



# ORSANCO

1992

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\*As of April 1, 1993



TO: The Honorable Jim Edgar, *Governor of Illinois*  
The Honorable Evan Bayh, *Governor of Indiana*  
The Honorable Brereton C. Jones, *Governor of Kentucky*  
The Honorable Mario M. Cuomo, *Governor of New York*  
The Honorable George V. Voinovich, *Governor of Ohio*  
The Honorable Robert P. Casey, *Governor of Pennsylvania*  
The Honorable L. Douglas Wilder, *Governor of Virginia*  
The Honorable W. Gaston Caperton III, *Governor of West Virginia*  
AND  
The Honorable William J. Clinton, *President of the United States*

The Commissioners of the Ohio River Valley Water Sanitation Commission (ORSANCO)--an interstate compact water pollution control commission created jointly in 1948 by the State of Illinois, the State of Indiana, the Commonwealth of Kentucky, the State of New York, the State of Ohio, the Commonwealth of Pennsylvania, the Commonwealth of Virginia, and the State of West Virginia, with the approval of the Congress of the United States--respectfully submit the following report of the Commission's activities in 1992.





## From The Chairman

# Building Partnerships

As the decade unfolds, public agencies charged with improving water quality face significant challenges. Confronted with static or shrinking financial resources, along with the continuing challenge of improving the quality of our streams, more must be achieved with less. To accomplish this, fundamentally new philosophies must be embraced which will permit innovative technical and institutional approaches to water pollution control. One outgrowth of the times is the formation of partnerships between public and private interests by which fiscal resources and human talent can be combined and complemented.

Throughout its forty-four year history, ORSANCO has worked to build such partnerships in accomplishing its mission. Partnerships have been involved in many of the Commission's innovations, from the development of industry-specific pollution control manuals in the 1950s, to the sophisticated Organics Detection System in operation today.

The year 1992 was one in which new and important alliances emerged between the Commission and federal agencies. Specifically, the Commission and the U.S. Environmental Protection Agency initiated a cooperative project to

fulfill certain requirements of the federal Oil Pollution Act. Also, the Commission and the National Park Service began exploring the possibility of undertaking a joint study to define the economic, cultural and natural resource values of the Ohio River.

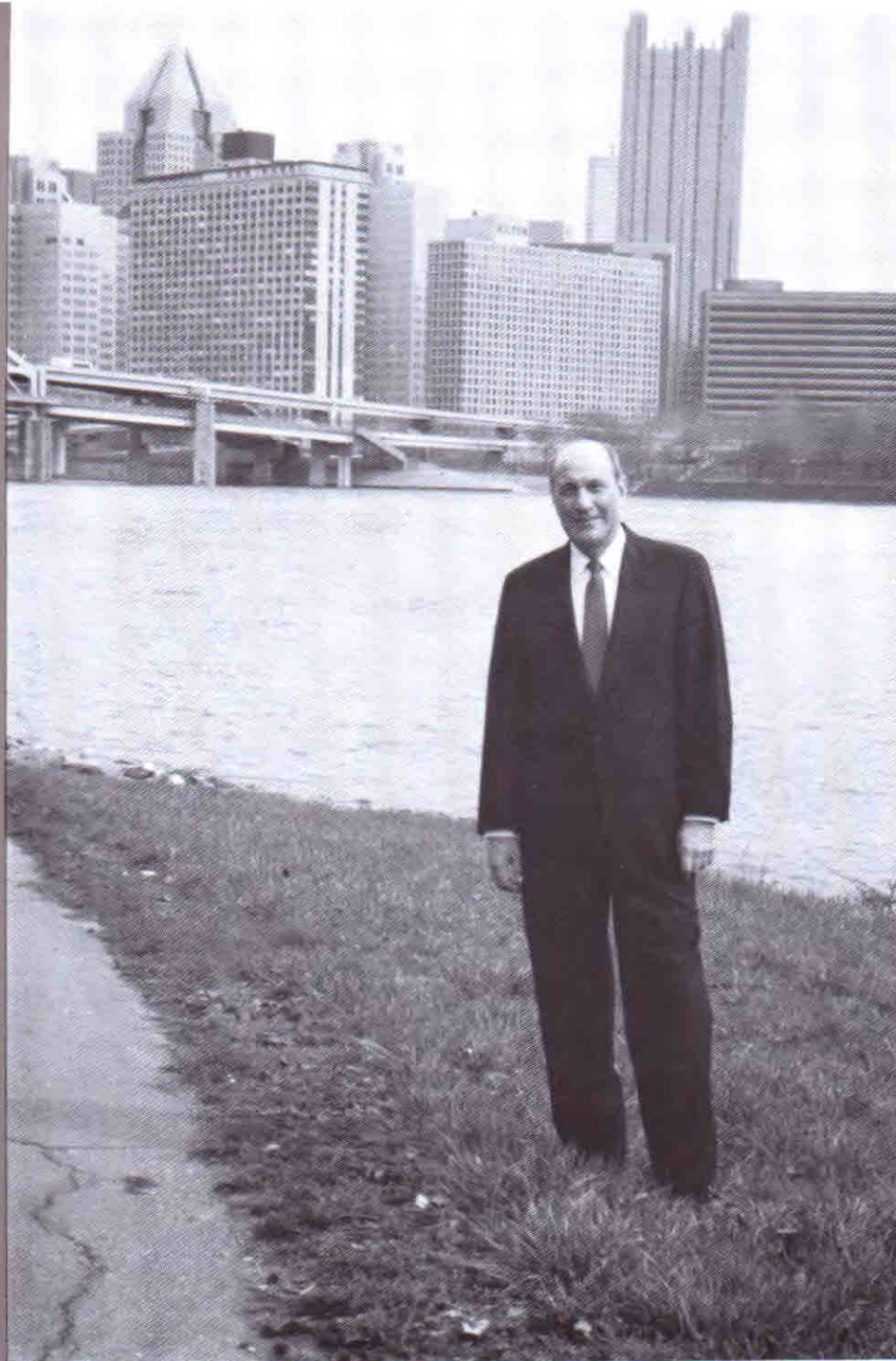
The Commission also worked to develop an important new alliance with industries, utilities and other river-based interests concerned with proper stewardship of the resource. An ORSANCO/River Users Partnership Program, authorized by the Commission this past year, will generate resources for the purpose of undertaking scientific studies. It is vitally important that "good science" be available to enable ORSANCO and other regulatory agencies to make future management decisions for the Ohio River that are both technically and economically sound.

New plans took shape last year with regard to the control of combined sewer overflows. The Commission adopted an eight-point "action list" which defines its role in working with states and municipalities. A special work group, comprising representatives of state and federal agencies and local utilities, helped delineate the Commission's approach to this important issue.

The Commission moved to strengthen its connection with the general public through the initiation of a pilot volunteer monitoring program. This program provides citizens with an opportunity to learn more about water quality by testing the Ohio River on a regular basis.

Finally, the Commission undertook a total review of its technical and administrative programs, established priorities, and reduced or realigned resources where appropriate. The objective of this effort was to conserve financial resources without compromising the effectiveness of its programs and services to state and federal agencies and the general public.

As described on the following pages, 1992 was a year of remarkable activities for ORSANCO, both from the standpoint of building partnerships and improving efficiency. It can be said that no natural resource can reach its full potential unless it is managed, jointly and cooperatively, by all who share it. The Commission's strength lies in its ability to develop the framework and provide the leadership for this to occur.



