ORSANCO 1981

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KENTUCKY
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*as of December 1, 1981

Cover photo courtesy of the Louisville

to:

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Governor of Indiana

The Honorable John Y. Brown, Jr.
Governor of Kentucky

The Honorable Hugh L. Carey
Governor of New York

The Honorable James A. Rhodes
Governor of Ohio

The Honorable Richard L. Thornburgh
Governor of Pennsylvania

The Honorable Charles S. Robb
Governor of Virginia

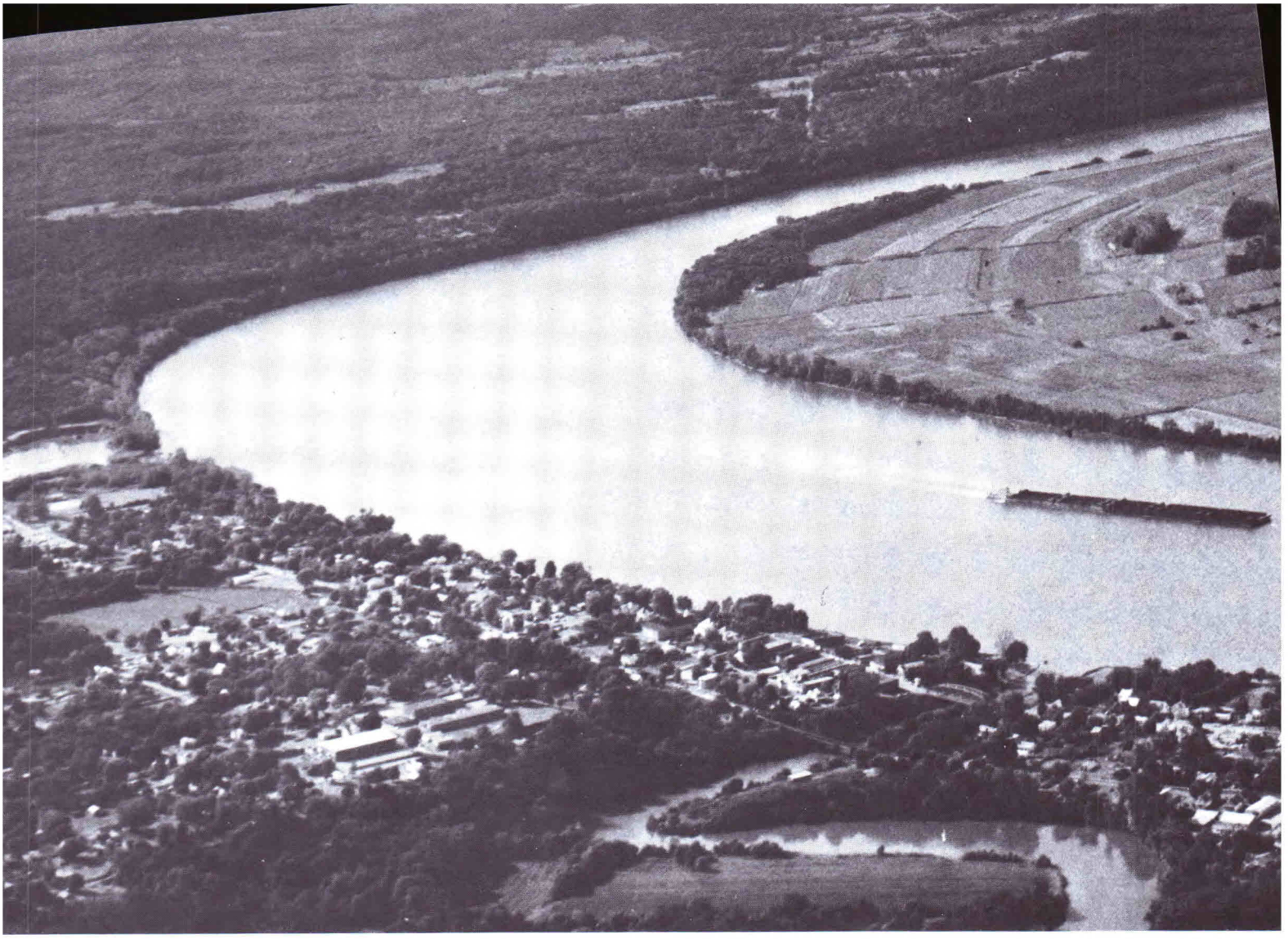
The Honorable John D. Rockefeller, IV
Governor of West Virginia

Photo courtesy of the Louisville Courier-Journal

The Commissioners of the Ohio River Valley Water Sanitation Commission — an interstate compact agency 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

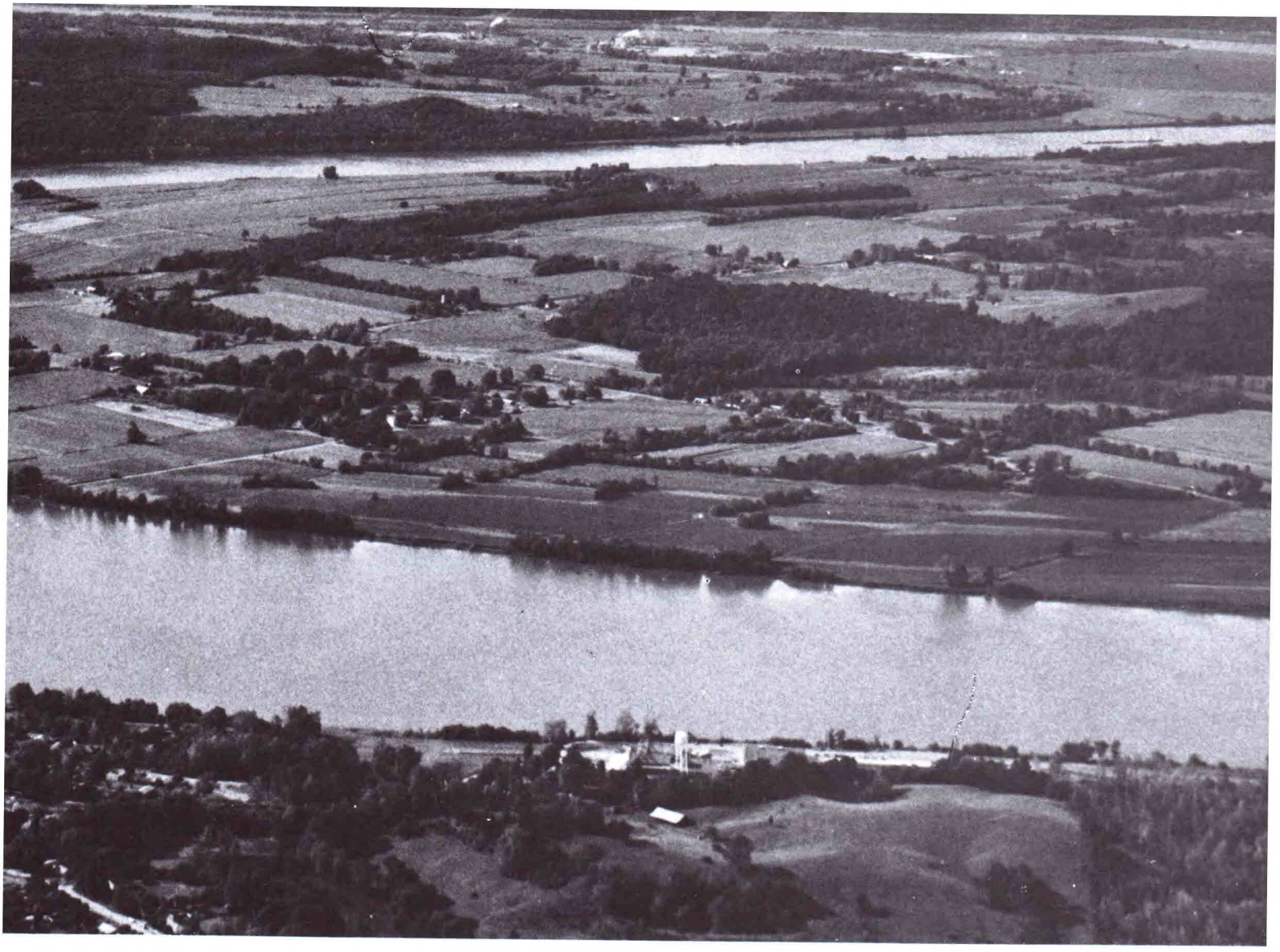
with the approval of the Congress of the United States — respectfully submit a review of the Commission's activities in 1981.



