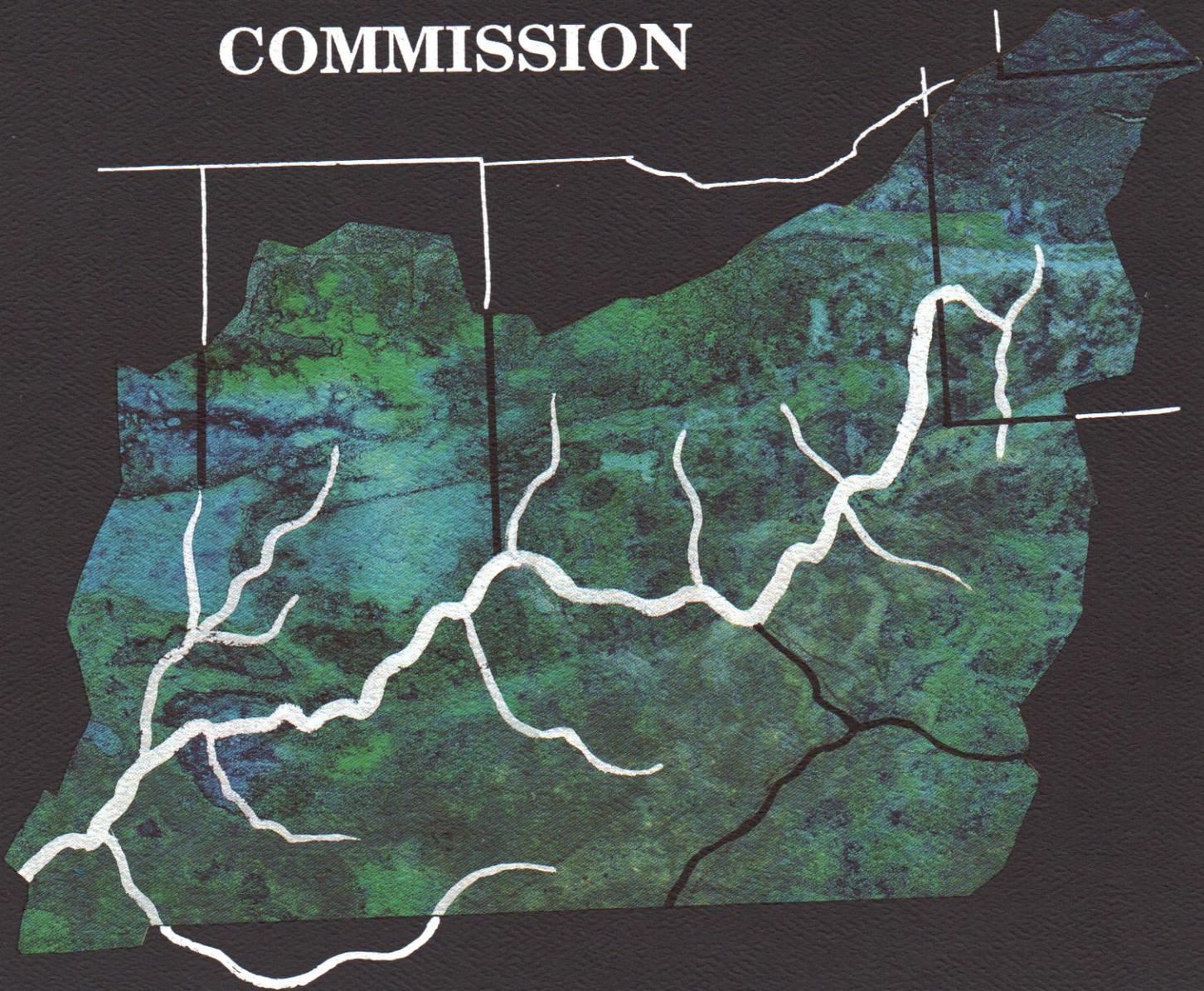


OHIO RIVER VALLEY WATER SANITATION COMMISSION



1991



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 VOINOVICH, Governor of Ohio

THE HONORABLE ROBERT P. CASEY, Governor of Pennsylvania

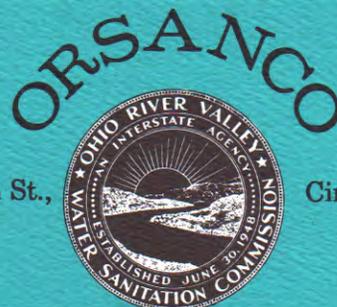
THE HONORABLE L. DOUGLAS WILDER, Governor of Virginia

THE HONORABLE W. GASTON CAPERTON III, Governor of West Virginia

AND

THE HONORABLE GEORGE H.W. BUSH, 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 1991.



ORSANCO headquarters is located at 49 E. Fourth St.,

Cincinnati, Ohio, 45202 (513) 421-1151

MEMBERS OF THE COMMISSION

ILLINOIS

Richard S. Engelbrecht, Ph.D., Professor of Environmental Engineering, University of Illinois
Mary A. Gade, Director, Illinois Environmental Protection Agency
Phillip C. Morgan, Director, Danville Sanitary District

INDIANA

Joseph H. Harrison, Attorney, Bowers, Harrison, Kent & Miller
Albert R. Kendrick, Jr., President, Kendrick's Collectibles
Kathy Prosser, Commissioner, Department of Environmental Management

KENTUCKY

Phillip J. Shepherd, Secretary, Natural Resources & Environmental Protection Cabinet
Gordon R. Garner, Executive Director, Louisville & Jefferson County Metropolitan Sewer District
Ted R. Richardson, President, Cardinal Laboratories

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OHIO

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WEST VIRGINIA

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UNITED STATES

Valdas V. Adamkus, Regional Administrator, U.S. Environmental Protection Agency, Region V
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LEGAL COUNSEL