*Melvin S. Hark*



# Water Quality Highlights

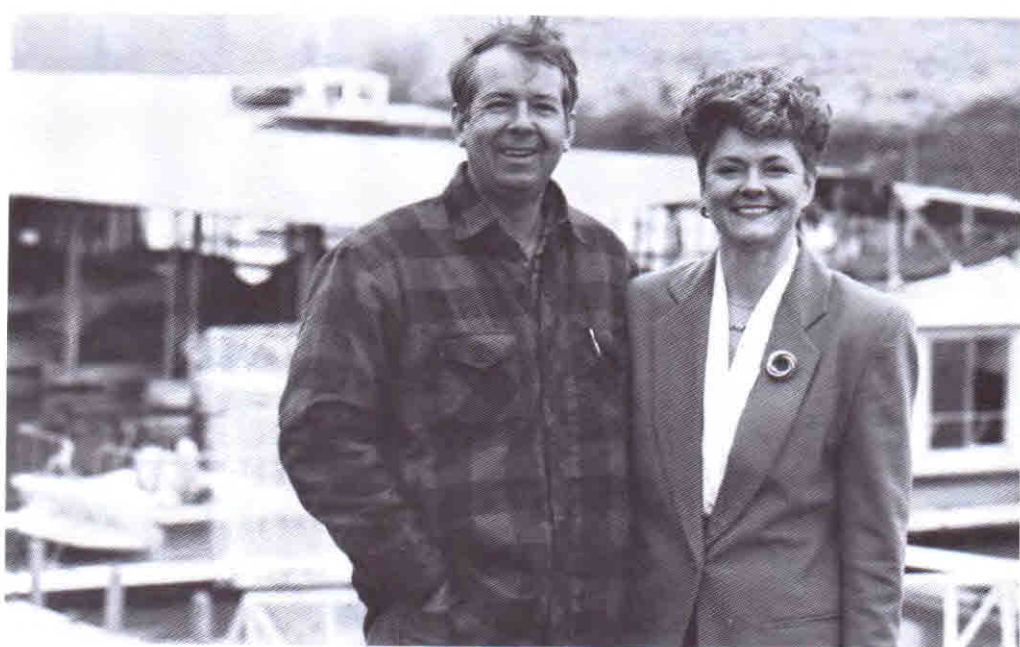
**T**he Ohio River means many things to many people. In order to ensure that the river can sustain the many uses for which people depend on it, the Commission works to achieve certain water quality objectives. These objectives include water that is suitable for public and industrial water supply, recreational use, and a healthy aquatic community.

The Commission maintains programs to monitor how well the Ohio River meets these objectives. Year-round manual sampling, bacterial monitoring during warm weather recreation months, and daily spill detection monitoring provide important information on water quality. The Commission also undertakes biological monitoring, in conjunction with state and federal agencies, to assess the status of the aquatic ecosystem. Following are highlights of water quality monitoring activities and assessments completed in 1992.



"We believe the work that ORSANCO accomplishes is vital not only to the Ohio River but to its tributaries."

Ron and Gail Riecken of Inland Marina, Evansville, Indiana. Mrs. Riecken is past president of Evansville City Council and a member of the Commission's Public Interest Advisory Committee.



### **Wet Summer Conditions**

The summer of 1992 was unusually cool and wet, which had ramifications for water quality. Extended periods of rain caused frequent overflows from combined sewer systems along the Ohio River. This resulted in elevated bacteria levels downstream of many urban areas, which pose health concerns for people who come in contact with the water.

In an effort to gain a better understanding of the effects of combined sewer overflows (CSOs) on water quality, the Commission restructured its bacterial monitoring program in 1992 by establishing several new sampling locations.

The Commission's biological studies found lower numbers of fish in 1992 than in previous years. It is believed that this is due to high water

levels, which reduced the spawning success of the gizzard shad and minnows on which larger fish species feed.

One positive result of the cool summer weather and high flow conditions was the fact that dissolved oxygen remained at levels well above that required for healthy fish populations in the Ohio River.

### **Water Quality Assessment**

In 1992, the Commission completed a biennial assessment of water quality conditions for the period October 1989 through September 1991. This assessment pointed to a number of water quality concerns, including an increase in the number of spills reported to ORSANCO, the continued presence of organic toxics in the river, and bacteria levels above the

standard set by the Commission for water contact recreation. The report also stressed the need to place a higher priority on the control of nonpoint source pollution.

### **Tributary Concerns**

Commission studies of six tributaries between Parkersburg, West Virginia and Portsmouth, Ohio indicated that two tributaries may be in violation of Article VI of the Ohio River Valley Water Sanitation Compact. Article VI requires the water quality of tributaries to be equal to or better than that of the Ohio River immediately upstream from the point of confluence.

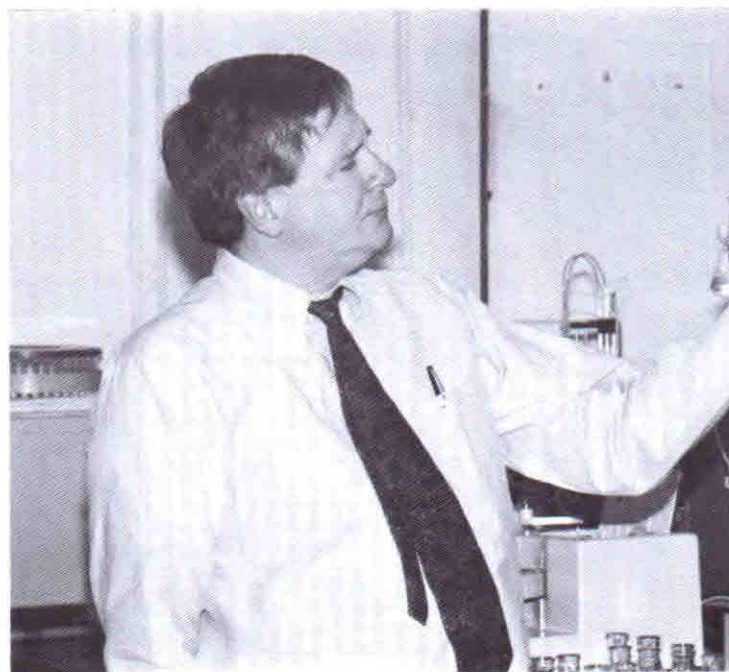
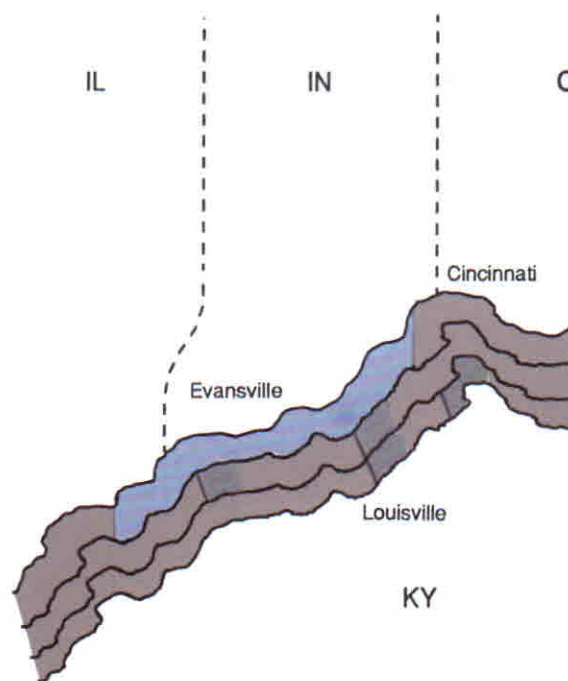
Raccoon Creek in Ohio and the Kanawha River in West Virginia are undergoing further testing by their respective state water quality agencies to confirm the Commission's preliminary findings.



# Assessing River Conditions

Every two years the Commission prepares a comprehensive report on the water quality conditions of the Ohio River in accordance with Section 305(b) of the federal Clean Water Act. The river is rated based on the degree to which it supports certain designated uses: public water supply, water contact recreation, and aquatic life. Each segment of the river is rated as either fully supporting, partially supporting, or not supporting these designated uses. These ratings provide state and federal water quality agencies with information on where pollution control efforts are most needed. Figure 1 shows how the river was rated for each of its designated uses for the period October 1989 through September 1991.