chairman's message

Recent developments indicate that the 1980's will constitute a decade of change at an increasing rate. Thus it is imperative to continuously re-evaluate the goals and objectives as well as the activities of the Ohio River Valley Water Sanitation Commission. In 1948, when the commission was established, the prevalence of discharges of raw sewage to the Valley's streams established the primary objective: to provide a mechanism for the compact states to work together to assure the construction of municipal and industrial wastewater treatment facilities.

Today, primary treatment facilities are almost universally in place within the basin, but secondary treatment is the basic requirement. More than 80 percent of the industrial treatment facilities in the Valley and about 50 percent of the municipal facilities are meeting their treatment needs. With state and regional responsibilities for pollution control increasing and resources to meet these responsibilities under curtailment, the commission, like many organizations and institutions, must review its overall goals in the context of existing and future problems. To insure that expenditures of resources and energy will yield the greatest return, the highest impact and the most



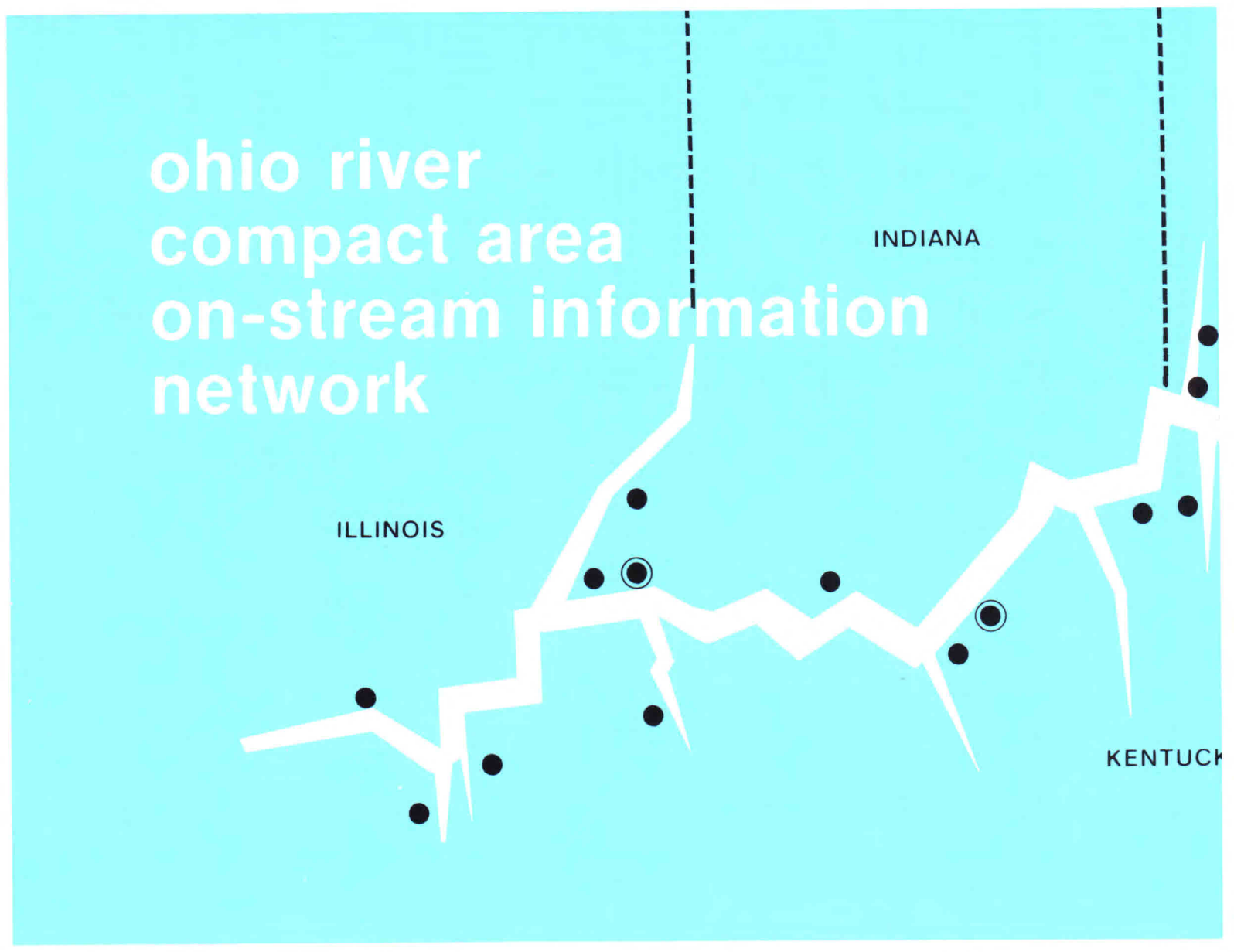
widespread benefit, ORSANCO's activities must undergo continuing scrutiny to achieve the commission's overriding and ultimate goal — that of protecting Valley citizens from the effects of water pollution.