Thomas D. Heekin, Taft, Stettinius & Hollister

*As of April 1, 1992

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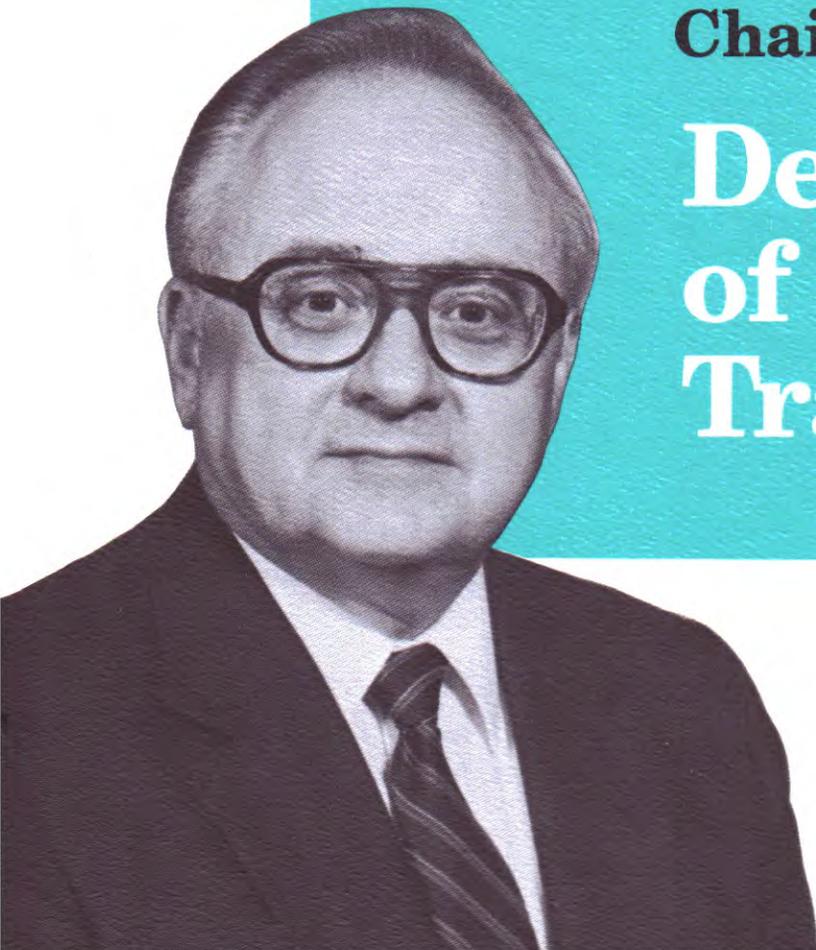
he Ohio River Valley constitutes one of the most diverse and productive land areas in the United States. From extensive coal deposits in the east to rich soils

in the west, the vast natural resources of the Valley support a wide range of industrial, agricultural, and mining activities.

Above all, however, it is the Ohio Valley's abundant water resources which allow the region to be so productive. As the common link which unites the Valley, the Ohio River serves as a source of drinking water, provides water for industrial processing and cooling, permits inexpensive and efficient transportation of goods and supplies, and makes possible a variety of water-based recreational activities.

For 43 years the Ohio River Valley Water Sanitation Commission (ORSANCO) has risen to the challenge of improving the quality of the Ohio Valley's streams while maintaining the proper, and often delicate, balance among its many uses. The Commission's effectiveness is due in large part to its unique representation from the broad scope of interests placing demands on water resources, and its proven ability to serve as a mechanism through which those interests can work cooperatively.

Recent trends in water quality management suggest that the 1990s will be a decade of transition in applying new strategies to improve the quality of streams nationally and in the Ohio Valley. Traditional problems such as the treatment of sewage and industrial wastes have, for the most part,



Chairman's Message

Decade of Transition

been addressed. Remaining water quality problems primarily result from land-based activities such as agriculture and mining, urban storm water runoff, and overflows of combined sewage and urban runoff from sewer systems in older communities. As such, it has become necessary for the Commission to involve new

its 139th meeting in the Washington, D.C. area. At that time, the Commission met with representatives of such agencies as the U.S. Department of Agriculture and the U.S. Department of the Interior's Office of Surface Mining to discuss agency missions, programs and issues relating to water quality.



Commissioners met with members of Congress in Washington. Pictured above are (from left) Senator Dan Coates of Indiana, Vice President Dan Quayle, Joseph Harrison and Albert Kendrick.

interests in our mission, and to define water quality problems and develop strategies from an overall watershed perspective.

The decade of the 1990s presents a particularly exciting opportunity for ORSANCO, an agency whose structure, operation, and very mission are based on the concepts of regionalism, watershed management, and the need for inter-jurisdictional and inter-agency alliances for environmental improvement.

ORSANCO's accomplishments in 1991 reflect the beginning of this transition, as we initiated efforts to have the Ohio River Valley recognized in the Federal Clean Water Act as a geographical area of concern. In addition, the Commission held

In addition to our efforts in this direction, the Commission continued in 1991 to improve the delivery of our traditional programs, including chemical and biological monitoring, emergency response, and public information.

Details of ORSANCO's activities this past year are chronicled in the following pages. But in summary, 1991 has been a particularly productive and forward-looking year for the Commission and for the states and public it serves.

Albert R. Kendrick, Jr.



Environmental and natural resource agencies throughout the United States are embracing the concept of a regional, or watershed-based, approach to water quality issues. Water pollution does not stop at state boundaries; neither can effective pollution control programs.

To the states of the Ohio Valley, the Ohio River is a shared resource of immense proportions, with a drainage basin of over 200,000 square miles, or about 5 percent of the contiguous United States. Approximately 25 million people live within the Ohio Basin, and almost 3 million depend on the Ohio River for drinking water. In addition, the river is used extensively for industrial processing, transportation, and recreation. Finally, the Ohio River and its tributaries support diverse aquatic ecosystems which must be protected even as economic growth continues.

These methods proved largely successful in dealing with the problems of sewage and industrial waste discharges. Today's problems, however, cannot be addressed in the same manner. Pesticides found at an Ohio River water supply intake may result from agricultural practices in upstream tributary watersheds. Contamination of Ohio

"The Commission shall conduct a survey of the territory included within the District, shall study the pollution problems of the District, and shall make a comprehensive report for the prevention or reduction of stream pollution therein."*

River fish may result from improper disposal of old electrical equipment in any of hundreds of dump sites, or from pest control around thousands of individual homes. Concentrations of metals which

ORSANCO's Mission

WATERSHED MANAGEMENT FOR THE OHIO VALLEY

The Ohio River Valley Water Sanitation Compact, which established the Commission, defined water quality goals not only for the Ohio River but for all the waters of the District. The Ohio River has traditionally been the primary focus of the Commission's activities with regard to water quality monitoring, establishing standards of treatment, and enforcing those standards; the member states have ordinarily carried out the same functions on the tributaries.

threaten aquatic life may result from mining operations anywhere in the upper basin. Problems such as these can only be met through a whole watershed approach.

