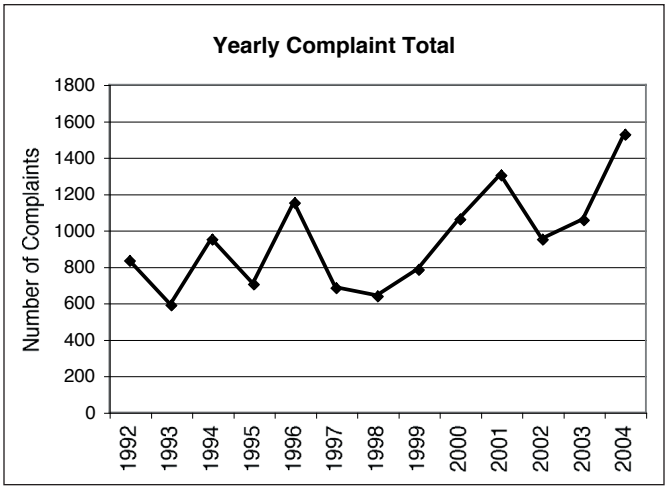
The agency provides education to the community in a number of different ways, including forming partnerships with local media and other private and public entities; providing written materials such as brochures and fact sheets; making presentations to service-clubs, professional associations and schools; participating in local fairs and trade shows; and sharing agency information on its website: www.lrapa.org.

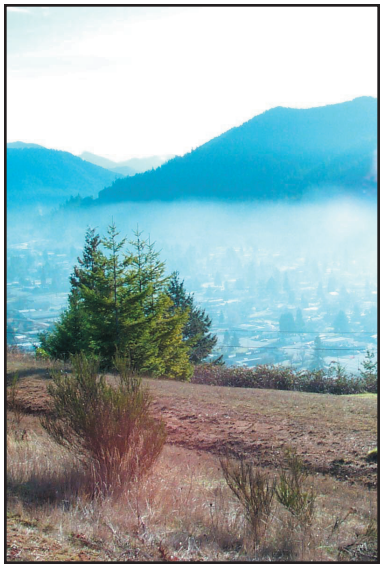
2004 education projects included:

- Fourth grade classroom presentation program - visited 77 classes, reaching nearly 1,925 students;
- Earth Day Celebration;
- Oakridge Health Fair;
- Eugene outdoor school program;
- Oakridge outdoor school program;
- Home Wood Heating season advisory program;
- Ozone Action Day advisory program;
- Direct mail program to new homeowners and homeowners with remodeling/demolition projects in Lane County, reaching more than 3400 households in 2004.

Complaints 1994 - 2004

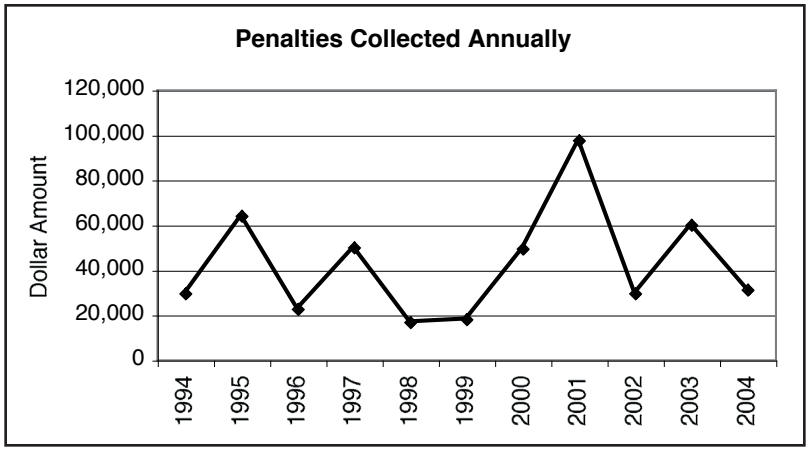
Year	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Backyard burning	88	50	85	77	71	104	91	98	122	104	94
Dust	8	17	18	19	30	17	17	27	25	15	17
Field burning	407	301	747	247	218	279	198	199	294	96	103
General air quality	3	5	3	4	7	11	4	4	4	6	2
Home wood heating	48	41	38	52	45	53	37	58	73	71	82
Industry	134	99	92	111	99	118	492	689	168	530	880
Miscellaneous	45	35	25	27	31	46	46	44	34	32	66
Open burning	74	77	89	91	98	91	91	103	142	90	163
Slash burning	64	29	16	16	13	9	35	18	23	9	8
Unknown	78	50	37	39	26	55	49	61	65	103	110
Total	949	704	1150	683	638	783	1060	1301	950	1056	1525