Two examples of programs currently underway serve to illustrate the breadth of concerns involving the commission in the '80s. The first stems from the growth and diversity of energy facilities in the Valley, which in turn is an outgrowth of the availability of raw materials and the assurance of a reliable and plentiful water supply as well as Valley interests in economic development. This activity raises a number of issues of potential interstate impact, many of which are environmental in nature, including questions about water quality and quantity. There are also jurisdictional, economic and social issues to be addressed. Recognizing this wide range of potential problems and that there currently exists no prescribed method by which the states can collectively deal with these issues and so mitigate their impacts, the commission has underway a study to investigate institutional mechanisms for handling the interstate impacts associated with the siting of energy facilities in the Valley. The study, funded by the John A. Hartford Foundation of New York City, is a cooperative undertaking with the Council of State Governments of Lexington, Kentucky.

The second example is the result of the development and availability of instrumentation for the detection of trace quantities of chemical contaminants in water — at the fraction of a microgram level. This technology has expanded the capability of the commission's monitoring and surveillance program exponentially and has provided new and powerful tools for determining and improving the quality of the Ohio River and its tributaries.

In the 1980's increasing attention is focused on pollutants which cannot be seen or smelled, and which exist in such minute quantities that their potential toxicity seems almost implausible. Certain of the old guard pollutants — like phenolics — also crop up periodically as a reminder that the war on water pollution is never ended. To foster economic development and a high quality of life for the citizens of the Valley, the availability of an adequate quantity of high quality water is essential. The commission remains dedicated to this goal.

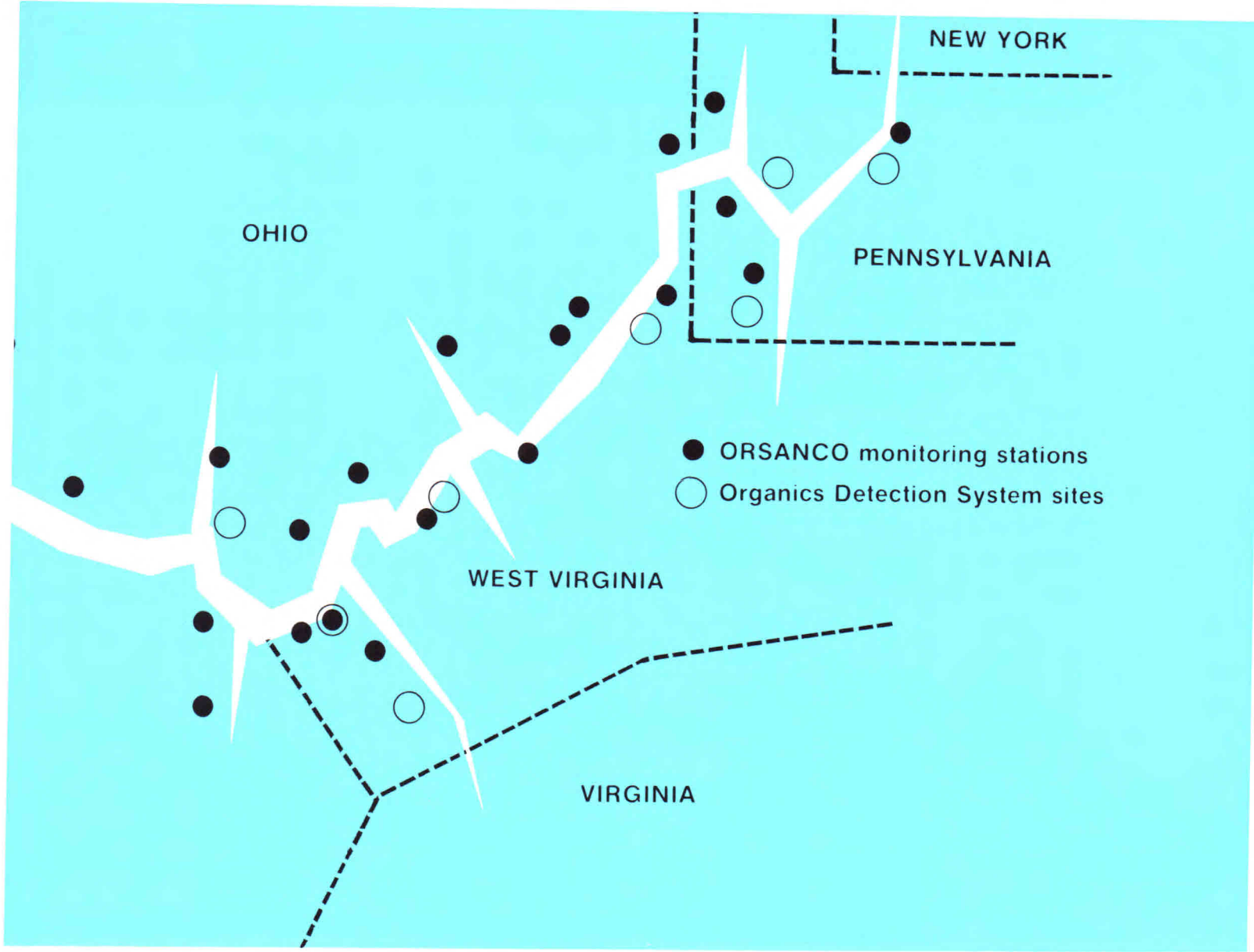
R. S. Engelbrecht



clean water — a key ingredient

The coming decade will continue to test the abilities of states to meet the needs of their citizens. Clean water is one of the most basic of human needs. Clean water is also essential to the maintenance of a healthy regional economy. Early settlers and entrepreneurs were attracted to the Ohio River Valley because its reliable water supply assured survival, communication and transportation and because basic raw materials for manufacturing and power were available. Today, that same reliable water supply is a major constant in the equations that determine the thrust of many activities in the Valley, including industrial and energy facility siting.