This situation is not unique to the Ohio Valley. Other major watersheds where basinwide approaches are being developed and applied include the Great Lakes, Chesapeake Bay, and tidal waters included in the National Estuary Program.

Common to all successful watershed management strategies is the incorporation of efforts by a variety of interests. Environmental goals are established on a whole watershed basis, then carried out through cooperative local projects.

"The Commission shall draft and recommend to the governors of the various signatory States uniform legislation dealing with the pollution of rivers, streams and waters and other pollution problems within the District."*

ORSANCO has long served as the mechanism by which various interests and political jurisdictions in the Ohio Valley come together to coordinate and implement water quality programs. In the Ohio River Valley Water Sanitation Compact, ORSANCO is charged with the responsibility to undertake a comprehensive assessment of water pollution problems in the Ohio Valley, working with units of federal, state, and local government, industry and private interests. Through studies, reports, and the setting of uniform pollution control standards, the Commission has worked toward the goal of effective watershed management for the Ohio River Valley.

"The Commission shall consult with and advise the various States, communities, municipalities, corporations, persons, or other entities with regard to particular problems connected with the pollution of waters..."*

*Excerpts from Article VIII of the Ohio River Valley Water Sanitation Compact

Watershed-Based Activities of the Commission

Toxic Substances Control

The Commission adopted a Toxic Substances Control Strategy in 1983 to supplement - with a coordinated, regional approach - the member states and U.S. EPA's activities in this area. In 1986, toxics control was established as a full Commission program.

Nonpoint Source Pollution

In 1976 and 1990 the Commission published comprehensive assessments of nonpoint source pollution of the Ohio River Valley.

Reports and Publications

- "Land Use and Hydrologic Impacts on Water Quality of the Ohio River Basin" (1980)
- "Water Quality Monitoring Strategy for the Ohio River and the Lower Reaches of Major Tributaries" (1982)
- "Underground Injection of Waste-waters in the Ohio River Valley Region" (1973)
- "Evaluation of the Ohio Valley Region Basal Sandstone as an Injection Interval" (1976)
- "Registry of Wells for Use in Underground Injection of Wastewater in the Ohio River Valley" (1974)

1991 WATER QUALITY CONDITIONS

detection system and special studies to address specific concerns. The Commission also conducts biological monitoring in conjunction with numerous state and federal agencies.

Some notable aspects of water quality for 1991 are highlighted below.

Combined Sewer Overflows

Many communities along the Ohio River have combined sewer systems, which transport both wastewater and storm water. During rain storms these sewers may overflow, sending untreated sewage into the river. These overflows can cause elevated levels of bacteria in the river which can pose a health hazard to people who come in contact with the water. The Commission conducts special sampling for bacteria at selected Ohio River locations during the recreation season (May through October).

In 1991, bacteria levels were most elevated during rainy months at locations below cities with combined sewer systems.

The highest levels of bacteria were found downstream of the Cincinnati area. As a result, the Cincinnati Health Department issued a standing advisory against contact recreation in the river in the Cincinnati area. This drew considerable attention to the city's sewer system. There are similar systems in over 50 other communities along the Ohio River.

Dissolved Oxygen

One of the Commission's best known accomplishments was the development of an automated monitoring system which provided continuous measurement of temperature, pH, specific conductance, and dissolved oxygen at strategic points on the Ohio River and its tributaries. From 1961 to 1986, the Commission operated the system as the major component of its monitoring efforts.



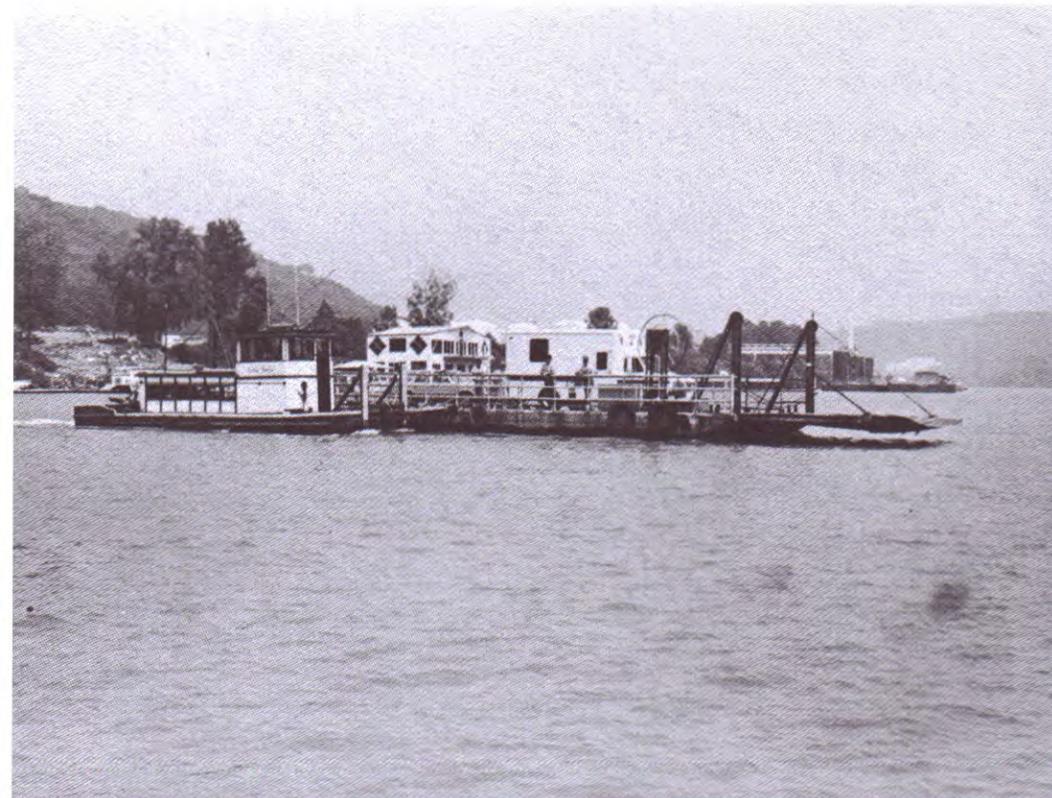
Maintaining the quality of the Ohio River so that it is suitable as a source of public and industrial water supply, fit for recreational use, and capable of supporting a healthy aquatic community is the primary mission of the Commission. Monitoring of water quality is therefore a major component of the Commission's programs. These programs include manual collection of samples, an organics

With the provision of effective treatment to virtually all point source discharges, most problems with the parameters monitored by the system were abated. Today, automated monitoring for dissolved oxygen and temperature is conducted at critical points on the Ohio River by the Corps of Engineers and operators of hydroelectric power facilities. The Commission receives data from these monitors electronically; monitors are interrogated weekly from May through October, when dissolved oxygen problems are most likely to occur. If problems appear to be developing, interrogations are increased to daily.

