

Facts and Figures About Ohio's Environment

The Ohio Comparative Risk Project published Ohio's first State of the Environment Report in December 1995. The 508-page document presents data about current environmental conditions in the state, trends in environmental quality, and existing information about human health, ecosystem, and quality-of-life effects from exposure to environmental problems. One purpose of the report is to detail information about how volunteers in the project ranked 45 potential environmental threats in the state.

Although the State of the Environment Report is available in libraries around the state, financial constraints dictate that additional copying and mailing costs be paid by those requesting reports. In addition, since the report is comprehensive, its length may deter those who have limited time for reading. This guide of facts and figures from the report was developed with these limitations in mind.

The intent of this guide is to distill important and interesting information discussed in greater detail in the State of the Environment Report. Our goal is to stimulate citizen interest and involvement in managing Ohio's environment. This document is not intended to replace the full report, but it can serve as a basis for discussing strategies to reduce environmental risks with citizens.

Table of Contents

[Ranking environmental risk in Ohio](#)

[Outdoor air quality](#)

[Indoor air quality](#)

[Surface and ground water quality](#)

[Drinking water at the tap](#)

[Food safety](#)

[Waste management](#)

[Land use and development](#)

[Habitat loss and degradation](#)

[Natural resource use](#)

[Public views about Ohio's environment](#)

[Environmental awareness and access to information](#)

[Environmental management](#)

[Other Ohio comparative risk efforts](#)

[What next?](#)

Ranking Environmental Risk in Ohio

Comparative risk is a planning process which combines values important to the public with scientific and technical information to rank environmental risks. It is an effort to take a holistic look at environmental conditions and compare threats to the environment based on both science and values. The process is based on the fact that there are limited available resources to protect and enhance the environment, so priorities must be set. In comparative risk, priority- setting is a cooperative effort involving citizens, technical experts, and

decisionmakers.

The Ohio Comparative Risk Project began in March 1994 and continues today. One product of the first phase of the project, which ended in December 1995, is a ranking of 45 potential threats to health, ecosystems, and quality of life in Ohio. The ranking was completed by a group of volunteers who spent more than 18 months reviewing technical information and gathering public views to produce a ranked list of issues that integrates health, ecosystem, and quality of life factors.

On the following pages you will find information about how volunteers in the Ohio Comparative Risk Project ranked potential threats in Ohio. It is important to keep in mind that the ranking reflects how these volunteers evaluated hundreds of pages of technical information, and comments and concerns of thousands of Ohio citizens. A detailed explanation of the risk ranking is available from the Comparative Risk Project Office at Ohio EPA.

Outdoor Air Quality

Outdoor air quality in Ohio has improved since 1970. In particular, progress has been made in reducing emissions of several pollutants identified in the Clean Air Act, including lead, carbon monoxide, nitrogen dioxide, sulfur dioxide, particulate matter and ozone. In addition, emissions of some of the more toxic air pollutants have decreased during the past 20 years. Pollutants are transmitted into the air from a variety of sources including automobiles, industrial and commercial facilities, utilities, and residences.

How the Comparative Risk Project Categorized Potential Threats

to Outdoor Air Quality in Ohio

Mobile source emissions, ozone-depleting substances	Greater risk
Combustion by-products, pesticide spraying, stationary sources (industrial and commercial facilities, utilities)	
Fugitive dust	Lesser risk

Mobile Source Emissions

- In 1990, an estimated 43 percent of all air pollution could be traced to mobile sources such as automobiles, buses, and trucks.
- More than 10,700,000 motor vehicles are registered for use in Ohio.
- Two percent of Ohioans use public transportation to get to work.
- In 1977, the average length of an Ohioan's trip to work was 9.3 miles; in 1990, the average length of the trip to work was 10.9 miles.
- Pollutants associated with mobile sources include carbon monoxide, ozone, nitrogen dioxide and benzene.

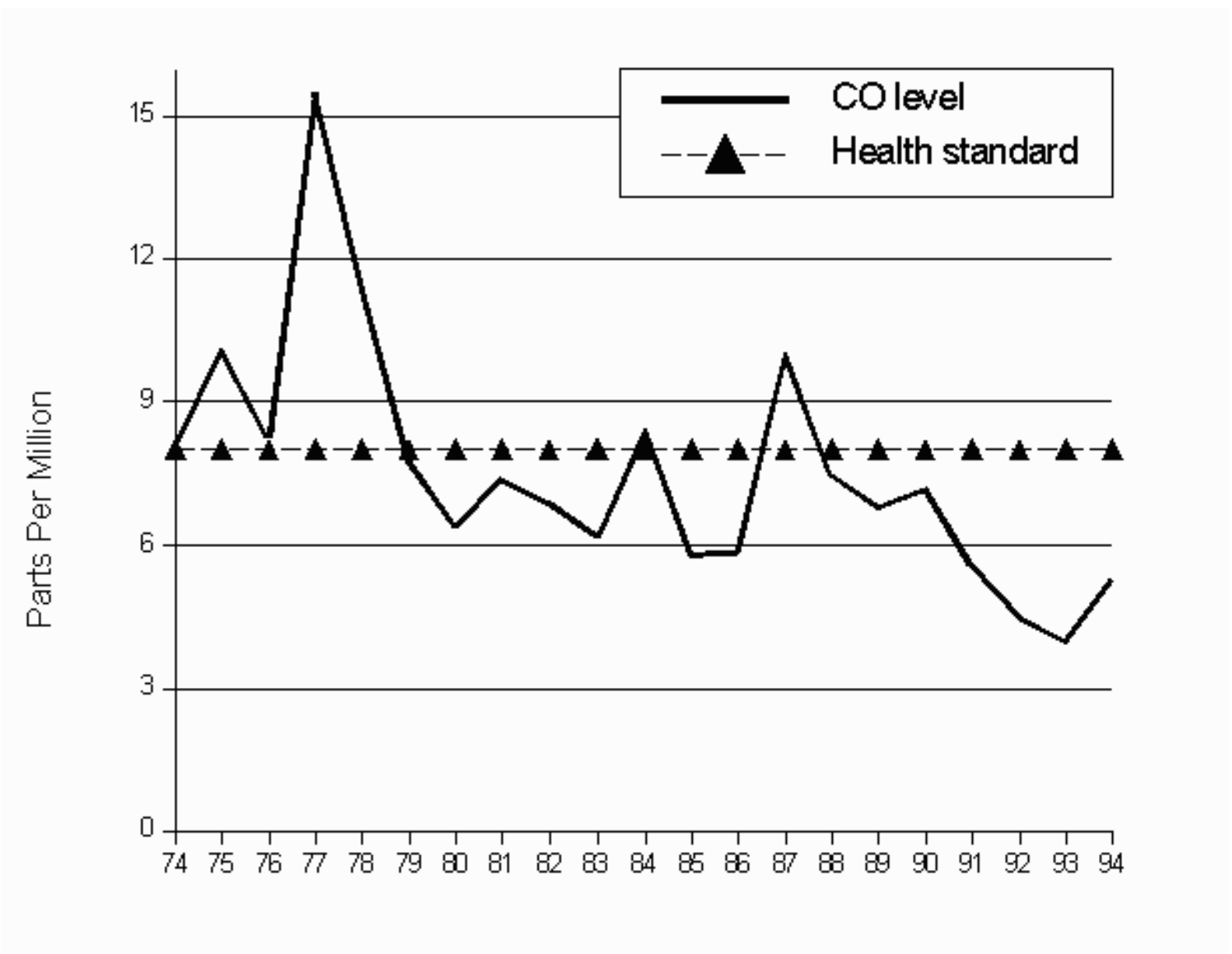
How Ohio Ranks Relative to Mobile Sources	
	National Rank
Public road and street mileage	9
Vehicle miles of travel in 1992	5

Licensed drivers in 1993	5
Licensed drivers per 1,000 driving age population in 1992	1
Motor vehicle registrations in 1992	5
Per capita motor vehicle registrations in 1992	16
Average miles per gallon in 1992	18

(Source: Kathleen O'Leary Morgan, Scott Morgan and Neal Quitno, *Ohio in Perspective*, 1994. Lawrence, Kansas: Morgan Quitno Corp.)