The decade of the 1980's is already bringing obvious changes to the Ohio River. Hydroelectric generating facilities are in operation at two of the dams on the river; plans call for eventual placement of "hydros" at all the dams. Synfuel plants to convert coal to a liquid are already operating in the Valley; more are planned. Coal slurry pipelines to carry pulverized coal by water through pipes to the southern part of the country are



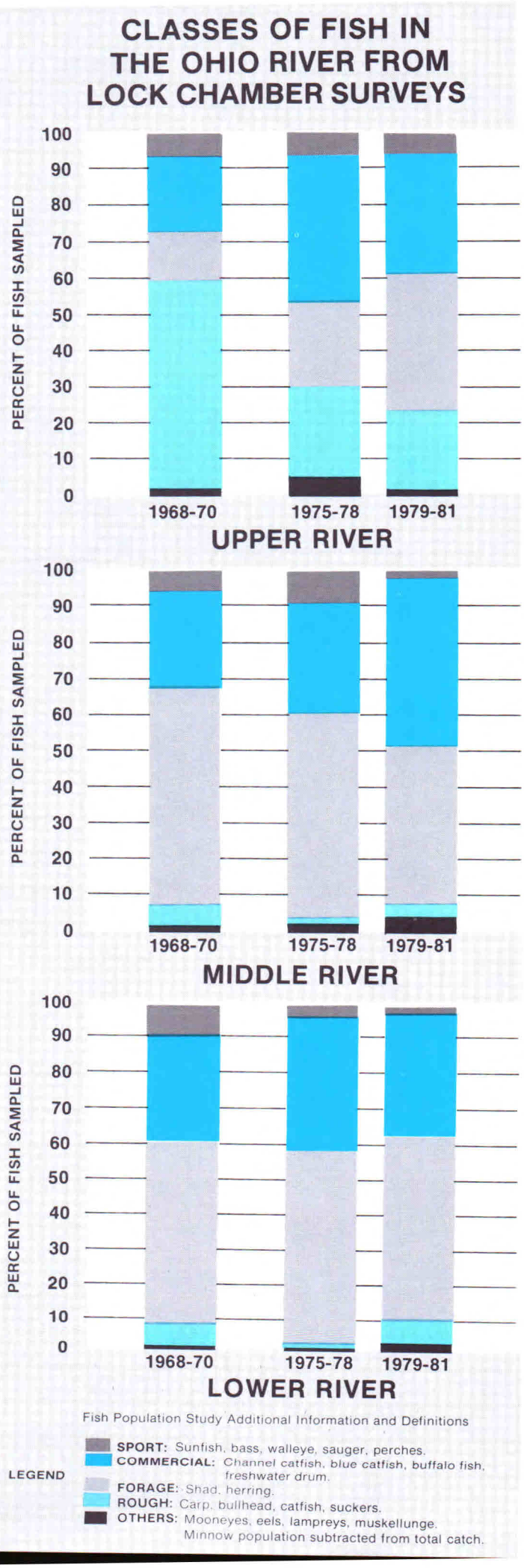
on the drawing boards. These projects have major water requirements. The commission is monitoring these developments to assure that they proceed without detrimentally affecting the water quality requirements of other industries and municipalities in the Valley.

The water needs of these new developments will join the already existing uses of the river: drinking water supplies, cooling water for electricity generating stations, domestic and industrial waste removal, manufacturing, fishing and recreation.

The Ohio River and its tributaries manage to meet these needs, largely because in 1948 political and industrial leaders of eight Valley states had the insight to realize that an adequate supply of clean water is a key to community economic growth, health and well-being. Perhaps even more importantly, they realized that not only was it essential that they work together to meet this goal, but that their cooperative effort would be most cost-effective as well.

Today, the Ohio River Valley Water Sanitation Commission continues its established role of providing those water pollution control services to the states that can best be done through cooperative activities. Monitoring and surveillance, surveys and data analysis, backup regulatory assistance and the coordination and provision of supplies and maintenance for a technology intensive detection network for organic chemicals in the Ohio River and several tributaries-these are examples of programs through which the member states in the compact are saving both time and money because duplication of resources and effort is eliminated.

In the final analysis, the result of all this is clean water — enough to meet today's needs and, with careful management, decision-making and foresight, enough for tomorrow's as well.



what the fishing tells us

At various times between 1957 and 1970, and annually since 1975, the commission has coordinated a cooperative fish population sampling project among fisheries, wildlife, natural resources, health and environmental protection agencies from six member states, and the University of Louisville and four federal agencies: the Food and Drug Administration, US Environmental Protection Agency, Department of Interior and Army Corps of Engineers. Fish are surveyed at the various lock chambers along the Ohio River to determine the cumulative effects of toxic materials, if any, in the fish as well as estimate changes in populations. Results indicate that the numbers and types of fish in the river continue to show improvement.

The upper Ohio River has produced an increase in the number of commercially valuable fish, relative to the total catch, since 1968. These fish are typically more pollution sensitive than "rough" species and thus, tend to support contentions of improved water quality. Sport fish numbers have tended to remain stable, relative to the total catch. Forage fish, mainly shad which provide a food source to predator species, have also increased while rough fish numbers have declined.

Commercial fish numbers in the middle river have increased relative to the total catch, although this change was less marked than that of the upper river. Forage fish numbers have also increased slightly while the rough fish population, a small proportion of the total in this river segment, has remained relatively stable.

Little change has been noted in the lower river segment, other than a slight increase in the rough fish species and corresponding decrease in the sport species.

The catch at Belleville Dam on the Ohio River in West Virginia

This information tends to be supported by fishermen along the Ohio River, whose reports on the excellence of the bass catch to the Bass Anglers Sportsmen's Society led that organization to decide to hold their "Superbowl" of bass tournaments on the Ohio River in mid-1982. Called the Bass Champs Cincinnati Invitational, the contest will pit 250 anglers against the black bass between Meldahl and Markland Dams in the middle river. Sauger, another game fish, is "booming" too, in the middle river segment, according to a popular sportsmen's magazine (*Outdoor Life*, October, 1981).

Results from the surveys document the observations of the fishermen. The data are shown by survey years and river section. All of the changes in population diversity are relative to the total catch, which varies year to year depending upon a number of factors, both biological and operational.