In 1991, despite low stream flows which in the past were accompanied by low dissolved oxygen levels, the Commission's criteria (daily average of 5.0 mg/L dissolved oxygen, minimum level of 4.0 mg/L) were met throughout the summer at all locations.

Monthly Sampling Results

The Commission performs monthly sampling at 36 locations on the Ohio River and its tributaries. Samples are analyzed for 22 parameters which include solids, nutrients, metals, and organic chemicals. In 1991, stream criteria for most parameters were routinely met at all locations. Concentrations of two metals -- cadmium and copper -- exceeded criteria for the protection of aquatic life on occasion at several locations. Those results were not reflected in the Commission's biological studies, however, as well-balanced populations were found at all locations sampled.



Anderson Ferry, below Cincinnati, is one of ORSANCO's sampling locations.

SPILL RESPONSE

As a "working" river, the Ohio is particularly vulnerable to spills of hazardous materials. All along the river are industries, storage facilities, and terminals involved with the transfer of cargoes to and from barges. Accidents happen, and often they result in materials entering the river. These spills can threaten aquatic life as well as the use of the river for water supply and industrial purposes.

Numerous agencies are involved with spill response on the Ohio River. Each of the six states which border the river has an emergency response agency. In addition, three U.S. EPA Regions, five U.S. Coast Guard offices and three U.S. Corps of Engineers Districts share spill responsibilities for the river.

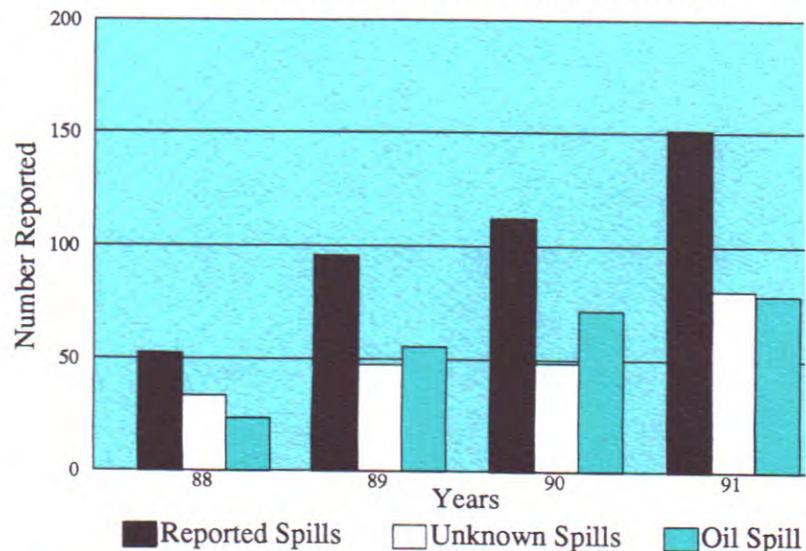
The Commission has assumed a twofold role in responding to spills to the Ohio River and its tributaries: facilitating communication and coordination among the agencies, and coordinating monitoring of spills in order to alert downstream water users. The Commission maintains a 24-hour telephone service to receive spill reports and disseminate information. A directory of telephone numbers for emergency response agencies is maintained and distributed widely to interested parties. The Organics Detection System provides daily monitoring of selected chemicals in order to detect unreported spills and monitor the effects of known spills. An electronic bulletin board is used to disseminate information on spills and river conditions to agencies and water users via computer modem; a spills message line provides spill information by telephone.

Periodic meetings of emergency responders help to improve communications during spill events. In 1991 the

Commission sponsored two local meetings -- in Ashland, Kentucky for Ohio, West Virginia and Kentucky representatives, and in Pittsburgh for Pennsylvania, Ohio, and West Virginia interests. State and federal district personnel as well as local water users attended the meetings. In the fall, a basinwide meeting was held which brought together representatives from all the state and federal agencies. At each meeting, procedures were reviewed and new agreements were reached on individual responsibilities. The Commission also participated in an emergency simulation exercise with state and county response agencies from Ohio, West Virginia and Kentucky.

The number of spills reported to the Commission has increased each year since 1988 (see Figure 1). This may be due in part to improved reporting; however, the increase demonstrates the continuing need to maintain a spill response capability and to continue efforts towards spill prevention.

Figure 1
SPILLS REPORTED TO ORSANCO



CONTROL OF TOXIC SUBSTANCES

In 1983, the Commission adopted a strategy for the control of toxic substances in the Ohio Valley. Since that time, a special initiative has been developed and carried out to identify sources and appropriate controls for toxic substances which remain in the Ohio River and its tributaries despite the application of controls to point source discharges.

Segment Studies

The major thrust of the Commission's Toxics Control Program has been intensive studies of segments of the Ohio River. Currently, four segments covering 500 miles of the river are under investigation.

In 1991, the major effort in segment studies was the sampling of bottom sediments in two of the segments. High levels of PCBs were found in sediments from two locations. These results could lead to the identification of specific sources of PCBs, which are partially responsible for advisories against the consumption of certain fish species from the Ohio River. Additional investigations have been recommended to identify the sources and allow development of solutions to the problem.

Investigation of Ground Water Contamination

Earlier segment studies revealed increases in river concentrations of certain toxics below areas where ground water was known to be contaminated by the same substances. In 1991 the Commission developed new capabilities to analyze these situations.