Carbon Monoxide

- Carbon monoxide is an odorless, colorless, tasteless gas.
- An estimated 53 percent of carbon monoxide comes from automobiles.
- Acute exposure to high levels of carbon monoxide can result in serious health effects and sometimes death.

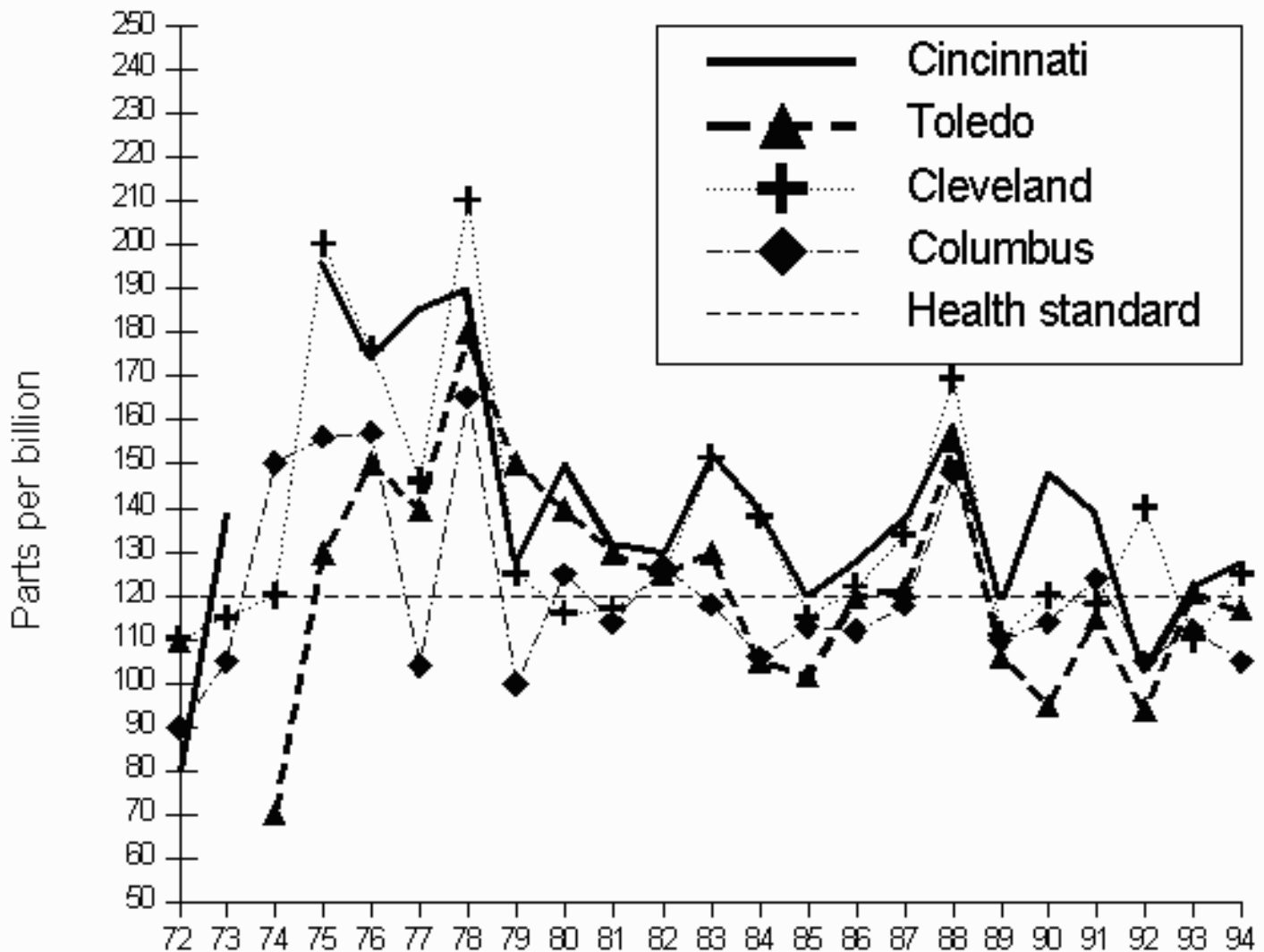


Carbon Monoxide Levels in Ohio (Line represents the average of the second highest reading in Columbus, Toledo, Canton and Dayton)

One part per million is the same as saying one molecule of pollutant in one million molecules of air, or one drop of water in one million drops of water.

Ozone

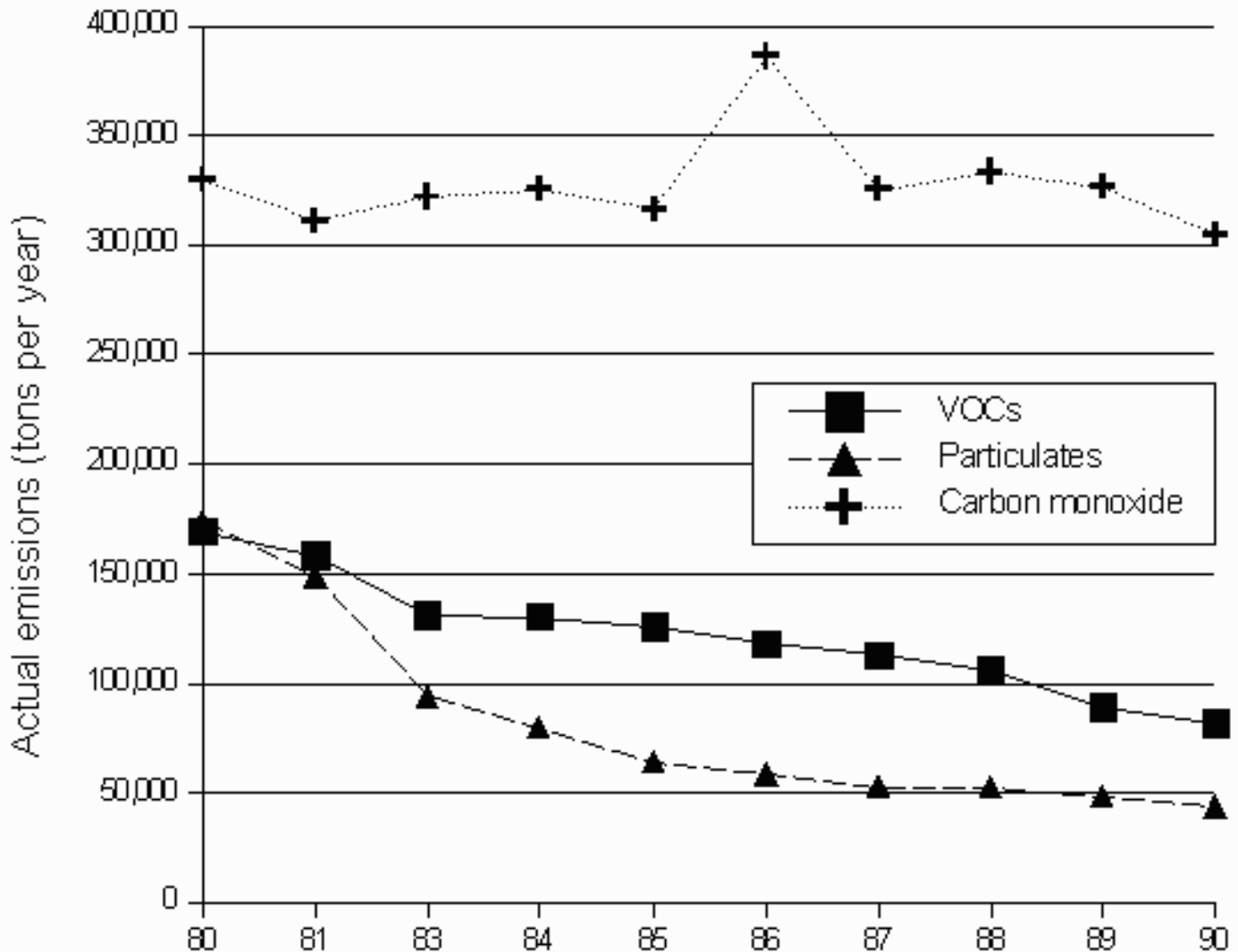
- Ozone that occurs naturally in the upper atmosphere offers protection from ultraviolet rays; ground-level ozone forms through a photochemical reaction of several pollutants and is a key component of smog.
- The President's Council on Environmental Quality identifies ozone as "the most pervasive air quality problem" in the country.
- Individuals with respiratory conditions, such as asthma, are at greatest risk when ozone levels are high.