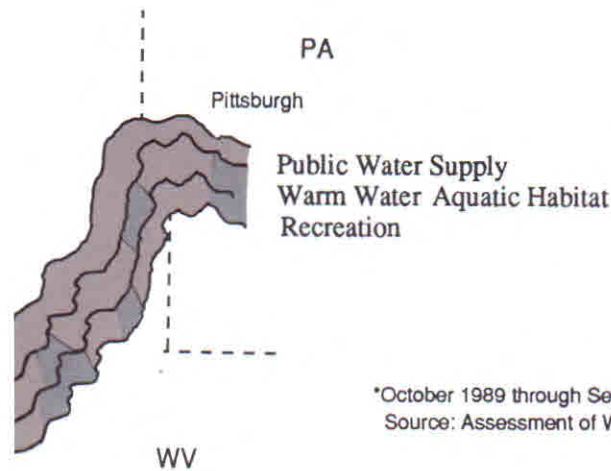
Figure 1  
Ohio River Support of Use  
Water Years 1990-91



"When states work together through ORSANCO, we accomplish much more than we could individually."

Dr. Eli McCoy, Chief of the West Virginia Division of Environmental Protection, Department of Commerce, Labor and Environmental Resources





\*October 1989 through September 1991  
Source: Assessment of Water Quality Conditions 1990-1991

Among the findings from the Commission's water quality assessment are:

- *The number of spills reported to ORSANCO increased.* Further study is needed to determine if this increase is due to improved reporting or to an actual increase in the occurrence of spills to the river.
- *Organic chemicals continue to be present in the river.* While the levels of these substances do not exceed current allowable limits, their presence in any amount is a concern to the Commission.
- *Although water quality problems persist in certain areas, the diversity of fish in the river improved.* In some areas of the river certain metals were found at concentrations believed to be unhealthy for aquatic life.

However, the Commission's fish population surveys show an increase in the number of fish species throughout the river.

- *The sources of fish contamination remain unknown.* The Commission's fish tissue analyses continue to detect levels of polychlorinated biphenyls (PCBs) and chlordane in certain species. However, it is not known whether these contaminants are entering the river through active sources or whether they are the persistent remnants of past activities.
- *Nonpoint sources of pollution continue to be the greatest barrier to improved water quality.* Commission data indicate that runoff from agricultural sources, urban areas, and resource extraction are respon-

sible for greater water quality degradation than industrial and municipal point sources.

A number of recommendations for both the Commission and the U.S. EPA were developed as a result of this report. Recommendations to the Commission include studying and reporting on the increase of spills to the river; increasing efforts to identify and control sources of organic chemicals; and monitoring the impacts of CSOs.

Recommendations to the U.S. EPA include increasing reliance on biological data to assess support of aquatic life; developing biological assessment "tools" for large rivers; and placing a higher priority on the control of nonpoint source pollution.



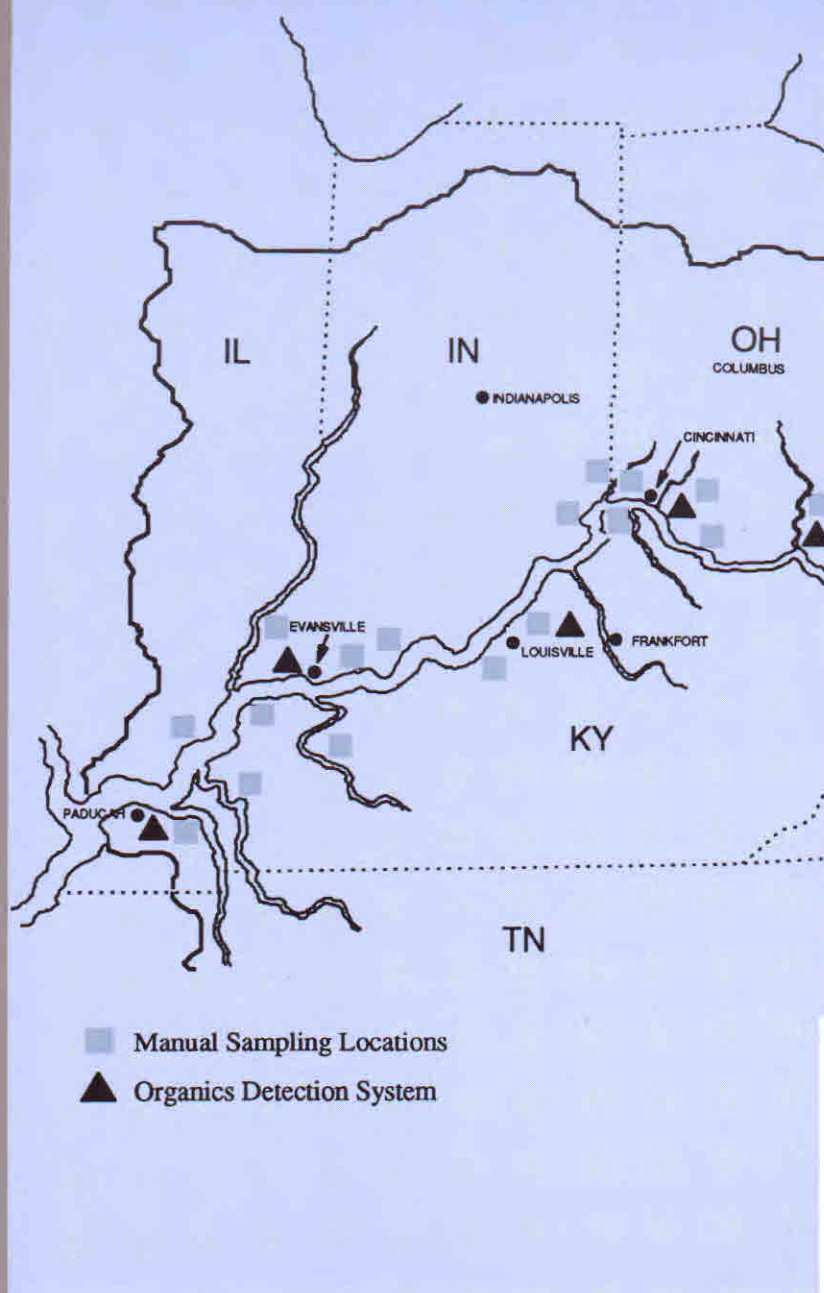
# Water Quality Monitoring Programs

Many substances enter the Ohio River as a result of the different uses of the river and the land surrounding it -- industrial activity, transportation, agriculture, resource extraction and urban activity. These substances can have serious effects on the river and its various uses when they are present above levels established to protect water quality. Valid data on the occurrence of these substances are essential to the efforts of the Commission and its member states to improve water quality conditions.