A ground water flow model developed by the U.S. Geological Survey was applied to an island in the Ohio River below Pittsburgh. The island is the site of documented ground water contamination which resulted in the abandonment of water supply wells. Considerable data were available from monitoring wells on the island. Results of the model application indicate that over one million gallons per day are contributed to the Ohio River from one 60 acre site. This finding supports the contention that contaminated ground water is a source of toxics to the Ohio River.

The Commission also plans to apply this model to other sites of known ground water contamination. In addition, contaminant transport modelling may be added in the future to further document the relationship between ground and surface water quality.

Field sampling on the Ohio River near downtown Cincinnati



E

ach year the Commission coordinates multi-agency lockchamber studies to assess the fish populations of the Ohio River. Ten lockchamber surveys were conducted in the fall of 1991; nine on the main stem of the Ohio and one on the Allegheny River.

During the 1991 lockchamber studies 56 species of fish were collected. This number may reflect the fact that the lockchamber represents only one portion of the river ecosystem, which is not well suited to many species of fish. Many fish prefer the shallower and more protected habitat near shore to the openness of the lockchamber.

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The Commission conducts electrofishing in conjunction with lockchamber studies.



BIOLOGICAL MONITORING

Electrofishing

In order to provide a more complete assessment of fish populations at different locations in the river, the Commission instituted a limited electrofishing program in 1990 in conjunction with the lockchamber studies. In 1991, the electrofishing program was fully implemented.

Electrofishing can be conducted almost anywhere along the shoreline, allowing the Commission to sample fish from a variety of different habitats. As a result, 72 species of fish were collected during the 1991 electrofishing studies, including seven species not previously collected by ORSANCO.

HOW ELECTROFISHING WORKS

The purpose of electrofishing is to temporarily immobilize fish so that they can be collected, recorded, and released unharmed. This is accomplished by generating an electrical current in the water around the boat, which attracts and then immobilizes fish within the electrical field. Electrofishing is generally done at night, when many fish are more active. Except for a few specimens which are retained for tissue analysis, most fish are returned to the water.

Fish Consumption Advisories

Since 1975 the Commission has performed chemical analysis on fish taken from the Ohio River and several tributaries to monitor for pesticides, metals, and polychlorinated biphenyls (PCBs).

Based on results from the 1990 sampling program, five of the six states bordering the Ohio River again issued fish consumption advisories in 1991. Indiana, Kentucky, Ohio, Pennsylvania, and West Virginia issued statements advising people against consuming certain fish from the Ohio River. Species covered by advisories in one or more states include carp, catfish, white bass, paddlefish and paddlefish eggs, or roe. The advisories were based on tissue analysis that showed levels of PCBs and/or chlordane (a pesticide) which exceeded the action levels set by the U.S. Food and Drug Administration for human consumption. The test results also showed that other species, such as striped bass, spotted bass, sauger, and crappie did not have such levels of contaminants.

Zebra Mussels

The first confirmed sighting of zebra mussels in the Ohio River occurred in October 1991 near Paducah, Kentucky. The zebra mussel, an exotic species of mussel originally from the Caspian Sea, was found in Lake St. Clair, Michigan in 1988 and has since spread throughout the Great Lakes. The mussels are believed to have been accidentally brought to this country from Europe in the ballast water of a cargo ship.

Zebra mussels are easily spread from one body of water to another. They can clog power plant, industrial, and public drinking water intakes, foul boat hulls and engine cooling water systems, and disrupt aquatic ecosystems. Researchers have not yet discovered an effective means of controlling the spread of the zebra mussel throughout North America.

In order to address the growing concerns about the spread of zebra mussels, ORSANCO cosponsored a conference in



During fish surveys, fish are weighed, measured and catalogued by species.

June along with the Ohio River Basin Commission, the Upper Mississippi River Basin Association, the U.S. Army Corps of Engineers, and the University of Kentucky Water Resources Research Institute. This conference, entitled "Zebra Mussels in the Inland Waterways: What You Should Know," addressed such topics as ecological impacts; effects on municipalities, industries, navigation and recreation; control methods; and agency responsibilities.

Each fall ORSANCO conducts lockchamber studies up and down the Ohio River and its tributaries.



WASTEWATER TREATMENT

Status of Facilities

One of the primary goals of the Compact has been to improve wastewater treatment in the Ohio River Valley. When the Commission was created in 1948, less than one percent of municipal and industrial sewage discharged to the Ohio River received any sort of treatment. Today, due largely to the efforts of ORSANCO, there are only four small communities on the main stem which have not yet achieved secondary wastewater treatment (see Table 1). Of these, three should reach compliance in 1992.

Pollution Control Standards

Construction of treatment facilities brings the Ohio River only part way toward the goal of clean water; it is also important that the facilities be operated properly. The Commission has established Pollution Control Standards which must be met by all Ohio River discharges. These standards are implemented by the member states through the National Pollutant Discharge Elimination System

(NPDES). The states provide ORSANCO with copies of all draft permits for Ohio River discharges issued under the NPDES program for review and comment.

Tracking & Compliance

In order to ensure that its Pollution Control Standards are being achieved, the Commission tracks certain discharges for compliance. Of the 27 facilities tracked in 1991, 14 were monitored due to their large volume of discharge (greater than 10 million gallons per day), while 13 were monitored due to previous compliance problems.

The Compact provides ORSANCO with the authority to apply its enforcement powers when necessary to correct compliance problems. Currently the Commission is involved in two consent orders, along with U.S. EPA and Ohio EPA, involving the Cincinnati Metropolitan Sewer District-Mill Creek Sewage Treatment Plant, and the City of Wellsville, Ohio.

Table 1
Ohio River Communities Providing Less Than Secondary Treatment*

Community	Flow	Plans for Compliance	Target Completion Date
City of Kenova, WV	0.5 MGD**	In the process of connecting to Huntington wastewater treatment plant	6/92
Town of Ceredo, WV	0.3 MGD	In the process of connecting to Huntington wastewater treatment plant	6/92
City of New Cumberland, WV	0.25 MGD	Construction has not yet begun on secondary plant	1/94
Brooke County Public Service District, WV	0.04 MGD	Construction of secondary plant underway	7/92

* As of January 1, 1992

**Million gallons per day

Ohio River Discharge Facts

- Total number of NPDES permitted discharges: 605

MUNICIPAL WASTEWATER

- Communities permitted to discharge treated wastewater: 135
- Total permitted discharge flow to Ohio River: 780 MGD

INDUSTRIAL AND NON-MUNICIPAL WASTEWATER

- Non-municipal discharges with NPDES permits*: 470

Type of Discharge	Number of Permits
Metal & related industries	63
Chemical manufacturing	50
Coal mining, other quarrying & related activities	48
Electric power generation	46
Petroleum bulk terminals	43
Water supply (filter backwash)	38
Gas production & distribution	19
Glass & concrete manufacturing	14
Petroleum refining & related activities	13
Transportation industries	10
Food processing/manufacturing	8
Paper & allied products	7
Non-municipal sewage & uncategorized	111

*Based upon available data using Standard Industrial Classification (SIC) codes and U.S. EPA's Permit Compliance System (PCS) data base.