Second Highest Hourly Ozone Measurement in Four Cities in Ohio

Stationary Source Emissions

- Stationary sources of air pollution include utilities, industrial and commercial facilities, and residential emissions.
- In 1990, Ohio EPA's Division of Air Pollution Control had records of 5,696 stationary sources of pollution at 1,489 facilities.
- In 1991, Ohio ranked third in the nation for the amount of energy we consume.



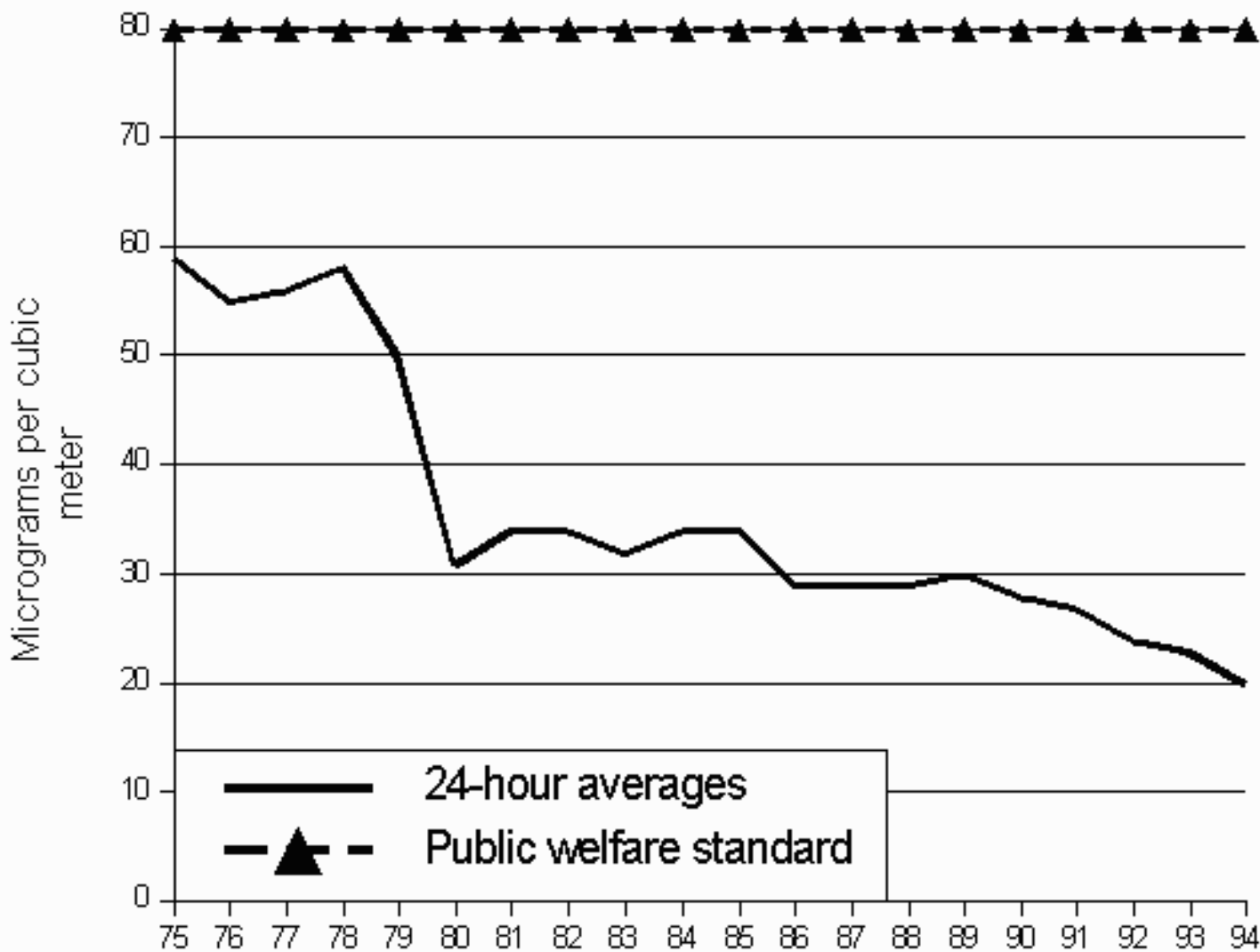
Trends in Emissions of Volatile Organic Compounds, Particulates and Carbon Monoxide from Stationary Sources in Ohio

Volatile organic compounds (VOCs) are a class of compounds that contain carbon and contribute to the formation of smog.

Particulates are small particles that can be either liquid or solid. Examples of particulate matter are asbestos, tobacco smoke, dust, and ash.

Sulfur Dioxide

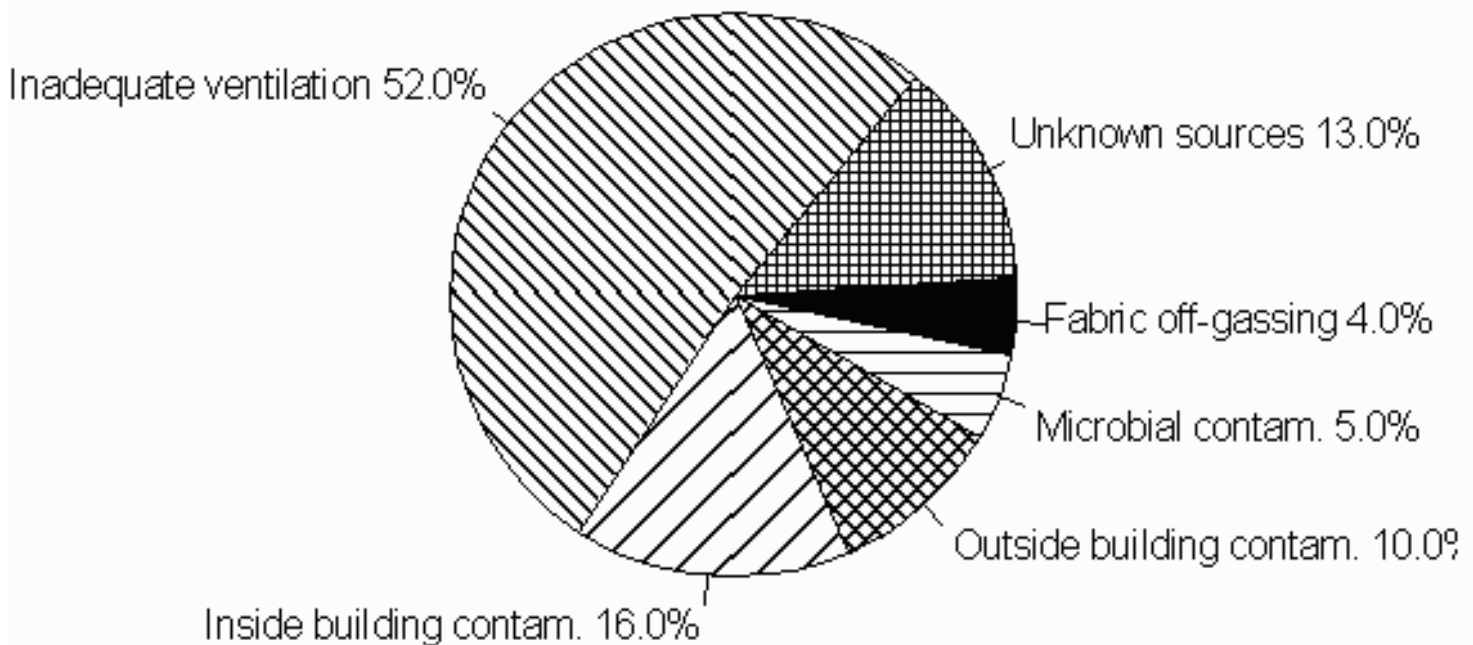
- Sulfur dioxide is a colorless gas that can be tasted and smelled at low levels; at higher levels, it has a pungent odor.
- Sulfur dioxide has been shown to hinder plant growth in some species.
- Coal-burning power plants are major contributors of sulfur dioxide.
- Sulfur dioxide is the primary contributor to acid rain.