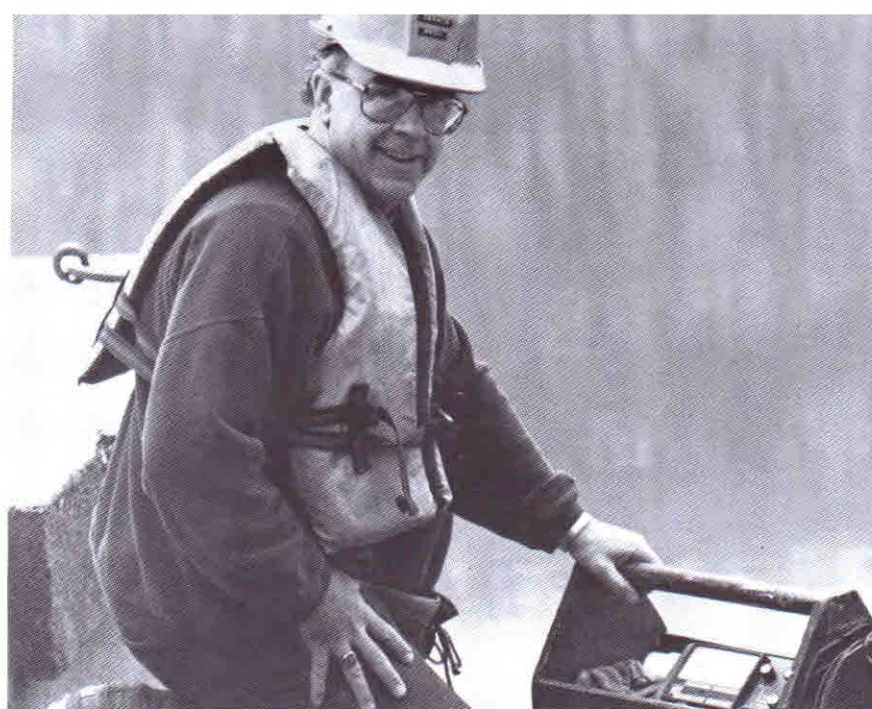
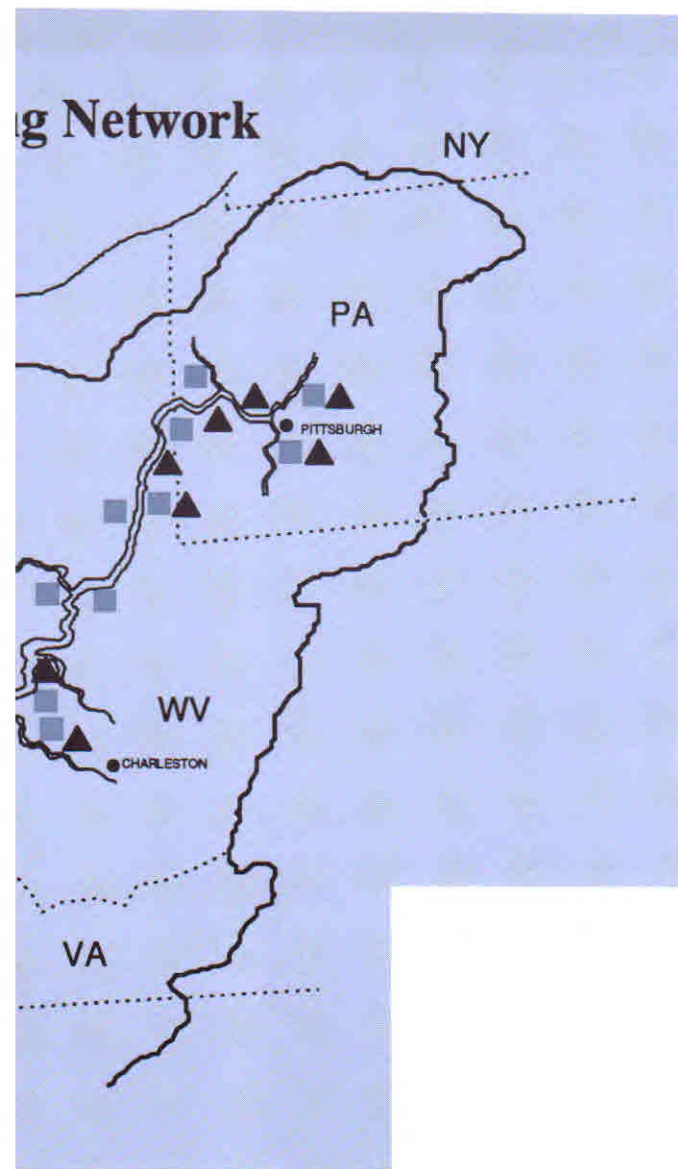
In order to obtain consistent data in a cost-effective manner, the Commission's member states have given ORSANCO the responsibility of monitoring the Ohio River and the lower reaches of its major tributaries. Monitoring programs include the manual collection of samples by ORSANCO field personnel, and the Organics Detection System, a unique river-wide spill detection system.

Figure 2

## ORSANCO Monit







"I've seen significant improvements in water quality over the 17 years that I've been monitoring the Allegheny, Monongahela and Ohio Rivers."

Dennis Beck, manual sampler for ORSANCO, Portage, Pennsylvania

### Manual Sampling

As part of its water quality monitoring programs, ORSANCO conducts manual sampling of the river for specific physical and chemical characteristics, as well as such pollutants as heavy metals, cyanide, and phenolics.

In an effort to realign its monitoring programs to reflect the priorities of the member states, the Commission scaled back the manual sampling program in 1992 to redirect resources toward more intensive site-specific water quality studies.

Manual sampling was changed from a monthly to bimonthly basis, and a number of sampling locations were relocated or deleted. Figure 2 shows the revised manual sampling program, which comprises 30 stations located on the Ohio River and several major tributaries.

To assure that the Commission's data are accurate and representative, a formalized program of quality assurance is carried out. Activities in 1992 focused on intensive studies at sampling sites to ensure that single-point samples are representative of the river at each location.

### Organics Detection System

In 1978 the Commission established the Organics Detection System (ODS) to improve the detection of spills and accidental discharges to the Ohio River.

This system, operated in cooperation with water utilities and industries along the Ohio River and its major tributaries, monitors the presence of certain organic chemicals in the river. If unusual levels of these substances are detected, the appropriate federal agencies and downstream drinking water intakes are notified so that protective measures can be taken.



# Biological Monitoring Programs

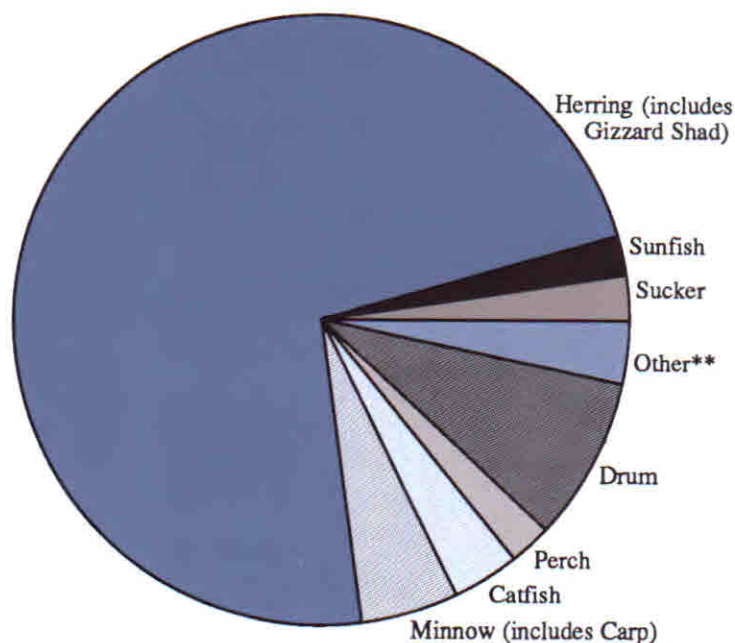
One of the primary goals of the Ohio River Valley Water Sanitation Compact is that the Ohio River be capable of maintaining a healthy aquatic community. In order to measure the effects of water pollution control efforts on the achievement of this goal, ORSANCO monitors the fish populations of the river. Lock chamber surveys, carried out in cooperation with state and federal environmental and natural resource agencies since 1968, provide valuable information on the numbers and species of fish in the river. In recent years the Commission has also added an electrofishing component to its population surveys. Figure 3 shows the types and relative abundance of fish resulting from surveys conducted from 1990 to 1992.

In conjunction with these surveys, tissue samples from selected fish species are analyzed for contaminants. Based on the results of these analyses, several Ohio River states have issued fish consumption advisories.

The Commission recognizes that it must obtain information on other types of organisms in order to fully understand the aquatic community of the Ohio River. For this reason, macroinvertebrate sampling has been incorporated into ORSANCO's biological programs.



Figure 3  
Fish of the Ohio River \*



\*Relative abundance, based on results from ORSANCO lock chamber and electrofishing studies 1990-92

\*\*Includes white bass, striped bass, paddlefish, lamprey, trout-perch, gar, mooneye, silverside, eel and bowfin



"The fish community of the Ohio River is responding positively to improved water quality conditions, and pollution sensitive species are returning to the River."