Registry of Distinguished Operators

In order to provide safe drinking water to the public and maintain clean streams, it is critically important that both water and wastewater treatment facilities be operated properly at all times. ORSAN-CO recognizes the contributions of outstanding operators in the Ohio Valley through its Registry of Distinguished Operators.

Membership in the Registry requires a rigorous examination of both the candidate and the treatment facility being considered. Only those candidates who demonstrate both exemplary operation and contributions to their profession are selected.

Individuals elected by the Commission to the Registry in 1991, along with the facilities they operate, are:

- Michael Fox, Walnut Creek (Ohio) Sanitary District
- Stanley J. States, Pittsburgh (Pennsylvania) Water Department
- Melvin E. Hook, Fox Chapel (Pennsylvania) Water Authority
- J. Bruce Fox, Weirton (West Virginia) Wastewater Treatment Facility

WATER QUALITY TRENDS: MEASURING PROGRESS

Water quality monitoring results provide a picture of the condition of the river and its ability to support its uses at a given time. In recent years, the Commission has devoted considerable effort to comparing results from year to year to look for signs of change. Such trends in water quality conditions can provide a measure of the success of pollution control efforts.

Organic Chemicals

The Commission's first major trend assessment, completed in 1990, identified improvements in levels of nutrients and metals measured in the monthly sampling program. In 1991 a similar analysis was applied to results from the Organics Detection System.

The Organics Detection System provides daily analyses for 22 compounds. Most of the results are non-detections. Over the ten years from 1981 through 1990, only five compounds were detected in over half of the samples from two or more monitoring sites. Trend analysis was performed on the monthly detection rates for those chemicals. The analysis revealed decreasing trends in the numbers of detections for each of the five

chemicals (chloroform, methylene chloride, 1,1,1-trichloroethane, tetrachloroethylene, and bromodichloromethane).

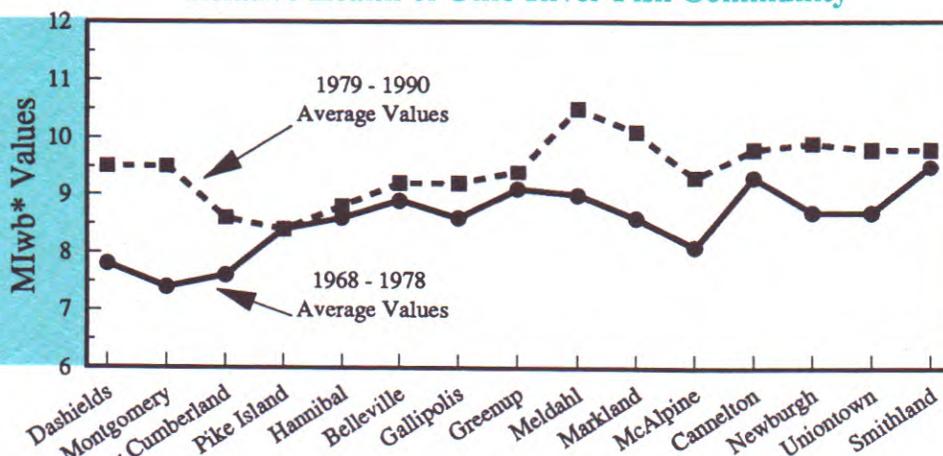
Fish Species Diversity

Several indices have been developed to express the relative health of aquatic communities based on the diversity of pollution-sensitive species. After consultation with aquatic biologists from state and federal agencies, the Commission chose the Modified Index of Well Being (MIwb) to assess the results of its fish population studies.

The MIwb was applied to results of Commission lockchamber studies from 1988 to 1990. Results of the assessment indicate significant improvement at eight locations (see Figure 2). No locations showed degrading conditions, but overall values were lower at some locations than others.

Biological indices such as the MIwb have not been widely applied to large rivers such as the Ohio, so conclusions from this analysis must be viewed as tentative. The results do appear favorable, and clearly show improvement over a period of intensive water pollution control efforts.

Figure 2
Relative Health of Ohio River Fish Community



*Modified Index of Well Being

PUBLIC OUTREACH

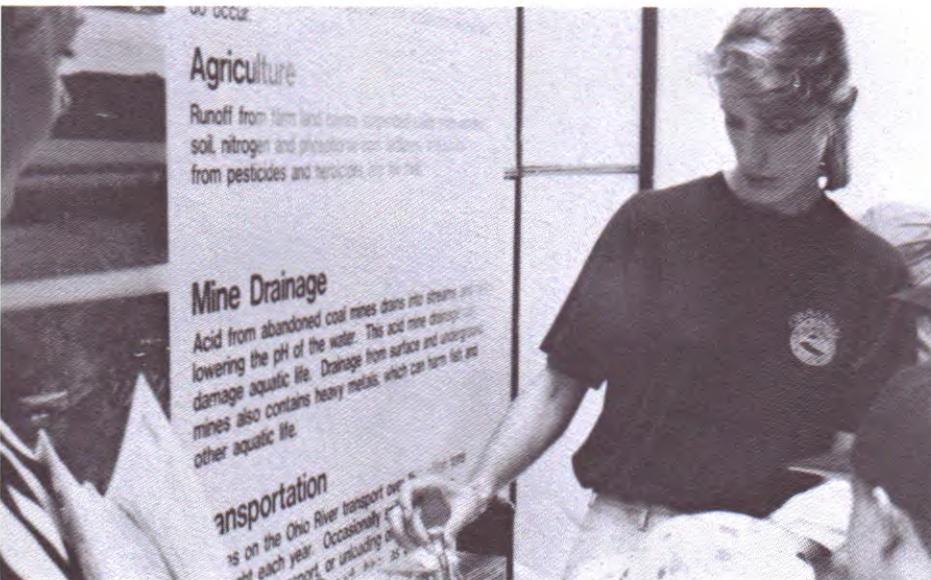
In acknowledgement of the fact that the 1990s have been designated as the Decade of the Environment, ORSANCO has endeavored to expand its public outreach efforts. In addition to producing a number of publications dealing with water quality issues, the Commission either sponsored or participated in a number of outreach activities in 1991.

testing station where visitors could help perform simple water quality experiments. Over 200,000 people toured the barge during the summer, providing ORSANCO with an opportunity to reach a large number of people.