Average Annual Concentrations of Sulfur Dioxide in Ohio

Indoor Air Quality

The quality of indoor air is affected by radon, tobacco smoke, asbestos, natural and artificial building materials, poor ventilation, and biological substances. The adverse health effects of exposure to indoor air contaminants range from cancer to asthma to less serious symptoms such as headaches and nausea. The Ohio Comparative Risk Project categorized threats to indoor air quality among the most serious risks to Ohioans.



Primary Sources of Indoor Air Quality Problems (Source: NIOSH 1991)

- According to the National Institute of Occupational Safety and Health (NIOSH), **ventilation** is a major factor in poor indoor air quality, and may contribute to about 60 percent of the indoor air quality problems.
- U.S. EPA has classified **asbestos** as a known carcinogen leading to removal of the substance from some public buildings, although some scientists now believe it is safer to leave asbestos in place rather than disturb it by removal operations.
- **Bioaerosols**, including insects, algae, bacteria, fungi, and viruses can lead to allergic reactions in some individuals.
- An increasing body of scientific evidence suggests that **environmental tobacco smoke**, or "secondhand" smoke, leads to measurable increases in the rates of lung cancer in non-smokers.
- Indoor **formaldehyde** comes from wood-burning stoves, insulation materials, and tobacco smoke; U.S. EPA has classified formaldehyde as a probable human carcinogen.
- Gas and oil home heating and water heating sources contribute to indoor levels of **carbon monoxide**.
- The greatest source of **lead** in homes is from lead paint; about six percent of Ohio's children under age

six have elevated blood lead levels. According to the Ohio Department of Health, the children living in Lucas, Cuyahoga, Mahoning, and Hamilton counties are at greater risk from lead poisoning, mainly due to the age of the housing units in these counties.

- **Radon** is an odorless, colorless gas that is naturally occurring; individuals are exposed to radon as it seeps into homes through cracks in the foundations. U.S. EPA estimates that radon may lead to more cancer deaths than any other indoor air pollutant, although the actual risks from radon are still being debated. According to a 1993 study, 33 of Ohio's 88 counties have radon levels that may endanger human health.

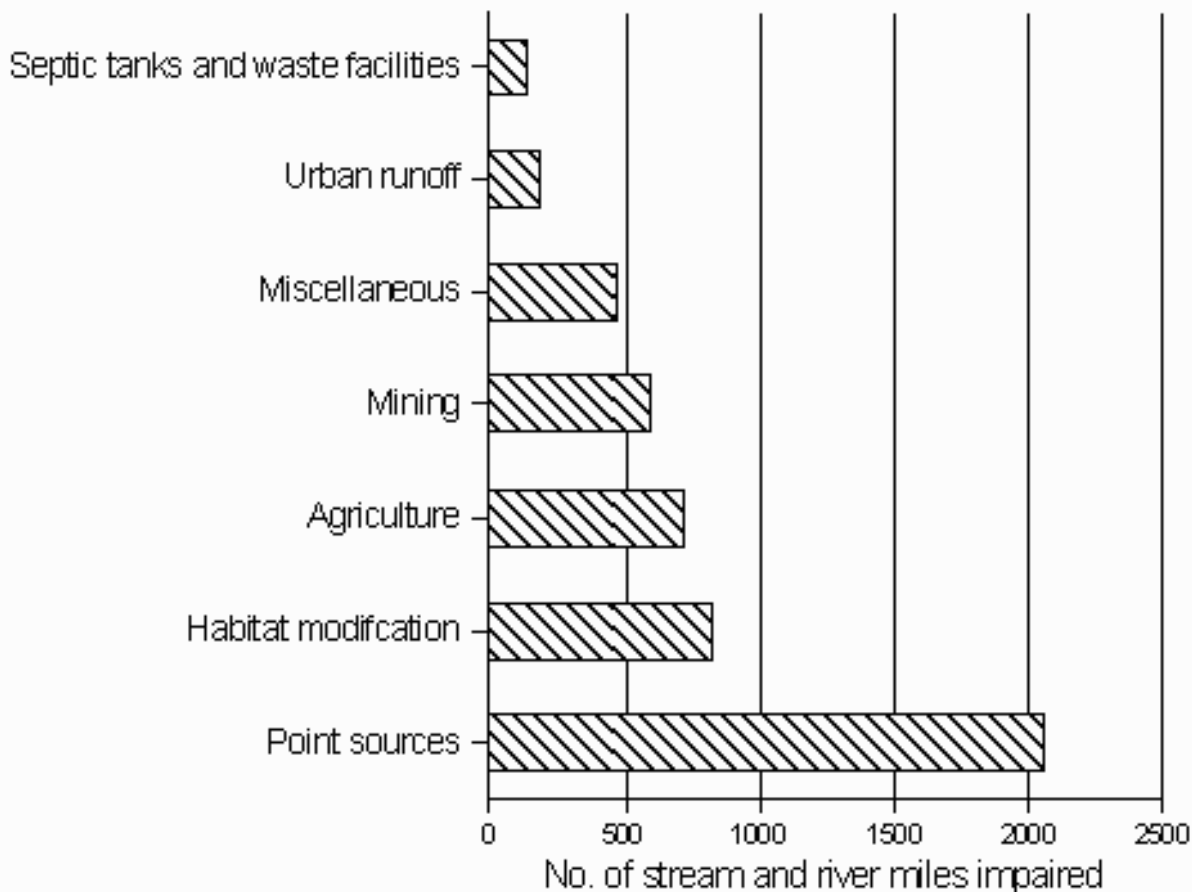
Surface and Ground Water Quality

Potential threats to Ohio's surface and ground waters include abandoned or improperly maintained wells, spills and accidental releases, underground storage tanks, wastewater discharges, and nonpoint sources. Nonpoint source pollution includes contaminants that run off or seep from broad land areas as a direct result of the way in which we use the land. Among the contaminants associated with nonpoint sources are: pesticides and fertilizers, sediment, runoff from roadways, septic tank seepage, runoff from construction practices, and gasoline. As impacts from point sources of pollution continue to decline in Ohio, nonpoint pollution is emerging as an important pollution source.

How the Ohio Comparative Risk Project Categorized Potential Threats to Surface and Ground Water Quality

Inadequate infrastructure, industrial and commercial wastewater discharges	Greater risks
Nonpoint source/agricultural runoff	
Abandoned water wells, underground storage tanks	
Stormwater runoff from non-agricultural areas	
Municipal wastewater discharges, spills and accidental releases	Lesser risks

- From 1983 to 1993, the Ohio Environmental Protection Agency received reports of 50,759 **spills**. The most common type of spill involved petroleum products.
- **Inadequate wastewater infrastructure** can result in combined sewer overflows which can seriously impact aquatic communities; there are an estimated 2,000 locations of combined sewer overflows in Ohio.
- **Point sources** of water pollution include industrial and commercial dischargers and municipal sewage treatment plants.
- There are between 75,000 and 80,000 **underground storage tanks** in Ohio; approximately 50 percent of all registered tanks are in 11 metropolitan counties.