Dr. Bill Pearson, Professor of Biology, University of Louisville



### **Electrofishing**

In order to provide a more complete picture of the diversity of fish species at different locations in the river, the Commission instituted an electrofishing program in 1990. During 1991 and 1992, ORSANCO established and surveyed 54 electrofishing sites on the main stem of the Ohio River and seven sites on three major tributaries.

Over the past two years, the electrofishing program has yielded 79 different species of fish, including eight species not previously collected by ORSANCO. Lock chamber studies over the same period yielded 63 species. The higher number of species collected by electrofishing is due to the fact that this method is conducted at night, when fish are more active, and it allows the researcher to sample many different habitats in the river, including shallow shoreline areas where fish congregate.

### **Fish Contaminants Monitoring**

Each year the Commission collects fish tissue samples from the Ohio River and certain tributaries to be analyzed for selected contaminants. Results of these analyses consistently show that two substances, polychlorinated biphenyls (PCBs) and chlordane, appear in certain fish species at various locations above levels established by the U.S. Food and Drug Administration (FDA) for human consumption.

The results of the Commission's 1991 sampling program prompted five of the six Ohio River states to reissue fish consumption advisories for 1992. Fish species addressed in the advisories of one or more states include carp, channel catfish, white bass and paddlefish.

The Commission's fish tissue data indicate that other species, including such popular sport fish as large-mouth bass and sauger, do not exceed contaminant limits set by the FDA.

### **Macroinvertebrate Sampling Program**

The health of the aquatic community cannot be fully assessed without knowledge of the many different kinds of organisms that live in the water. Vital to this understanding is the study of macroinvertebrates. These aquatic insects, including dragonfly nymphs and mayfly larvae, are less mobile than fish, and thus are more easily affected by pollution.

In 1991 and 1992, the Commission instituted a macroinvertebrate sampling program with two components. One was a series of pilot studies conducted in 1991 to test different sampling methodologies. The other was a survey carried out in conjunction with the electrofishing program, involving special macroinvertebrate collection samplers placed at selected locations. The data collected from this survey will augment chemical sampling data to better identify problem areas of the river.



# Combined Sewer Overflows

Many Ohio River communities have combined sewer systems designed to transport both wastewater and storm water. When excessive amounts of water enter the system, such as during rain events, treatment facilities are bypassed, sending a mixture of storm water and untreated sewage directly into the river.

The abatement of combined sewer overflows (CSOs) is one of the most pressing pollution control issues facing Ohio River communities. Over two-thirds of all CSOs in the country occur within the Commission member states, representing one of the major barriers to improved water quality in the region.

Because of the magnitude of the CSO problem in the Ohio River Valley and the high costs facing communities which must implement control measures, there are no easy solutions to this complex issue. Recognizing this, the Commission assembled a work group in 1992, composed of representatives of state water quality agencies, U.S. EPA, and local wastewater treatment utilities, to develop recommended actions by the Commission for the control of CSOs to the Ohio River.

The Commission will begin implementation of the resulting Action List in 1993, and will hold a regional meeting in the spring. This meeting will facilitate the development of recommendations for monitoring the impacts of CSOs on Ohio River water quality.



"With over two-thirds of the nation's combined sewer overflows in the Compact states, ORSANCO must be a leader in solving this problem."

Gordon Garner, Executive Director of Louisville and Jefferson County Metropolitan Sewer District and ORSANCO Commissioner

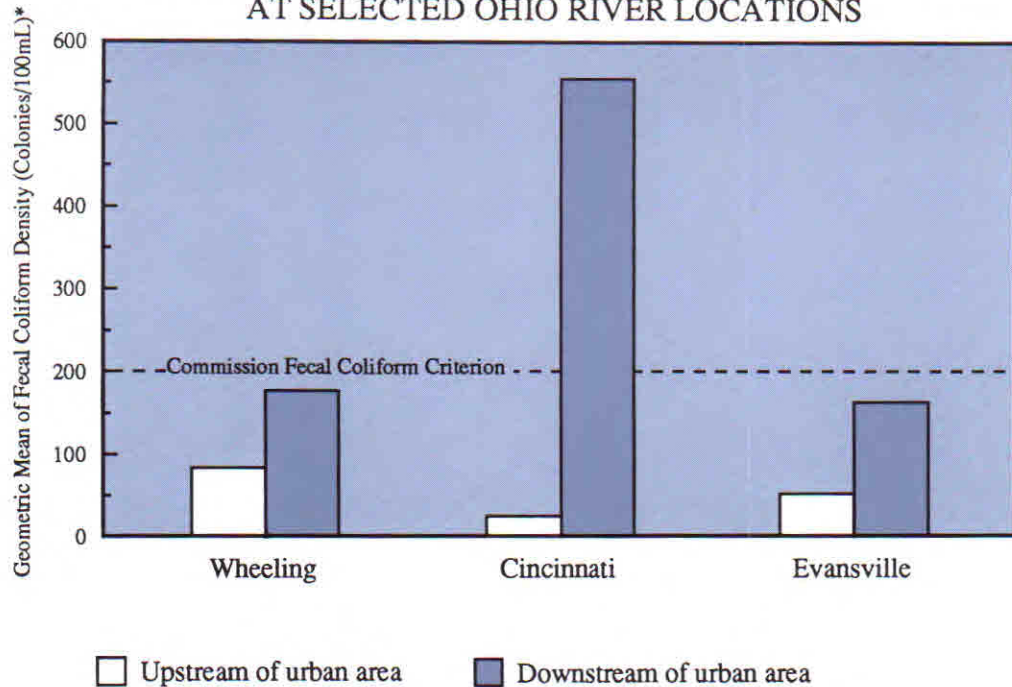
## The Commission's CSO Action List:

- Review state CSO strategies to identify any conflicts.
- Provide a forum for the states to report to each other on CSO abatement progress.
- Coordinate water quality impact studies through comments on study proposals and, when requested, conduct such studies on a contract basis.
- Develop recommendations for monitoring CSO impacts.
- Identify areas sensitive to the impacts of CSOs.
- Review results of CSO impact studies; integrate results from opposite sides of the river.
- Continue involvement in the national dialogue.
- Convene a regional meeting on CSOs.



Figure 4

# 1992 RECREATION SEASON AVERAGE BACTERIA LEVELS AT SELECTED OHIO RIVER LOCATIONS



\*Geometric mean of all samples for the period May through October 1992

## Evaluating the Effects of CSOs: Bacterial Monitoring

During the summer recreation season, the Commission monitors the river for bacteria levels. Elevated bacteria levels can cause gastrointestinal ailments, sore throats, earaches, and other problems in people who come in contact with the water.

Combined sewer overflows are a major cause of elevated bacteria levels in the river near urban areas. In order to gain a more accurate understanding of the impacts of CSOs on water quality, the Commission restructured its bacterial monitoring program in 1992. Sampling locations were reoriented to provide

data from downstream of seven major metropolitan areas. When compared to data from sampling locations upstream of certain urban areas, the results give ORSANCO a better understanding of the effects of CSOs on water quality.

Figure 4 depicts bacteria levels upstream and downstream of three metropolitan areas along the Ohio River. As shown in this graph, bacteria levels increase substantially below these urban areas, indicating that CSOs have a significant impact on water quality.

The Commission's bacteria criterion for safe water contact recreation was violated in every month of the 1992 recreation season at one or more sampling locations.

## BACTERIA PROBLEMS: GETTING THE WORD OUT

In response to increasing public concern over high bacteria levels in the Ohio River, ORSANCO in 1992 began providing state agencies, local health departments and local sewer agencies along the river with weekly fecal coliform data from May through October (the season when people are most likely to come in contact with the water).

Using this information, local health departments are better able to determine the need to issue contact recreation advisories. At the present time, Pittsburgh, Cincinnati and Louisville have standing advisories against contact recreation in the Ohio River.