CSO Symposium

On April 23-24 of 1991, the Publicly Owned Treatment Works (POTW) Advisory Committee of ORSANCO sponsored a symposium entitled "A Storm Brewing: Combined Sewer and Storm Water Control." The purpose of the symposium was to identify the scope of the problems associated with combined sewer overflows (CSOs) and storm water, as well as potential solutions. Issues addressed at the symposium included the impact of CSOs and storm water on water quality, legislative requirements for control, and the cost of compliance, as well as municipal and industrial case studies.

The symposium was provided as a service to small and medium size communities along the Ohio River, many of which are struggling to comply with recent federal regulations on CSOs and storm water control. Over 200 people attended the symposium, and response to the event was very favorable.



ORSANCO operated a water quality testing station aboard the "Always A River" barge.

Always A River

During the summer of 1991 a floating barge museum entitled "Always A River: The Ohio River and the American Experience" travelled the entire length of the Ohio River. Sponsored by the Indiana Humanities Council and the humanities councils of the other Ohio River states, the barge contained exhibits portraying the history, culture, and ecology of the river. As part of this exhibit, ORSANCO and U.S. EPA operated a water quality

OHIO RIVER SWEEP '91



In 1989 the Commission organized a campaign of public awareness and participation to address the problem of litter along the Ohio River shoreline. The campaign, entitled the Ohio River Sweep, began as a one-day shoreline cleanup from Cincinnati, Ohio to Ashland, Kentucky. This pilot project was so successful that the program was expanded in 1990 to include all six Ohio River states.

On Saturday, June 15, 1991, over 15,000 people participated in the third annual Ohio River Sweep. More than 13,000 tons of trash were collected and recycled or taken to approved landfills. The program continues to gain momentum, sparking interest around the country and generating new types of support each year. In 1991, corporate participants included Ashland Oil, Inc., which has been the national sponsor for three years, and the Ohio River Company, which provided barges and cranes to help remove tires and heavy debris.

In July 1991 the Ohio River Sweep was honored in Washington, DC with seven national "Take Pride in America" awards, one for each of the participating states and a special award for the Commission. "Take Pride in America" is a national public awareness campaign conducted by the U.S. Department of the Interior to increase awareness of the importance of the wise use of natural and cultural resources and encourage an attitude of stewardship and responsibility toward America's resources.

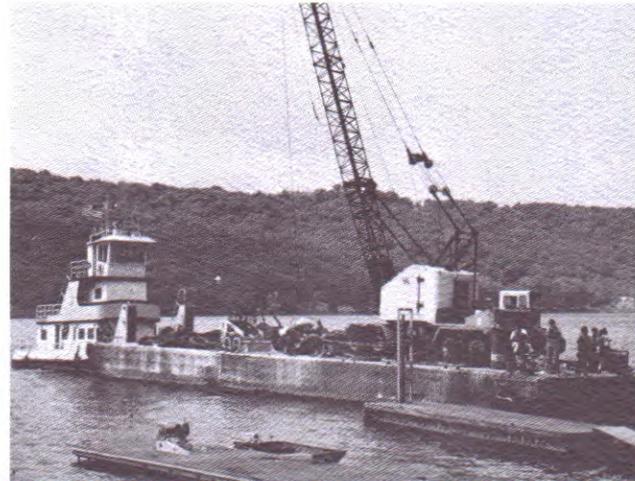
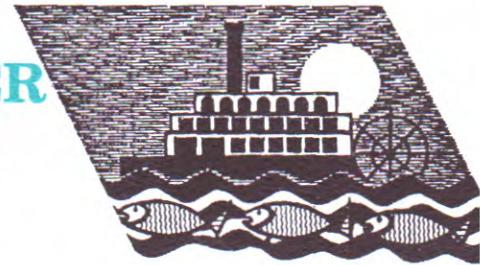


The Ohio River Sweep would not be possible without the help of industries throughout the Ohio River Valley. Supporters for the 1991 Ohio River Sweep include:

Ashland Oil, Inc.
Procter & Gamble
Dow Corning
DuPont
Quantum Chemical
Ohio River Company
Neville Chemical
ARCO Chemical
Calgon Carbon
BASF
Duquesne Light

OHIO RIVER SWEEP

Let's keep it clean!



Tires were the most common items found along the shoreline.



Jeanne Ison accepts the Take Pride in America award from spokesperson Linda Evans on behalf of ORSANCO for its coordination of the Ohio River Sweep.

LOOKING AHEAD

● 1992: Year of Clean Water

In preparation for the twentieth anniversary of the 1972 Federal Clean Water Act, the United States Congress has proclaimed 1992 as the Year of Clean Water. In order to demonstrate its continued support of and commitment to water quality improvement in the Ohio River Valley, the Commission issued the following resolution:

RESOLUTION JOINING THE COMMISSION WITH THE NATION
IN CELEBRATING
THE 20TH ANNIVERSARY OF THE CLEAN WATER ACT

- WHEREAS:** Water is one of the basic elements of life; and
- WHEREAS:** An abundant supply of clean water is essential to the people of the Ohio River Valley for public health, economic development, fisheries and wildlife management, water recreation, and aesthetic enjoyment; and
- WHEREAS:** Significant progress has been made since the creation of the Ohio River Valley Water Sanitation Compact, the adoption of state legislation and the passage of federal legislation including the 1972 Clean Water Act; and
- WHEREAS:** In spite of the adoption of legislation and its resultant efforts, water pollution from point and nonpoint sources continues to impair the Ohio River and its tributaries from attaining full support of their designated uses; and
- WHEREAS:** Further development of water pollution control programs and advancement of water pollution control research, technology development, technology transfer, and environmental education are essential for further progress toward achieving the goals and objectives for clean water in the Ohio Valley and nationwide;
- NOW, THEREFORE, BE IT RESOLVED THAT:** In recognition of progress toward water pollution control under the Federal Clean Water Act following its passage in October 1972, and as a pledge of continuing support and commitment to achieving its water quality goals throughout the Ohio River Valley, the Ohio River Valley Water Sanitation Commission joins the nationwide celebration of the 20th anniversary of the Federal Clean Water Act by observing 1992 as the Year of Clean Water and October 1992 as Clean Water Month.