Major Source of Water Quality Impairment in Ohio's Surface Waters
 (Source: Ohio EPA, Division of Surface Water)

Drinking Water at the Tap

- The incidence of water-related diseases, such as cholera and typhoid fever, have been almost eliminated from the United States.
- There are 1,600 community public water systems in Ohio and approximately 75 percent of these rely on ground water for all or a portion of their supply; overall, approximately 40 percent of Ohioans receive their drinking water from ground water sources.
- As of 1994, Ohio had 292 community public drinking water systems that use surface water sources; these systems serve more than 6,000,000 people.
- According to the President's Council on Environmental Quality, the major cause of drinking water contamination from 1991 to 1992 was **inadequate treatment**, particularly from private water systems such as household wells.
- **Lead** can get into drinking water at the tap through lead pipes and lead solder used in plumbing fixtures; individuals living in homes constructed prior to 1988 and retaining lead water feed lines are at increased risk.
- In treating drinking water with chlorine, some by- products including trihalomethanes are formed. The

health effects of these **disinfection by-products** are currently being debated. Some scientists express concern about the use of chlorine in drinking water, while others are concerned about the alternative of inadequately treated water if chlorine is phased out.

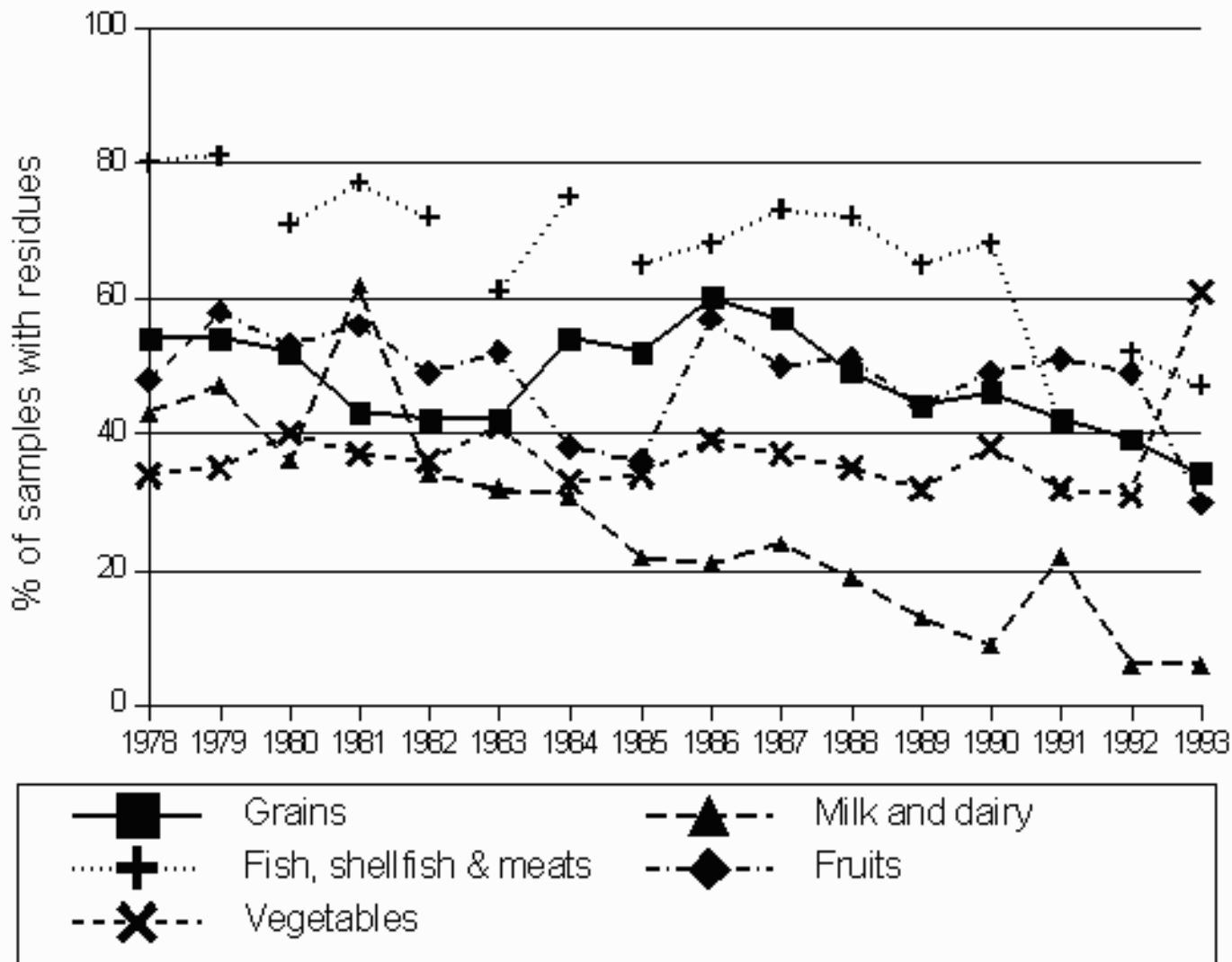
- The Ohio Comparative Risk Project categorized potential threats from drinking water at the tap among the most serious risks to Ohioans.
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Food Safety

- The U.S. Food and Drug Administration estimates that food-borne illnesses can affect between 6.5 million and 33 million Americans every year; most cases of illness are never reported because symptoms mirror more common illnesses.
 - **Natural toxins** in food include microorganisms such as bacteria and fungi, and poisonous chemicals that occur naturally in food.
 - **Salmonella** is a bacteria found in animals; the Center for Disease Control estimates that 75 percent of salmonellosis are associated with raw or inadequately cooked eggs.
 - Undercooked or raw ground beef is the most common source of exposure to the **E. coli** bacteria.
 - The FDA reports that **campylobacter** is the leading cause of bacterial diarrhea in the U.S.; people are mainly exposed to this bacteria through improperly-cooked poultry.
 - **Aflatoxins** result from fungi that may grow on food under specific temperature and moisture conditions; grains and peanuts are the most common sources of these natural food toxins.
 - Both the Food and Drug Administration and the Center for Disease Control indicate that the most common food-borne illnesses are those associated with microbes or bacteria.
 - The Ohio Comparative Risk Project categorized natural food toxins and pesticide residues on food as presenting similar risks to Ohioans.
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Pesticides

- Pesticide is an umbrella term used to refer to a variety of specific control chemicals including herbicides, insecticides, rodenticides, and fungicides.
- In 1993, the U.S. Food and Drug Administration found no detectable levels of pesticides in 64 percent of the 5,703 domestic food products they sampled.
- Fish, shellfish, and meat samples have the highest percentage of pesticide residues of the food products that the FDA sampled.



Percent of FDA Samples of Selected Food Sources with Detectable Pesticides Residues, 1978-1993

Waste Management

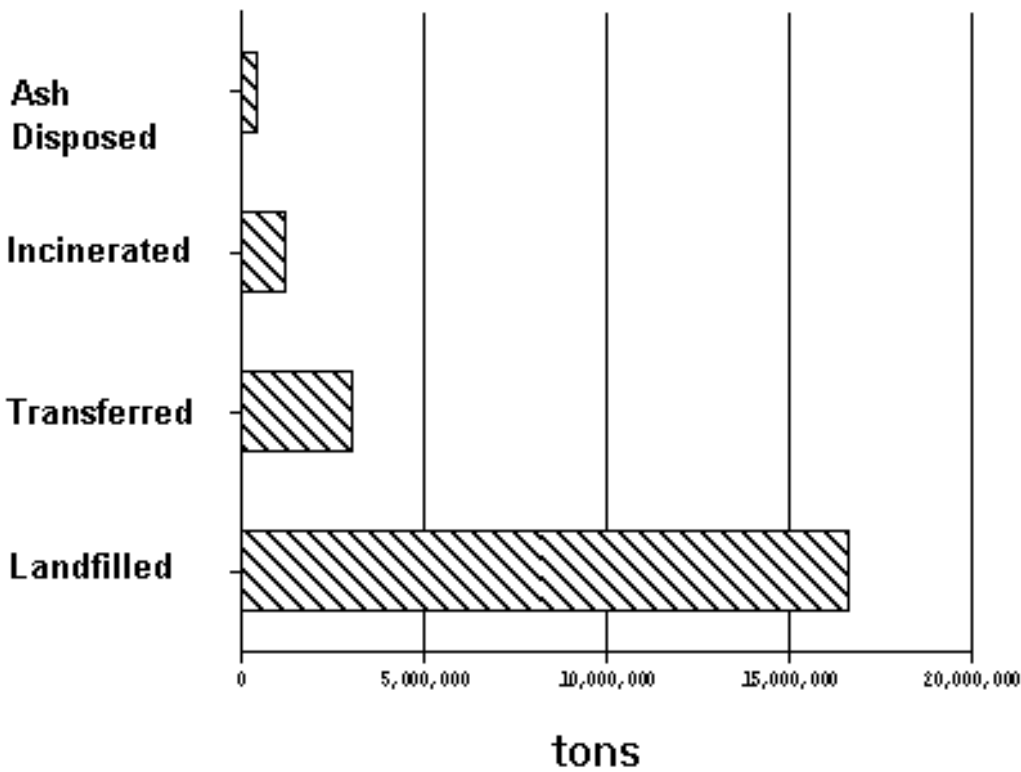
- Potential threats from waste management activities in Ohio include threats from **unregulated or abandoned hazardous waste facilities, municipal waste disposal facilities, transportation of waste, and litter.**
- The potential threat from managing **low-level radioactive waste** is an emerging issue in Ohio, and there are currently 57 sites in the state that are storing this type of waste. This issue was not evaluated by the Ohio Comparative Risk Project at this time.
- In 1992, 7,304,197 cars, with about 29 million **tires** were registered in Ohio; only four other states had more registered vehicles.