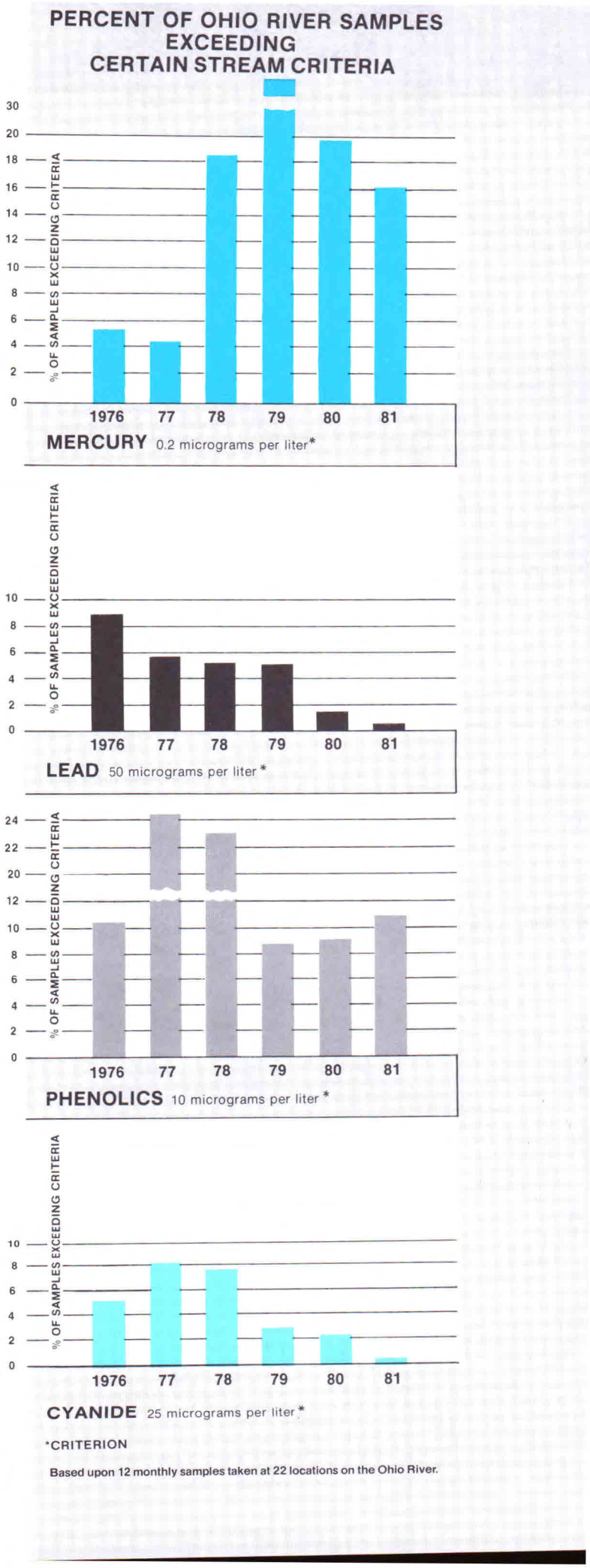
tracking water quality

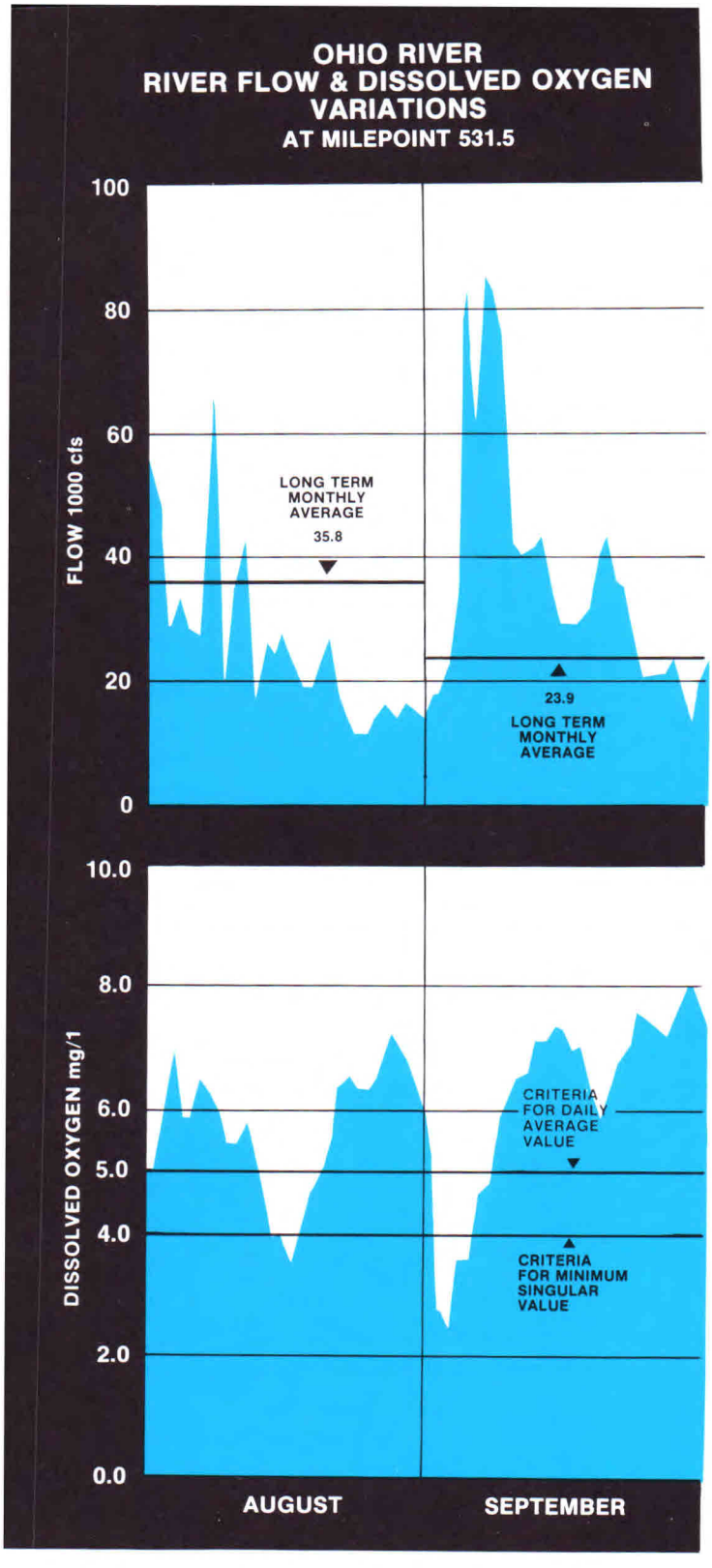
The levels of various chemicals, metals, trace organics and physical parameters in the Ohio River and its tributaries are monitored regularly. Levels are compared with stream criteria recommended by the commission and standards adopted by the respective states.

Fourteen of the characteristics monitored met stream criteria in virtually 100 percent of the monthly samples analyzed. These were: ammonia (un-ionized), arsenic, barium, cadmium, nitrate and nitrite nitrogen, selenium, silver, chloride, chromium (hexavalent), fluoride, pH, temperature, and specific conductance (dissolved solids).

The bar charts on this page depict the percentage of samples which have exceeded the criteria limits for *lead*, *cyanide*, *phenolics* and *mercury* over the last five years. Marked decreases in *cyanide* and *lead* levels since 1976 may be due to improved treatment of industrial discharges and lower amounts of lead in urban runoff since the advent of unleaded gasoline.