Adopted by action of the Commissioners of the Ohio River Valley Water Sanitation Commission on this, the 9th day of January 1992.

Albert K. Kennedy
Chairman

PUBLICATIONS

Publications are developed to provide information on water quality conditions, activities of the Commission, and environmental issues. Charges are levied for some publications to cover production and mailing costs. These charges are waived for requests from government agencies or non-profit organizations. In 1991 the following publications were produced:

ORSANCO -- 1990

Annual report of activities during 1990 (22 pages, no charge)

Quality Monitor -- 4 Issues

Quarterly publication of data summaries from the Manual Sampling Program, Water Users Network and the Organics Detection System (no charge)

Emergency Response Directory

A compilation of instructions concerning the appropriate agencies to notify when a spill or accidental discharge occurs on the Ohio River or a tributary (8 pages, no charge)

The ORSANCO Outlook

A newsletter published periodically with general information on water quality conditions and the activities of the Commission (no charge)

The Ohio River Valley Water Sanitation Commission and its Activities

An overview of the Commission's history, structure, and programs (no charge)

Pollution Control Standards -- 1990 Revision

Revised Pollution Control Standards for the Ohio River, including stream criteria and standards of treatment (10 pages, no charge)

Relationship Between Ohio River Water Quality and Drinking Water Quality

Technical report comparing Ohio River water quality to requirements of the Safe Drinking Water Act (no charge)

Water Quality Trends in the Ohio River and its Tributaries

Summary brochure of technical report on long-term trends of basic water quality parameters and metals (no charge)

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Executive Director and Chief Engineer



The Ohio River at its confluence with the Mississippi near Cairo, Illinois

The Year in Review

Albert R. Kendrick, Jr. of Indiana was elected Chairman and Melvin Hook of Pennsylvania was elected Vice Chairman of the Commission for the period July 1, 1991 to June 30, 1992. Richard Engelbrecht of Illinois was elected Secretary. Richard L. Herd, Jr. of the Commission staff was elected Treasurer.

New appointments to the Commission included Douglas E. Conroe and Thomas A. Erlandson of New York, Donald R. Schregardus, Director, Ohio Environmental Protection Agency, and Albert Stauffer, Federal Representative.

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 Commission-related duties.

Advisory Committees

The Commission receives advice and counsel from a wide range of viewpoints through its advisory committees, each of which 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.

FINANCIAL REPORT

The following financial information was extracted from the Annual Audit Report of Hall & Associates
Certified Public Accountants for the year ending June 30, 1991

COMBINED STATEMENT OF ACCRUED REVENUES AND EXPENSES AND AVAILABLE RESOURCES-YEAR ENDING JUNE 30, 1991

	GENERAL * FUND	COMPLIANCE ** ACCOUNT	SPECIAL *** ACCOUNT	TOTAL ACTIVITIES
RESOURCES				
Carryover on July 1, 1989	\$ 131,344	\$ 50,000	\$ 170,721	\$ 352,065
Revenues				
Illinois	40,595			40,595
Indiana	151,415			151,415
Kentucky	173,985			173,985
New York	8,445			8,445
Ohio	205,810			205,810
Pennsylvania	113,175			113,175
Virginia	29,310			29,310
West Virginia	89,140			89,140
U.S.EPA-106 Grant	379,825			379,825
Miscellaneous	1,137			1,137
Interest			18,383	18,383
Other Sources	<u>129,987</u>		<u>41,212</u>	<u>171,199</u>
Total Resources	\$1,454,168	\$ 50,000	\$ 230,316	\$1,734,484
EXPENDITURES				
Temporary Help	\$ 5,768			\$ 5,768
Payroll	524,562			524,562
Employee Benefits	128,164			128,164
Staff Travel	77,352			77,352
Commissioner Travel	49,544			49,544
Adv. Committee Travel	32,270			32,270
Supplies	171,919			171,919
Telephone	22,777			22,777
Equipment	20,817		\$ 124,393	145,210
Rent & Utilities	84,274			84,274
Repairs & Maintenance	25,498			25,498
Contractual Services	35,584			35,584
Printing & Reproduction	38,164			38,164
Lab Fees & Delivery	<u>226,449</u>			<u>226,449</u>
Total Expenses	\$1,443,142		\$ 124,393	\$1,567,535
Resources Available on June 30, 1990	\$ 11,026	\$ 50,000	\$ 105,923	\$ 166,949

See accompanying Notes to Financial Statement

The following information was extracted from the Annual Actuarial Report of William M. Mercer, Inc.
for the year ending September 30, 1991

STATEMENT OF RESOURCES AND DISBURSEMENTS EMPLOYEES PENSION TRUST FUND

Pension Trust fund Value - October 1, 1990	\$ 1,055,431
Annual Employer Contribution	23,000
Fund Earnings and Change in Market Value	184,612
Disbursements for Year Ending September 30, 1991	<u>(58,321)</u>
Pension Trust Fund Value - September 30, 1991	\$1,204,722

Notes to Financial Statement

*The listings under the General Fund heading include activities which are funded by means other than that required of the States signatory to the Ohio River Valley Water Sanitation Compact.

**The 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.

***The 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. Disbursements from this account are made at the direction of the Commission. To date it has been used to upgrade some of the aging components of the Organics Detection System and to purchase other monitoring tools.

REGULATORY AGENCIES OF THE SIGNATORY STATES

ILLINOIS

Division of Water Pollution Control
Environmental Protection Agency
2200 Churchill Road
Springfield, Illinois 62706

INDIANA

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 17120

VIRGINIA

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

WEST VIRGINIA

Division of Natural Resources
Water Resources Section
1201 Greenbrier Street
Charleston, West Virginia 25311