How the Ohio Comparative Risk Project Categorized Potential Threats from Waste Management

Municipal waste disposal facilities, unregulated/abandoned hazardous waste facilities	Greater risk
Regulated hazardous waste facilities	
Tire management	
Disposal capacity, litter	
Construction and demolition debris, illegal dumping, sludge disposal, transportation of waste	
Yard waste	Lesser risk

Solid Waste

- Solid waste is discarded materials from industrial, commercial, agricultural and community operations. It does not include construction and demolition debris, infectious waste, and hazardous waste.
- As of December 1994, there were 69 operating landfills, 6 operating incinerators, and 52 operating solid waste transfer stations in Ohio.
- In a 1995 report, the Division of Solid and Infectious Waste Management at Ohio EPA estimates that there is 8.8 to 11.7 years of publicly- available **disposal capacity** remaining in the state.



Management Methods for Solid Waste in 1994
 (Source: Ohio EPA 1995)

Hazardous Waste

A hazardous waste facility is considered "unregulated" if waste was managed at the site prior to the enactment of federal law in 1976. There are currently 1,190 known unregulated sites in Ohio; 35 of these are on the National Priority List commonly referred to as Superfund.

Land Use and Development

How Ohio Ranks Relative to Land Use	
	National Rank
Land area in square miles, 1990	35
Percent land in urban areas, 1990	9
Percent land in rural areas, 1990	42
Percent land owned by federal government, 1991	44
Percent of wetlands lost, 1780s - 1980s	2
Acres in farms, 1993	22
Average number of acres per farm, 1993	37

(Source: Kathleen O'Leary Morgan, Scott Morgan and Neal Quitno, *Ohio in Perspective*, 1994. Lawrence, Kansas: Morgan Quitno Corp.)

- From 1984 to 1994, usage of Ohio's state parks increased 43 percent; there are 46 states that have more recreation land per 1000 people than Ohio.
- In 1900, 47.8 percent of Ohio was pasture land; in 1985, pasture constituted 10.5 percent.
- Almost 75 percent of Ohio's population lives in the urban areas of the state.
- In 1940, there were 240,000 farms in Ohio; in 1993, there were 76,000 farms.

How the Ohio Comparative Risk Project Categorized Potential Threats from Land Use and Development Issues

Abandoned industrial sites	Greater risk
Population change, uncontrolled development	
Floods	Lesser risk

Abandoned Industrial Sites

- Unused or abandoned industrial sites are also known as "brownfields."
- There is no way of knowing exactly how many of these sites exist in Ohio. Ohio EPA is using its Master Sites List of unregulated hazardous waste sites as a starting point for identifying potential brownfields sites.
- One of the major concerns with brownfields is that the difficulty in redeveloping these sites makes developing open land more desirable and could lead to habitat loss.
- A new program being coordinated by Ohio EPA will make redevelopment of brownfields sites

more practical.

Uncontrolled Development

- Uncontrolled development occurs when land use changes without a vision of the future of the area. Development controls include planning and zoning ordinances and activities on the local level.
 - Impacts of uncontrolled development include traffic congestion, habitat loss and fragmentation, and loss of wildlife species.
-

Population Change

- From 1970 to 1990, Ohio's population increased 1.8 percent.
 - From 1970 to 1990, more people moved out of Ohio than moved in; the average migration rate was -5.75 percent.
 - Although population growth has slowed in the state in recent years, the number of households continues to increase due to changes in household composition (smaller families and fewer people per household).
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Habitat Loss and Degradation

- Only about 10 percent of Ohio's estimated original seven million acres of **wetlands** still exist; the remaining wetlands are concentrated in the northern one-third of the state.
- **Filling and draining of wetlands** directly affect ecosystems by depleting habitat, reducing wildlife and species diversity, and increasing potential for floods.
- **Channelization** of streams and rivers is found statewide, but the northwestern part of the state is most severely affected by this habitat altering technique.
- There are more than 60,000 dams in Ohio; there can be both positive and negative effects from **construction of dams**. Habitat loss during construction occurs, however habitat creation after construction is possible if wetlands develop adjacent to the dam.

How the Ohio Comparative Risk Project Categorizes Potential Threats to Habitat

Filling/diking/draining wetlands, loss of species diversity, loss of wildlife habitat	Greater risk
Channelization of streams and rivers	
Construction of dams	Lesser risk

- In 1940, 3.2 million acres of Ohio were forested, in 1991 7.86 million acres of forestland were identified in the state.
 - Although total forestland in Ohio has increased since the 1950s, the type of forests have changed, leading to different types of habitat.
-

What About Wildlife?

- By 1979, the Ohio population of **bald eagles** had dropped to a low of four breeding pairs. Since the early 1980s, the population has slowly been increasing to 26 breeding pairs in 1994.
- According to the roadkill survey, the most dramatic increase in wildlife populations has been in **raccoons** since 1987.
- **Beaver**, absent from Ohio for 100 years, now occupy two- thirds of the state with populations reaching up to 14,000 animals.
- Extensive loss of forest coupled with unregulated hunting led to the extirpation of **wild turkeys** from Ohio in 1904. From 1956 to 1963, wild turkey were transplanted in Ohio; in spring of 1994, Ohio's wild turkey population was estimated at 95,000 birds occupying 60 of Ohio's 88 counties.
- In January 1994, a record number of **waterfowl** were counted, however some of the increase is due to species such as Canada geese, which are considered "nuisance" birds by some.
- Long-term trend analysis by the Division of Wildlife at ODNR indicates significant population declines in Ohio for many grassland birds including the **upland sandpiper, bobolink, eastern meadowlark, vesper sparrow, grasshopper sparrow, and dickissel**.
- Increases in bird populations, such as the **mourning dove**, are associated with more intense land uses, such as suburban or urban land.

Natural Resource Use

Top 10 Outdoor Recreation Activities in Ohio (1990 ODNR Survey)	% of households
Walking for pleasure	64.9
Picnicking	59.2
Gardening	55.7
Fishing from shore/wading	54.0
Beach Activities	52.1
Wildlife/nature observation	48.9
Fishing from boat	41.8
Gathering	40.1
Outdoor pool swimming	39.5
Power boating	35.7

- Since 1960, only extraction of coal has decreased in Ohio; extraction of limestone, sand and gravel, oil, and natural gas have increased.
- Ohio has 64,473 active **oil and gas wells**; in 1994, these wells produced more than 8.75 million barrels of oil and nearly 130 billion cubic feet of natural gas.
- Abandoned mines from **mining activities** that occurred in Ohio prior to enactment of the Surface Mining and Control Reclamation Act of 1977 affect ecosystems through erosion, acid mine drainage, siltation and sedimentation, and habitat isolation.