Although the number of samples exceeding *mercury* criteria has decreased, the number of exceedences is still a concern. Forty-three of the 264 Ohio River samples taken monthly at 22 locations during 1981, or about 16 percent, exceeded mercury criteria. Particulate mercury in river water poses little or no threat to human health because drinking water treatment practices easily remove it. But mercury does accumulate in living organisms as methylmercury, and the criterion was set to prevent harmful quantities from entering the human food chain through consumption of fish. However, analyses of fish tissues and whole fish in 1979 and 1980 show very low concentrations in fish collected during lock chamber





sampling along the length of the river. No significant industrial discharge of mercury to the river is known, either. Thus, the source remains unknown.

A commission-coordinated reconnaissance for a survey of *phenolics* in the upper river was done in the fall of 1981 with the cooperation and participation of environmental protection personnel from West Virginia, Ohio and the US Environmental Protection Agency. The reconnaissance was done to assist in the planning for intensive cold weather surveys in 1982. The surveys are scheduled during winter months because the amount of degradation of phenolics compounds in the stream is minimized at this time.

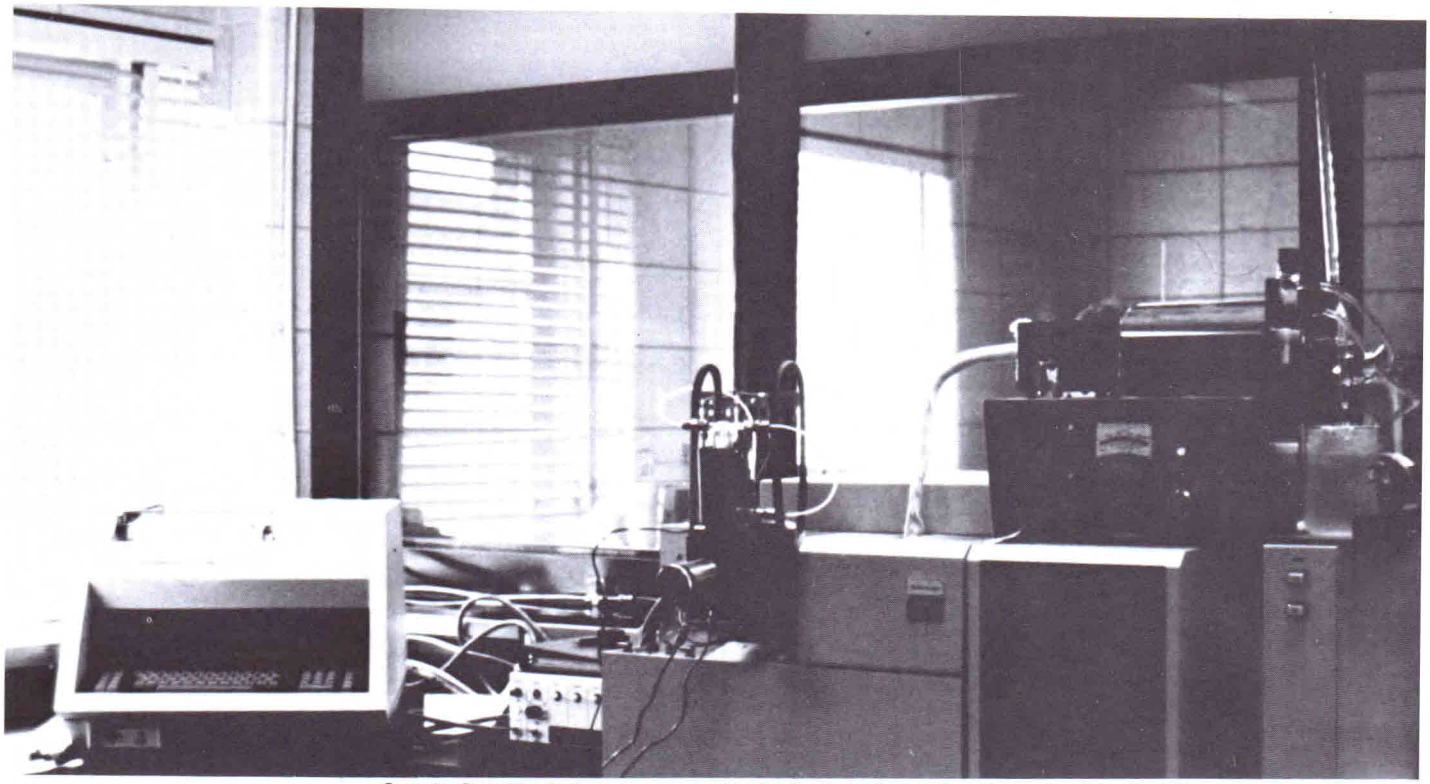
Phenolics can cause taste and odor problems in water supplies and may taint fish flesh. Although trends since 1976 indicated decreasing numbers of water samples exceeding criteria, a reversal of this trend in 1981 has occurred.

The levels of *fecal coliform*, a group of bacteria indicative of contamination from human and animal wastes, failed to meet the criterion for water used for contact recreation in the upper Ohio River and near population centers in the middle and lower river during the summer months. The commission recommends another criterion for fecal coliform for water to be treated for drinking. This second criterion is less stringent than the one for contact recreation because water treatment plant processes remove fecal coliform from the source waters. This second criterion was exceeded in 2.5 percent of the samples analyzed by water users in 1980.

The control of *mercury*, *phenolics* and *fecal coliform* levels historically has been a major concern to the commission. Although programs to study and control these pollutants have resulted in improvement, the fact that a significant proportion of the waters sampled continues to exceed criteria is cause for concern. The commission therefore determined in 1981 to initiate a series of Water Quality Management Investigations to guide remedial measures.

Dissolved oxygen levels met or exceeded minimum requirements during most of 1981. However, at various times during the summer, dissolved oxygen fell below criteria at all stations on the Ohio River. This was largely due to the low flow conditions at the time; increased rainfall in September quickly brought flows back to normal and dissolved oxygen levels to above criteria minimums.

The chart on page 10 indicates the flow and dissolved oxygen (DO) levels during August and September, 1981, for a monitoring station between Cincinnati and Louisville (mile point 531.5). The chart shows river flow levels with a line superimposed to indicate the long term monthly average flows. Dissolved oxygen levels are also provided, with the horizontal lines indicating the 4.0 and 5.0 milligrams per liter (mg/l) level. The 5.0 mg/l level is the minimum average daily value recommended by the commission. The recommended minimum DO level at any time is 4.0 mg/l. Although this lower limit was exceeded for several days during the low flow period, there were no fish kills reported on the mainstem of the Ohio. The slow, gradual decline in dissolved oxygen, which may have enabled some aquatic organisms to acclimate to the decreasing levels, and the short duration of this condition in the river may have been two of the factors that prevented fish kills from occurring.