# Nonpoint Source Pollution


**N**onpoint source pollution is pollution which does not originate from a specific location, but rather from such land uses as agriculture, mining, forestry, and urban activity. Precipitation falling through the atmosphere and moving over and through the ground picks up pollutants and transports them into lakes, rivers, and ground water. Because of its diffuse nature, nonpoint source pollution is difficult to regulate and control.

Results from the Commission's monitoring programs continue to demonstrate that nonpoint source pollution is more widespread and of greater magnitude than pollution resulting from discharges of treated wastewater from industries and municipalities.

In 1990 the Commission produced a report which concluded that nonpoint source pollution from agricultural land, urban areas, and coal mining areas is one of the major causes of water pollution in the Ohio River Valley. As part of its continuing investigation into nonpoint source pollution, the Commission focused during 1992 on the impact of agricultural chemicals on the water quality of the lower Ohio River.


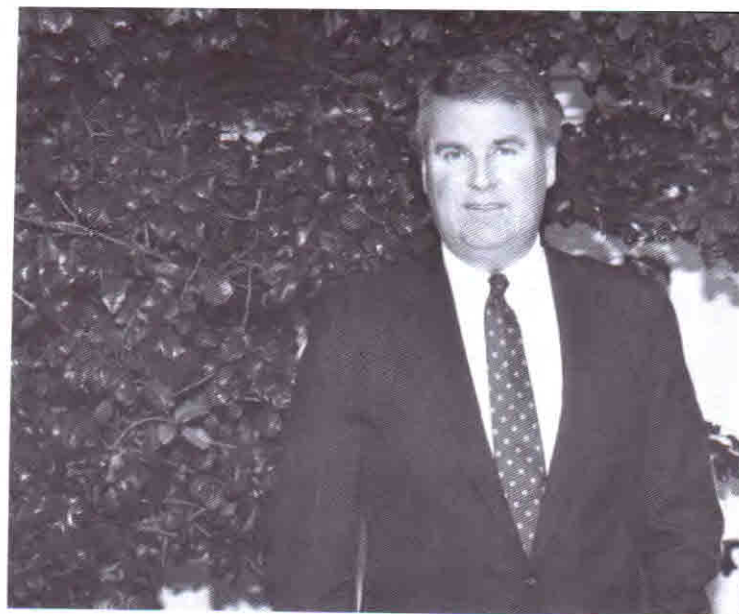






"If agriculture is going to be the focus of environmental protection efforts to alleviate non-point source pollution, the agricultural community must be part of the process."

Ed Logsdon, Commissioner of the Kentucky Department of Agriculture and ORSANCO Commissioner



### Investigation of Pesticides in the Lower Ohio River

Because the Ohio River is a source of drinking water for over three million people, the Commission is concerned about pesticide levels in the river and their potential impact on the quality of treated drinking water. This is of particular concern on the lower Ohio River, where agriculture is the predominant land use.

In 1992 the Commission assessed existing data on pesticide levels in river water and treated drinking water obtained from utilities and monitoring locations on the lower Ohio River and selected tributaries. Comparisons were made to available information on agricultural pesticide use in counties adjacent to the river.

The survey indicated some degree of pesticide contamination in both river water and treated drinking water at several locations on the lower Ohio River and the White River in Indiana. However, levels of pesticides in treated drinking water did not exceed levels established by the federal Safe Drinking Water Act. Atrazine was the pesticide most frequently detected at concentrations of greatest concern.

In addition to these findings, the Commission's investigation highlighted the lack of water quality data available from many water utilities along the lower Ohio River. There is an abundance of data from a few sampling locations, while the majority of the lower river is not monitored for pesticides.

The survey of pesticide usage data also revealed that information was inconsistent from state to state, making a comprehensive analysis of pesticide use relative to pesticide occurrence in the river difficult.

The potential of excessive pesticide levels in the Ohio River poses serious concerns for water treatment utilities. Unfortunately, as the results of this study show, the existing data is largely inadequate for assessing the severity of the problem.

Future needs include: increased sampling to identify those tributaries that contribute large pesticide loads and those watersheds most in need of nonpoint source control programs; improved and consistent record-keeping of pesticide usage data from agricultural agencies; and the possible development of Ohio River criteria for the most frequently detected pesticides.



# Public Involvement

Providing information on water quality issues and encouraging participation are essential components of the Commission's role as a public agency.

Through displays at river-based events and presentations to schools, civic groups and other organizations, ORSANCO engages the public's curiosity about the state of the Ohio River and suggests ways in which people can become active in improving its quality. While boaters, fishers, and science students are some of the Commission's most attentive audiences, ORSANCO reaches people of many backgrounds who want to learn about and contribute to efforts to improve the quality of the Ohio River.

The Commission continues to develop new ways of encouraging the general public to become interested and informed about the Ohio River. Much of this is accomplished through events and programs which foster greater awareness and participation with each year. Working together, ORSANCO and the citizens of the Ohio Valley have been able to achieve what neither could alone.



"The Ohio River Sweep has given us a unique opportunity to work with ORSANCO and really make a difference in the Ohio River environment."

Terry Johnson, County Coordinator, Ohio River Sweep,  
Massac County, Illinois





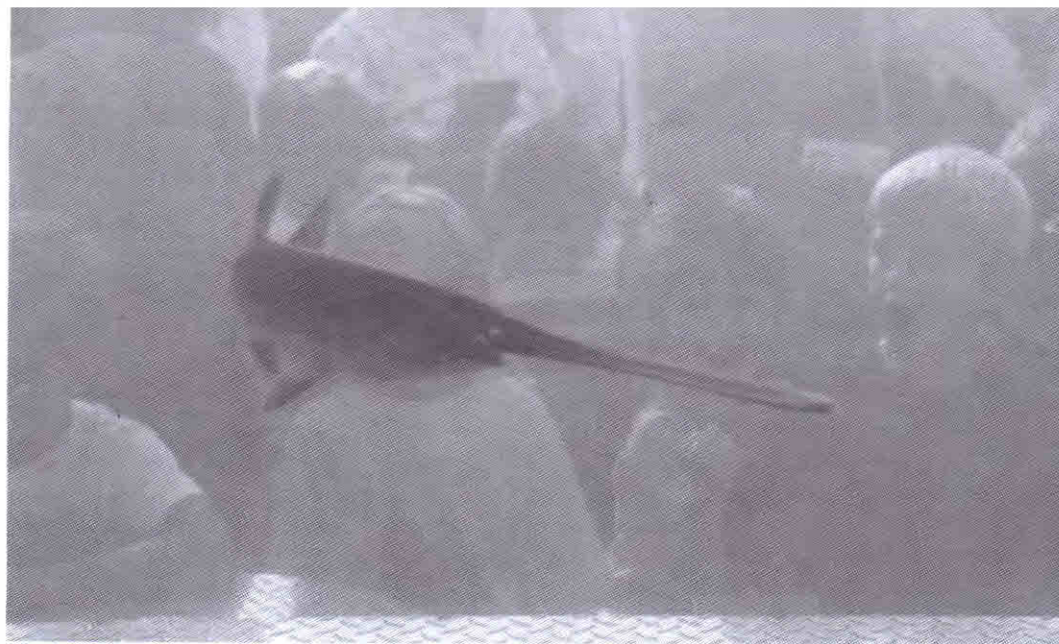


Photo courtesy of Little Miami, Inc.

### Public Outreach

In October 1992 the Commission participated in Cincinnati's Tall Stacks Celebration. This four-day festival showcased old-fashioned paddle wheelers from around the country, drawing nearly two million visitors to the Cincinnati and Northern Kentucky riverfronts.

As part of this event, ORSANCO, Ohio EPA, and Little Miami, Inc. exhibited a 5,500 gallon aquarium filled with over 40 species of Ohio River fish. This popular display attracted thousands of people interested in viewing the fish and learning about the Ohio River.

### Volunteer Monitoring

In order to encourage citizen participation in water quality issues, ORSANCO initiated a volunteer monitoring project in 1992.