How the Ohio Comparative Risk Project Categories Potential Threats

from Natural Resource Use

Mining activities (mainly from abandoned mines)	Greater risk
Oil and gas exploration	
Harvesting natural resources, recreation	Lesser risk

Public Views About Ohio's Environment

- From March 1994 to December 1995, more than **20,000 Ohio citizens** offered their perceptions and beliefs about Ohio's environment in public opinion polls, facilitated discussions, and a statewide random telephone survey.
- The **Ohio Alliance for the Environment** and the **Ohio Farm Bureau** coordinated a total of 582 facilitated sessions with more the 6,000 participants.
- **Outdoor air quality** and **solid waste** management are generally considered more important by the public than by Ohio environmental professionals.
- **Indoor air quality** is generally considered more important by health professionals than by the public.
- Both environmental professionals and the public consider **surface and ground water quality** important.
- **Habitat loss and degradation** are generally considered to be more important risks by environmental professionals than by the public.
- Environmental professionals are generally more concerned about **ecosystem** effects, and the public is more concerned about **human health** effects from potential environmental threats.
- Quality-of-life polling suggests that Ohioans are overwhelmingly concerned about how environmental issues will affect **future generations**. As the table below shows, the results of a statewide telephone survey of 900 residents suggest that Ohioans are more concerned about how environmental problems affect their health and quality of life than Ohio's ecosystems.

"In your opinion, which of the following is a higher priority":	
STATEMENT	PERCENT RESPONSE
Dealing with environmental problems that affect people's health	82%
OR	
Dealing with environmental problems that harm plants, animals and their habitats	11%
Dealing with environmental problems that harm plants, animals and their habitats	27%
OR	
Dealing with environmental problems that harm people's quality of life	66%
Dealing with environmental problems that threaten people's health	82%
OR	
Dealing with environmental problems that harm people's quality of life	13%

- In the same telephone survey, 67 percent of the respondents indicated they feel that **environmental protection and economic development can go hand in hand**; 14 percent favor environmental protection over economic development and 13 percent favor economic development over environmental protection.
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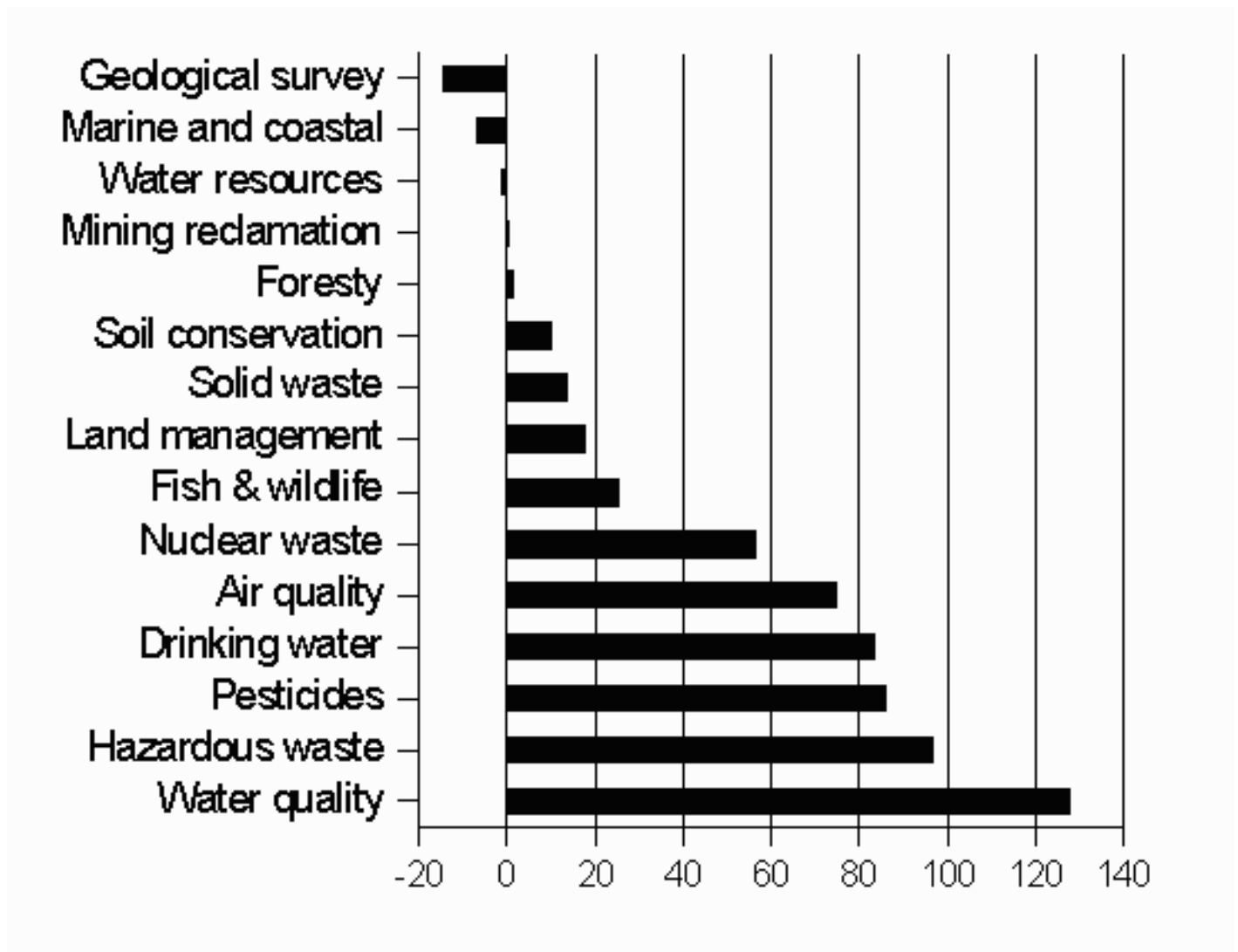
Environmental Awareness and Access to Information

- **Ohio Department of Natural Resources** coordinates many educational activities including Project Learning Tree, Project Wet, and Project WILD. ODNR, Public Information Center, 1952 Belcher Drive C- 1, Columbus, OH 43224.
 - **Ohio Department of Education** has a staff member engaged in improving environmental education programs in Ohio's secondary and elementary schools. Professional Development Works Cluster, Ohio Departments Building-- Room 1005, 65 South Front Street, Columbus, OH 43266- 0308.
 - **The Environmental Education Council of Ohio** is a statewide professional organization dedicated to promoting environmental education. Environmental Education Council of Ohio, 397 West Myrtle Ave., Newark, OH 43055.
 - **The Ohio Environmental Education Fund** is funded through civil penalties collected by Ohio EPA; the funds support a variety of environmental education projects by issuing grants to several audiences, including pre-school, elementary, secondary, the general public, and the regulated community. OEEF, 1600 WaterMark Drive, Columbus, OH 43216.
 - **The Public Interest Center at Ohio EPA** houses many publications and coordinates information sessions with Ohio citizens. Ohio EPA, Public Interest Center, 1800 WaterMark Drive, Columbus, OH 43216.
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Environmental Management