Organics Detection System equipment at Huntington Water Corporation, Huntington, West Virginia

pinpointing problems:

the organics detection system

When a chemical is spilled or accidentally discharged to a river which is a source of drinking water, the safety of those dependent upon that supply dictates timely notification of downstream water utilities and official agencies. Water treatment plants have an outstanding record of providing safe drinking water but it is vital for plant operators to know when a potentially dangerous chemical is coming down the river to their intake pipes.

The Organics Detection System (ODS) was designed to provide this knowledge and to help locate the source of the discharge in cases where spills are surreptitious or go unreported. Thus, Ohio Valley water utilities would receive the necessary "early warning" so that they would have the time to institute measures to protect their customers.

Unique in the United States, the ODS is another of those programs which provide overall efficiency and effectiveness through well-organized cooperative effort. Conceived in 1977, the ODS involves nine water utilities and two concerned industries in the Valley through a network of detection and communications equipment. Almost all of these utilities and industries are members of the Ohio River Valley Water Sanitation Commission Water Users Advisory Committee, and much of the conceptual development of the ODS was accomplished at the meetings of this group. The Water Users Advisory Committee's current major focus is planning for the future of the system.

The 11 participants in the network provide operating support, staff, space and various in-kind services to the system. ORSANCO provides overall coordination, technical evaluation of information, data analysis and storage, operating supplies, contract laboratory support and equipment maintenance and repair. Much of the original equipment was purchased under a special grant from the US Environmental Protection Agency, although three of the participants provided part or all of their own gas chromatographic equipment. The 11 ODS stations detect concentrations of volatile halogenated hydrocarbons in daily water samples. These compounds are commonly used in industrial processes in the Valley; they all contain a halogen element such as bromine, chlorine or fluorine. Probably the most common member of this family of compounds is chloroform, a suspected carcinogen.

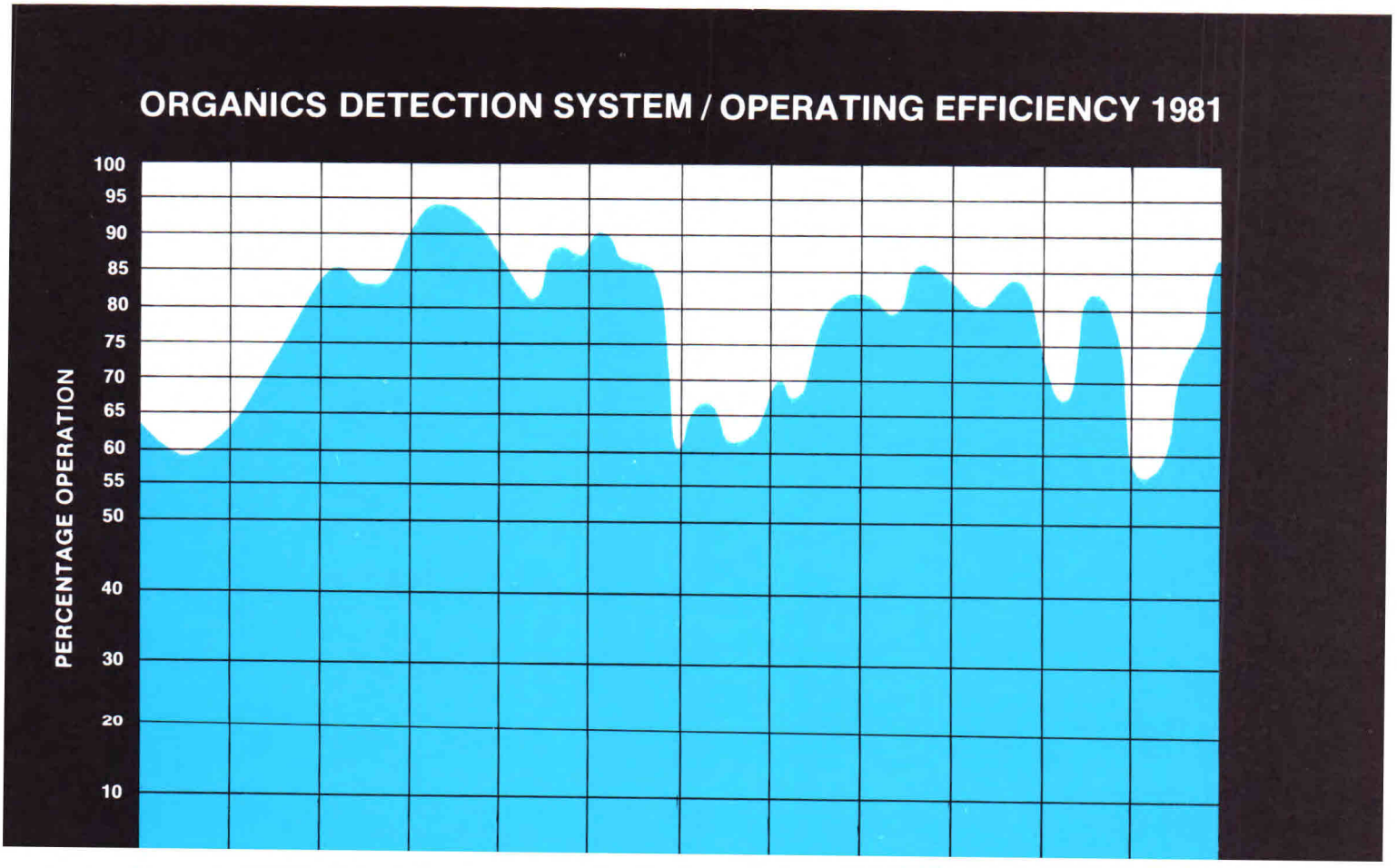
Two of the 11 stations are also capable of detecting certain purgeable aromatic hydrocarbons, the known carcinogens benzene and toluene among them. The

commission authorized installation of detectors for these compounds at other stations in 1981.

Besides doing its major job of providing an "early warning" of unreported chemical spills, the Organics Detection System provides other benefits. First, it can be concluded that the system is acting as deterrent to unreported chemical discharges and surreptitious "dumping" of harmful substances. The number of discharges initially detected by the system — without prior notification by the discharger to an official agency — has declined each year since the system started operations in 1978. Second, the ODS, through its daily analysis of water samples at 11 points along the Ohio and its major tributaries, is compiling an extensive database on background levels of these volatile halogenated hydrocarbon compounds. Complete summaries of incidents reported by the ODS and review of the data collected during the first two full years of system operation (1979 and 1980) are available in a report published by the commission (*Early Warning-Organics Detection System: Final Report* of two years operation under US EPA grant, 1981).