With funding in part from the Virginia Environmental Endowment, the Commission selected five groups from different locations to participate in this pilot project. The groups include Buckeye High School Science Department, Rayland, Ohio; St. Mary's 5th and 6th grade science class, Marietta, Ohio; Highlands Group of the Sierra Club, Ashland, Kentucky; Lawrenceburg High School Science Department, Lawrenceburg, Indiana; and Boy Scout Troop 457-Buffalo Trace Council, Mt. Vernon, Indiana.

Outfitted with water quality test kits, the groups perform tests on water samples from the Ohio river and certain tributaries twice each month and send the results to ORSANCO. The Commission hopes to be able to expand this project in the future to encompass the entire river.

### Ohio River Sweep

The Ohio River Sweep exemplifies the spirit of cooperation in working toward a common goal. This annual river bank cleanup brought together 17,000 volunteers in 1992 to collect 14,000 tons of trash along the entire length of the Ohio River and portions of several tributaries. The project is funded by Ohio River industries and coordinated by ORSANCO and state environmental and natural resource agencies.

In recognition of its success, the Ohio River Sweep was presented with its second national "Take Pride in America" award from the U.S. Department of the Interior in 1992.

Corporate contributors to the 1992 Ohio River Sweep include Ashland Oil, Inc., Procter and Gamble, BASF, Miles, Inc., DuPont, Ohio River Co., Dow Corning, Louisville Gas and Electric, Neville Chemical Co., ARCO Chemical Co., American Electric Power, Duquesne Light-Beaver Valley Power Station, Kanawha River Towing, and Weirton Steel.



# Pollution Control Standards

The Commission has been vested with the authority to set wastewater discharge standards for the Ohio River. The standards contain designated river uses, stream criteria to protect those uses, and specific requirements which municipal and industrial discharges must meet in order to achieve and maintain those criteria.

The Commission's Pollution Control Standards are revised every three years to ensure that they are based on the most current and technically valid information available. In 1992 the Commission began the process of drafting revisions. As part of this process, a public workshop was conducted to facilitate public discussion and comment. Issues under consideration include the use of biological criteria to evaluate water quality.

The Commission maintains a tracking list of facilities which have had previous problems complying with the standards, or which discharge more than 10 million gallons of wastewater per day. Of the nearly 600 municipal and industrial permitted discharges to the Ohio River, nine were being tracked at the end of 1992 because of previous compliance problems, while four were removed from the tracking list because of improved compliance.

The Commission also possesses enforcement powers to address compliance problems. Currently, the Commission is party to two consent orders in conjunction with U.S. EPA and Ohio EPA, involving the Cincinnati Mill Creek wastewater treatment facility and the City of Wellsville.



"Biological monitoring and assessment approaches give us additional tools for evaluating the effectiveness of our efforts to clean up the river."

Diana Zimmerman, Ohio EPA Division of Surveillance & Standards, and member of ORSANCO's Monitoring Strategy Subcommittee.





# Spill Response

**T**he Ohio River and its tributaries are vulnerable to spills and accidental discharges from many sources. The concurrent use of the river for industrial processing, transportation, power production and water supply requires highly effective spill detection and response capabilities.

Virtually any spill to the Ohio River can affect the waters of more than one state. In the event of a spill, ORSANCO plays a vital role in facilitating communication and coordination among emergency response agencies.

ORSANCO coordinates the monitoring of spills to alert downstream water users, particularly municipal drinking water supplies, of their approach. The Commission also maintains a 24-hour telephone service to receive spill reports and operates an electronic bulletin board to disseminate spill information. The Organics Detection System monitors the river on a daily basis for the presence of certain chemicals, facilitating the detection of unreported spills.



"The Organics Detection System provides an unprecedented level of protection for the citizens of the Ohio River Valley. We are proud to be part of it."

Joseph Dinkel, Plant Manager of West View Water Authority, Pittsburgh, Pennsylvania, and member of ORSANCO's Water Users Advisory Committee

## Emergency Response Planning

The Ashland Oil spill of 1988 and the Exxon Valdez oil spill of 1989 brought the danger of spills to the forefront of public and political attention. Concern over the ability of local areas to respond to large spills influenced the provisions of the federal Oil Pollution Act of 1990. This act requires that Area Contingency Plans be developed for all regions of the United States detailing how each would respond to a major spill to a waterway.

In 1992 ORSANCO entered into a cooperative agreement with the U.S. Environmental Protection Agency (EPA) to develop certain components of the Area Contingency Plan for the Ohio River basin. These include:

- Inventory of environmentally and economically sensitive areas;
- Identification of areas where spills are most likely to occur;
- Inventory of emergency response materials and equipment for each Ohio Valley state.



# Special Projects

**T**he Commission periodically undertakes specific projects funded by sources other than the state allocations and federal water pollution control grant that comprise its normal budget. Sources of funding for these projects may include special purpose grants from federal and state agencies, enforcement penalties levied against polluters, foundation grants, and donations from industries and other river users.

Special projects undertaken or continued by the Commission in 1992 include the Ohio River Sweep, Upper Ohio River Basin Recreational Use and Aquatic Resources Surveys, and the Ohio River Basin Geographic Information System.

## **Upper Ohio River Basin Recreational Use and Aquatic Resources Surveys**

In 1991 ORSANCO entered into a contractual agreement with the Pennsylvania Department of Environmental Resources to conduct surveys of recreational use and aquatic resources of the upper Ohio River and portions of the Allegheny and Monongahela Rivers.

Funding for these surveys was made possible by a settlement between Ashland Oil, Inc. and the Commonwealth of Pennsylvania as the result of a 1988 diesel fuel spill to the Monongahela and Ohio Rivers. The surveys, which will be carried out through 1995, will provide environmental and natural resource agencies with a better understanding of the economic and environmental conditions which can be affected by spills to the upper Ohio River.

## **Ohio River Basin Geographic Information System**

Geographic Information System (GIS) is a technology which combines mapping with a data base management system to provide visual representation of a variety of information about a geographic area.

Through a cooperative agreement with the U.S. Environmental Protection Agency's Risk Reduction Engineering Laboratory, ORSANCO is developing a GIS for the Ohio River Basin. Application of this technology will enhance the Commission's capabilities in a number of areas, including spill response. For example, GIS technology can be used to identify potential locations of hazardous chemical spills and assess their proximity to Ohio River water utilities.



# The Year in Review

Melvin E. Hook of Pennsylvania was elected Chairman and Richard S. Engelbrecht of Illinois was elected Vice Chairman of the Commission for the period July 1, 1992 through June 30, 1993. Ronald R. Potesta of West Virginia was elected Secretary. Richard L. Herd of the Commission staff was elected Treasurer.

New appointments to the Commission included Ed Logsdon of Kentucky and Richard A. Miller of Ohio.

The Commission is made up of three representatives from each of the member states who are appointed by their respective governors, and three representatives of the federal government who are appointed by the President. Commissioners participate as a public service and receive only reimbursement for their expenses in performance of duties relating to the Commission.

# Advisory Committees

The Commission receives advice and counsel from a wide range of viewpoints through its advisory committees. Each represents a particular river-based interest. The Water Users Advisory Committee consists of public and private utilities which use the Ohio River as a source of water supply. Industry advisory committees, such as those representing the chemical and power industries, bring together companies which use the river for industrial purposes. The Public Interest Advisory Committee (PIACO) is comprised of private citizens from the member states. The Publicly Owned Treatment Works (POTW) Advisory Committee represents wastewater treatment departments or districts in the Ohio Valley. All advisory committee members serve on a voluntary basis.