Costs

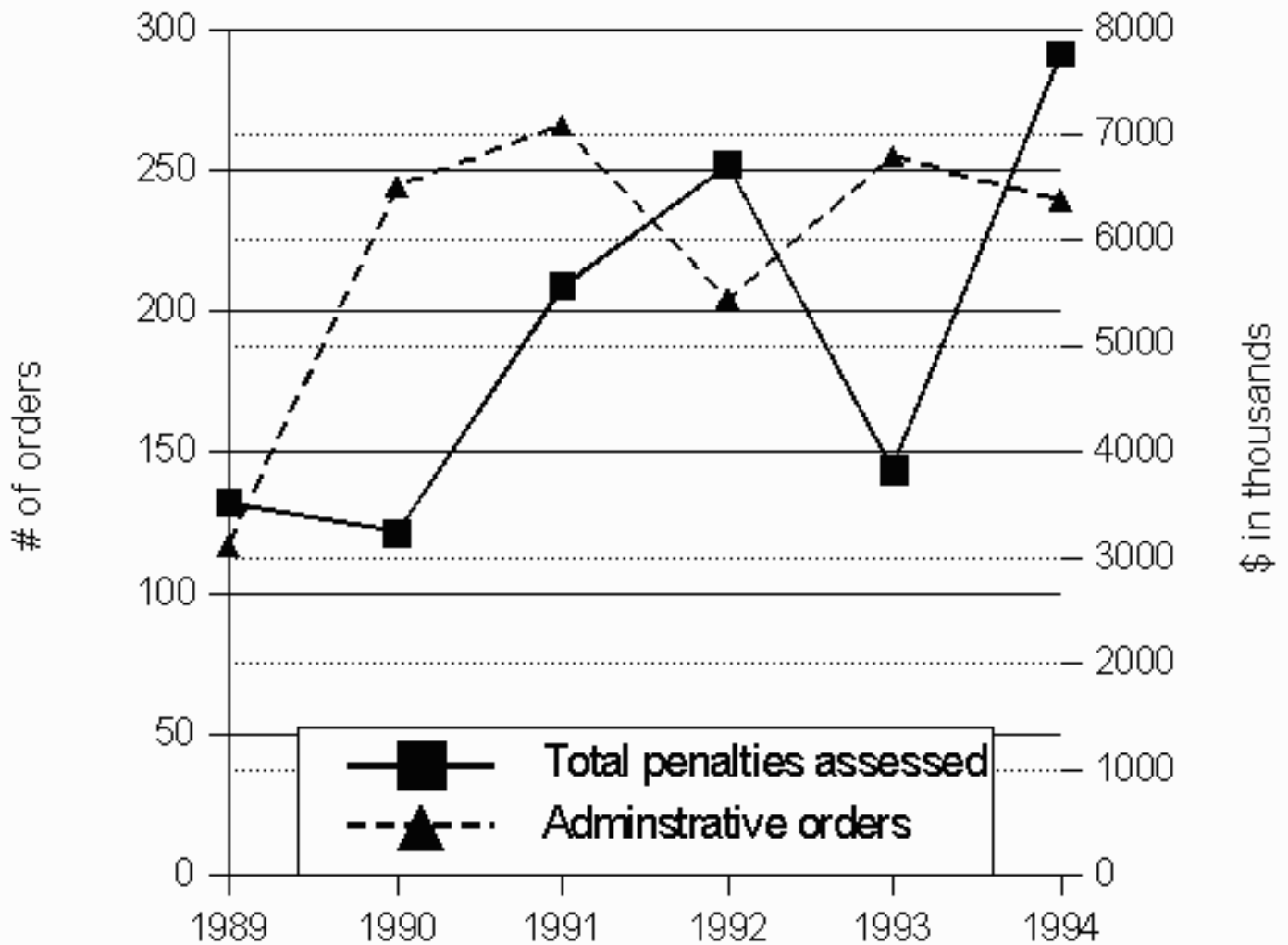
- According to U.S. EPA, approximately 60 percent of the funding for pollution control comes from private sources.
- According to Ohio EPA's Office of Fiscal Administration, there was an 80 percent increase in environmental spending in Ohio from 1991 to 1994.
- Environmental spending in all state agencies accounted for 1.83 percent of the total state budget for Ohio in 1994.



Percent Change in Ohio's Environmental Expenditures from 1991 to 1994

Environmental Enforcement

- Thirteen state agencies are responsible for environmental protection in Ohio; Ohio EPA is the main agency responsible for environmental enforcement.
- Enforcement activity can be tracked using both administrative orders issued by Ohio EPA and penalties assessed by the agency against entities that are not complying with current environmental laws.



Comparison of Administrative Orders Issued by Ohio EPA and Total Penalties Assessed

Other Comparative Risk Efforts

The State of the Environment Report presents excerpts from the efforts of five local efforts and one public outreach project. For more information on any of these efforts, please contact the Ohio Comparative Risk Project Office or the offices listed below.

○ Outreach Strategy for Equity in Environmental Issues (OSEEI)

OSEEI was designed to incorporate environmental justice concerns into the state Comparative Risk Project. Among the many findings of this effort is that Ohio's African Americans are concerned that the media and regulators have downplayed the disparity of environmental inequities in African American communities.

Contact: Deblar and Associates, 1460 Commonwealth Drive, Akron, Ohio 44313-5714.

○ Environmental Priorities--Athens County

After reviewing the results of a public survey and scientific/technical reports on the state of the

environment in Athens County, citizens ranked ground water quality as their number one concern, followed by acid mine drainage and environmental justice issues.

Contact: Institute for Local Government Administration and Rural Development, Technology and Enterprise Building 143, Athens, Ohio 45701-2979.

- **Ohio Alliance for the Environment**

With financial assistance from the Ohio Environmental Education Fund, the Ohio Alliance for the Environment coordinated almost 100 facilitated discussions of environmental issues around the state. The Alliance will remain involved during the second phase of the project.

Contact: Ohio Alliance for the Environment, 445 King Avenue, Columbus, Ohio 43201.

- **Clinton County Comparative Risk Project**

The Clinton County Regional Planning Commission coordinated this local effort. Environmental stewardship was ranked as the number one concern followed by land use and preservation, water quality and air quality.

Contact: Clinton County Regional Planning Commission, 69 North Street, Suite 100, Wilmington, Ohio 45177.

- **Priorities '95--City of Columbus**

Participants in the Columbus effort ranked environmental issues in three categories of human health, ecological health, and quality of life; the project did not produce and integrated ranked list. Priorities '95 recently completed the second phase of their project and presented a listing of 192 risk reduction recommendations to the mayor.

Contact: Priorities '95, Columbus Department of Health, 181 Washington Blvd., Columbus, Ohio 43215.

- **Regional Environmental Priorities Project (REPP)**

Coordinated by Case Western Reserve University, REPP followed similar methods of other comparative risk efforts, but took a regional approach incorporating concerns in Lake, Lorain, Summit, and Cuyahoga counties in northeastern Ohio. Outmigration from the urban core and associated land use issues emerged as the greatest concern in this area. REPP is entering its second phase in which it will generate potential solutions to the most serious environmental issues in the area.

Contact: Center for the Environment, Case Western Reserve University, 10900 Euclid Avenue, Cleveland, Ohio 44106-4975.

What Next?

In 1996, the second phase of the Comparative Risk Project will be completed with the publication of two sets of recommendations to reduce risk. One document will summarize recommendations for public managers and the other will focus on individual actions. Four task forces are evaluating strategies to reduce risks in the broad categories of waste, land, air and water. The strategies are based on the information gathered in Phase 1 and answers to the following questions:

- Is the strategy and its risk reduction benefit sustainable over the long-term considering technical,

economic and natural resources?

- Is there current regulatory authority to implement the strategy?
- Is there current statutory authority to implement the strategy?
- Would the strategy conflict with existing law?
- What available resources are needed to implement the strategy?
- How cost-effective is the strategy in reducing risks?
- What are the secondary or indirect costs and/or benefits of the strategy?
- Will the public support the strategy?
- Does the strategy include incentives for voluntary compliance?
- Will stakeholders, including legislators, business, state agencies, and citizen groups, support the strategy?
- Is the strategy nonvoluntary, is it enforceable?
- Will there be measurable and documentable reductions in health, ecosystem, and/or quality of life risks? Is the strategy technically feasible?
- If technically feasible, how difficult will it be to implement the strategy?
- If implemented, how long will it take to achieve benefits?
- Does the strategy address environmental risks which disproportionately impact certain segments of Ohio's population?
- If the strategy is implemented, are there segments of Ohio's population who would either receive benefits or bear costs disproportionately?

The task forces need help answering these questions and they invite you to provide input. Throughout Phase 2, there will be several opportunities to comment on strategies that are being proposed. You can host or attend a facilitated discussion which will be coordinated by the Ohio Alliance for the Environment. At these sessions, participants will be asked to identify actions they are willing to take as citizens and actions that public managers should take to reduce environmental risk. To obtain more information about attending or hosting a meeting contact Irene Probasco at the Ohio Alliance for the Environment, 614/421-7819.

A policy review panel will be reviewing and commenting on proposed strategies from each of the task forces. If you would like to participate as a member of the panel or would like to be involved in any other capacity, please contact:

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