Enforcement Actions 1995 - 2004

Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Administrative warnings and Notices of non-compliance	47	89	75	57	91	118	102	129	103	52
Notices of violation w/ civil penalty	33	25	12	17	39	80	64	72	67	31
Total civil penalties collected $$	29,560	63,958	22,635	49,950	16,775	18,070	49,437	97,584	49,590	31,097



Field Burning Summary

The Department of Agriculture has jurisdiction over field burning in Oregon. However, because of local public interest, LRAPA summarizes field burning data in the southern Willamette Valley, including Benton, Linn and Lane counties. Oregon law allows up to 65,000 acres to be open-burned annually — 40,000 acres for normal applications and 25,000 acres for steep terrain and specially identified species, and an additional 37,500 acres of propane flaming. There has been no limitation on stack burning. The total acreage open burned in the southern Willamette Valley in 2004 was 33,830 acres. In addition, 253 acres were propane flamed, all in Linn County. There was no intrusion into the area.

Field Burning Year-end Totals

Year end	S. Willamette acres burned	Number of intrusions	Impact hours	Number of complaints
2004	33,830	0/Eug. 0/Spfld.	0/Eug. 0/Spfld.	103
2003	31,654	0/Eug. 0/Spfld.	0/Eug. 0/Spfld.	96
2002	35,483	0/Eug. 1/Spfld.	0/Eug. 1/Spfld.	294
2001	34,684	0/Eug. 0/Spfld.	0/Eug. 0/Spfld.	199
2000	33,930	0/Eug. 0/Spfld.	0/Eug. 0/Spfld.	198

Special Projects

In its continuing effort to address community concerns, LRAPA was involved with a number of special projects in 2004. Special projects may be conducted internally, or in support of planning or community development efforts by other local, state and federal agencies. These projects are conducted in addition to routine agency functions and often require the use of additional temporary staff.

- *Coburg monitoring site* - A full-service monitoring site, complete with meteorological equipment, was installed north of Coburg to gather base-line pollution data in anticipation of a proposed natural gas-fired power plant near the town. Data will be collected and analyzed for a minimum of one year to determine the impacts of such a facility on air quality. *(In progress)*

- *J.H. Baxter monitoring site* - Soaring neighborhood complaints about odors from the J.H. Baxter facility has resulted in a cooperative agreement with the facility to install a meteorological site on facility grounds to obtain weather data as it pertains to plant operations. The data is used to determine directional movement of odors associated with facility production. *(Completed)*

- *SHINE Report* - LRAPA partnered with the Oregon Department of Human Services to develop a health consultation to address community concerns about potential air contaminants in neighborhoods near the J.H. Baxter wood-processing facility. The completed consultation was inconclusive and recommended a comprehensive air-monitoring program for the localized area. *(Completed)*

- *J.H. Baxter neighborhood air sampling analysis* - Funding was secured to conduct and analyze 15-20 air samples downwind of the J.H. Baxter facility to characterize emissions from treating processes routinely conducted at the facility. This project is a cooperative agreement between the agency and the facility to determine chemical concentrations in ambient air in nearby neighborhoods. Monitoring will be conducted and analyzed over the next year. *(In progress)*

- *Oakridge automated advisory call system* - To better inform Oakridge residents of the daily home wood heating advisory and air quality conditions, LRAPA began providing residents with recorded phone messages during periods with wood heating restrictions over the four-month burn season. A follow-up survey reported that 14 percent of residents followed the advisories more closely, and 38 percent had a better knowledge of the local air quality as a result of the program. *(Completed)*

- *Everybody Wins project* - A partnership between LRAPA and the Oregon Department of Energy has provided funding to long-haul truck operators to purchase or lease auxiliary power units for their trucks, reducing the need to depend on their main engines during rest periods. Through the project, LRAPA will be able to track the reduction of diesel burned and air pollution emitted by trucks outfitted with the auxiliary engines. *(In progress)*

- *Clean School Bus USA* - Funding has been secured for a partnership with the Environmental Protection Agency, the Oregon Department of Environmental Quality and LRAPA in a statewide effort to reduce diesel emissions from school buses. The project provides funding for school districts to purchase school bus retrofit equipment that reduces diesel emissions. Schools will be selected and buses retrofitted during 2005. *(In progress)*

- *Ultra Low Sulfur Diesel Buy-Down project* - Another statewide partnership with the Or. Dept. of Environmental Quality, this project provides a $0.05 per-gallon subsidy toward the purchase of ultra low sulfur diesel. Private and public fleets can apply for the subsidy under this program. *(In progress)*

- *Lane Clean Diesel project* - This cooperative effort between a number of private and public partners is designed to secure bulk storage for ultra low sulfur diesel in Lane County and obtain fleet commitments for its use. The project is designated an Oregon Solutions project by Governor Ted Kulongoski, bringing communities together to solve environmental problems. *(In progress)*

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