**COMBINED STATEMENT OF ACCRUED REVENUES, EXPENSES  
AND AVAILABLE RESOURCES**

The following financial information was extracted from the  
Annual Audit Report of Hall & Associates  
Certified Public Accountants  
for the year ending June 30, 1992

	<u>UNRESTRICTED FUNDS</u>				
RESOURCES	GENERAL	UP RIVER	OH RIVER	OHIO	TOTAL
	FUND	BIO/REC	GIS DEMO	RIVER	UNRESTRICTED
		STUDY	PROJECT	SWEEP	FUNDS
CARRYOVER ON JULY 1, 1991	\$38,711	(\$27,685)	\$0	\$0	\$11,026
REVENUES					
Illinois	\$42,220				\$42,220
Indiana	\$157,480				\$157,480
Kentucky	\$180,950				\$180,950
New York	\$8,780				\$8,780
Ohio	\$214,060				\$214,060
Pennsylvania	\$117,710				\$117,710
Virginia	\$30,480				\$30,480
West Virginia	\$92,720				\$92,720
U.S. EPA, 106 Grant	\$346,915				\$346,915
U.S. EPA, GIS Demo			\$79,706		\$79,706
PA DER		\$439,576			\$439,576
Other Sources				\$102,126	\$102,126
Miscellaneous	\$1,867				\$1,867
Interest		\$11,485			\$11,485
<b>TOTAL RESOURCES</b>	<b>\$1,231,893</b>	<b>\$423,376</b>	<b>\$79,706</b>	<b>\$102,126</b>	<b>\$1,837,101</b>
EXPENDITURES					
EXPENSES					
Temporary Help	\$1,105			\$2,488	\$3,593
Payroll	\$481,524	\$27,500	\$39,284	\$20,976	\$569,284
Employee Benefits	\$115,776	\$7,233	\$9,625	\$5,139	\$137,773
Staff Travel	\$83,574	\$4,072	\$641	\$4,969	\$93,256
Commission Travel	\$43,532				\$43,532
Adv. Com'tee Travel	\$18,743				\$18,743
Supplies	\$72,421	\$3,140		\$51,205	\$126,766
Telephone	\$20,041	\$1,020		\$396	\$21,457
Equipment	\$0		\$24,988		\$24,988
Rent & Utilities	\$69,982				\$69,982
Repairs & Maintenance	\$33,393				\$33,393
Contractual Services	\$17,922	\$192,622	\$36,742		\$247,286
Printing & Reproduct.	\$31,137	\$360		\$2,300	\$33,797
Lab Fees & Delivery	\$144,753				\$144,753
Special Project Expense	\$51,216		(\$51,216)		\$0
Project Overhead	(\$30,130)		\$19,642	\$10,488	\$0
<b>TOTAL EXPENDITURES</b>	<b>\$1,154,989</b>	<b>\$235,947</b>	<b>\$79,706</b>	<b>\$97,961</b>	<b>\$1,568,603</b>
<b>RESOURCES AVAILABLE</b>	<b>\$76,904</b>	<b>\$187,429</b>	<b>\$0</b>	<b>\$4,165</b>	<b>\$268,498</b>
June 30, 1992					



### RESTRICTED ACCOUNTS

The Commission maintains funds in two restricted accounts that are available for specific expenses with approval by the Commission. A brief description of the accounts follows.

A Compliance account was established in 1985 to mitigate potential expenses that could be incurred through litigation or by responding to spill events. The account is funded by the interest earned on funds received from Commission States and is limited by a \$50,000 ceiling.

A Special Account was established in 1989 to receive fines, settlements, reimbursements or any other monies that may be made available as a result of an action by the Commission or one of its members or by donation by others.

	COMPLIANCE ACCOUNT	SPECIAL ACCOUNT	TOTAL RESTRICTED ACCOUNTS
RESOURCES			
CARRYOVER ON JULY 1, 1991	\$50,000	\$105,923	\$155,923
REVENUES			
Interest Income	\$0	\$27,280	\$27,280
TOTAL RESOURCES	\$50,000	\$133,203	\$183,203
EXPENDITURES			
EXPENSES			
Equipment	\$0	\$33,283	\$33,283
Contractual Services	\$0	\$5,000	\$5,000
TOTAL EXPENDITURES	\$0	\$38,283	\$38,283
RESOURCES AVAILABLE June 30, 1992	\$50,000	\$94,920	\$144,920

### PENSION INVESTMENTS

The following information was extracted from the  
Annual Actuarial Report of William M. Mercer, Inc.  
for the year ending September 30, 1992

#### STATEMENT OF RESOURCES AND DISBURSEMENTS EMPLOYEES' PENSION TRUST FUND

Pension Trust fund Value - October 1, 1991	\$ 1,177,746
Annual Employer Contribution	\$ 25,800
Fund Earnings and Change in Market Value	\$ 158,018
Disbursements for Year Ending September 30, 1992	(\$69,508)
Pension Trust Fund Value - September 30, 1992	\$ 1,292,056



# Publications

Publications are developed to provide information on water quality conditions and activities of the Commission. Charges are levied for some publications to cover production and mailing costs. These charges are waived for requests from educational institutions, government agencies and non-profit organizations. In 1992 the following publications were produced:

## **ORSANCO 1991**

Annual report of activities during 1991

## **Quality Monitor**

Semi-annual publication of data summaries from the Manual Sampling program and the Organics Detection System

## **Emergency Response Directory**

A compilation of instructions concerning the appropriate agencies to notify when a spill or accidental discharge occurs to the Ohio River or a tributary

## **The ORSANCO Outlook**

A newsletter published periodically with general information on water quality conditions and the activities of the Commission

## **Technical Reports:**

Assessment of ORSANCO Fish Population Data Using the MIwb

Ground Water Studies of Neville Island Chemical Site, Mile Point 6.2 of the Ohio River

Toxic Substances Control Program: Cincinnati to Louisville Field Survey

Toxic Substances Control Program: Pittsburgh to Wheeling Field Survey

Water Quality Trends, Ohio River and its Tributaries (1980-1990)

Water Quality Trends, Ohio River and its Tributaries: Organic Compounds

# Staff

## **Donna M. Beatsch**

Data Processing Technician

## **Frank A. Borsuk, Jr.**

Aquatic Biologist

## **Joseph T. Gilligan**

Finance Manager

## **Jason P. Heath**

Environmental Engineer

## **Richard L. Herd, Jr.**

Administrative Programs Manager

## **Barbara A. Horton**

Secretary

## **Jeanne Jahnigen Ison**

Public Information Programs Manager

## **Marilyn P. Kavanaugh**

Administrative Assistant

## **John Lyons**

Environmental Engineer

## **Jonathan A. McSayles**

Environmental Chemist

## **David Plummer**

Environmental Engineer

## **Jerry G. Schulte**

Monitoring and Surveillance Group Leader

## **Alexandra K. Stevenson**

Communications Coordinator

## **Peter A. Tennant**

Technical Programs Manager

## **Alan H. Vicory, Jr.**

Executive Director and Chief Engineer



# Regulatory Agencies of the Signatory States

## **ILLINOIS**

Division of Water Pollution Control  
Environmental Protection Agency  
2200 Churchill Road  
Springfield, Illinois 62794

## **INDIANA**

Office of Water Management  
Department of Environmental Management  
105 S. Meridian Street  
Indianapolis, Indiana 46225

## **KENTUCKY**

Division of Water  
Natural Resources and Environmental  
Protection Cabinet  
18 Reilly Road  
Frankfort, Kentucky 40601

## **NEW YORK**

Division of Water  
Department of Environmental Conservation  
50 Wolf Road  
Albany, New York 12233

## **OHIO**

Division of Water Pollution Control  
Environmental Protection Agency  
Post Office Box 1049  
Columbus, Ohio 43266-0149

## **PENNSYLVANIA**

Bureau of Water Quality Management  
Department of Environmental Resources  
Post Office Box 2063  
Harrisburg, Pennsylvania 17105

## **VIRGINIA**

State Water Control Board  
Post Office Box 11143  
Richmond, Virginia 23230

## **WEST VIRGINIA**

Division of Environmental Protection  
Office of Water Resources  
1201 Greenbrier Street  
Charleston, West Virginia 25311