In general, the data show that the background levels of volatile halogenated organics at the 11 stations are very low. The average concentration of volatile halogenated organics in 1981 daily water samples for a representative upper river site was 0.59 micrograms per liter (μg/l or 0.59 parts in a billion parts of water); for a middle river site: 0.28 μg/l; for a lower river site: 0.31 μg/l.

One of the hallmarks of the Organics Detection System is the fact that it is a field-operated project, operating under normal conditions at water treatment plants, not in carefully controlled situations in special laboratories. As such, the data collected reflects — to the extent possible — field conditions. But also as such, the system and its equipment is subject to all the uncontrollable vagaries of the real world: malfunctions in equipment, contamination from other materials, problems with supplies, etc. Despite all of this, the 11 stations in the network compiled a nearly 80 percent operating efficiency for 1981, up from approximately 72 percent during the first full year of operation in 1979. Specific monthly operating efficiencies for 1981 are shown on the chart.



keeping current

standards revisions

Since 1980, the commission has been reviewing its municipal and industrial water pollution control standards (PCS 1-70, 2-70) promulgated, after public hearings, for the Ohio River in 1970 as effluent standards. The purpose of this review is to determine whether these requirements still meet the needs of member states and remain a sound tool for the protection of Ohio River water quality. These standards set specific numerical limits for various substances and characteristics.

Since PCS 1-70, 2-70 were adopted, the federal government has established the National Pollution Discharge Elimination System (NPDES). NPDES includes technology-based effluent guidelines and the issuance of permits to individual dischargers. Each permit contains limits on the amount of pollutant which may be discharged and, where necessary, a schedule of corrective action.

By 1981, six of the eight commission member states had been delegated the responsibility of administrating the NPDES program by the US EPA. These developments since 1970 prompted the commission to re-evaluate the effluent standards promulgated for the Ohio River. The goal is to key commission requirements to stream quality in order to supplement in-place state and US EPA technology-based permit requirements.

Besides effluent standards, the commission has also recommended a set of numerical criteria for consideration in establishing state water quality standards for the Ohio River and its tributaries. By 1981, five of the six states along the main stem of the Ohio had revised their water quality standards and compatability with those of neighboring states had been greatly improved.

permit program coordination

In 1981, the commission began an extensive review of the application of the NPDES program in the Valley to identify problems and recommend solutions. Eleven areas were addressed; including:

- the control of toxic pollutants
- the US EPA role in NPDES permit issuance in cases where permitting authority had been delegated to a state
- compliance monitoring
- industrial pretreatment program
- the definition of secondary treatment

The overall major recommendation called for an increase in the flexibility of the NPDES program. Requirements for EPA reviews on state-issued permits, a time consuming process, should depend upon the complexity of the permit issued or the extent of the state's experience in permit development.

The commission further recommended that major effort be placed on the development of a national uniform strategy for controlling toxics in the environment. Discharge limitations and control measures are needed, as are tests for human health effects and risk analysis.

In dealing with pretreatment requirements for industrial wastes, the commission observed that many publicly owned waste treatment facilities were already experienced in handling certain aspects of this problem. The existing US EPA pretreatment guidance, with its singular structure and categorical standards to be applied uniformly across the country, does not recognize nor take advantage of this experience. What is needed, according to the commission's recommendation, is recognition of successful state and local programs concerning pretreatment and integration of them into the final regulations.

The 11 areas thus addressed and the 28 recommendations developed in the report are aimed at eliminating delays and duplication of effort. The NPDES program review has been forwarded to the US EPA and the US Congress.

wastewater treatment facilities survey

Soon after the commission was established in 1948, efforts to determine the status of wastewater treatment plants in the Valley were initiated. When in 1963, it was determined that 99 percent of the Ohio Valley's sewered population was connected to at least a primary wastewater treatment plant, the Valley program received national recognition. In 1970, commission requirements to increase the protection of water uses were promulgated and these mandated the upgrading of sewage treatment facilities.

The wastewater treatment plant survey has continued to monitor progress. In 1981, wastewater facilities were reviewed in accordance with new procedures adopted in 1980*. Analysis of comparative data was done on the 1902 municipal and 678 industrial wastewater treatment facilities existing or under development in the Basin that were surveyed in both 1980 and 1981. Of them, 62.5 percent of the municipal and 18.7 percent of the industrial were noted in 1980 as needing upgrading and/or expansion, replacement or new development.

Of the 1902 municipal plants surveyed, 142 are located on the mainstem of the Ohio River. Of these, 87 or approximately 61 percent, had needs identified

in the 1981 survey. Out of 678 industrial treatment plants Basinwide, 127 are located on the mainstem and 28, or 22 percent, had needs indentified in 1981.

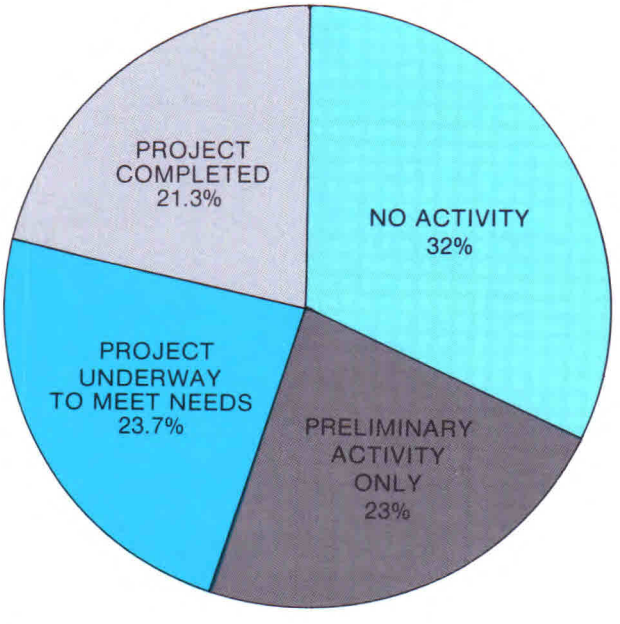
The total number of Basin municipal and industrial treatment plants with needs decreased slightly according to the 1981 survey. The accompanying charts describe the data in more detail.

The rate of progress of a facility through the stages of development is variable and depends upon a number of factors. A municipality, seeking to build a wastewater treatment plant, will commonly apply for construction grant funds from the US EPA. Under the terms of the grants, the municipality must follow a prescribed series of development steps: study, design and construction. The process can take up to 10 years to complete for large, complex facilities. Recent cutbacks in federal construction grant funds may further complicate this pattern.

The data shows that industrial facilities move much more quickly toward completion. Reasons for this may include the fact that industries set their own schedules and are not subject to the development requirements faced by municipalities. Industries may also be able to meet some of their treatment needs by in-plant process control or manufacturing process modifications. Thus, new construction may not be necessary in the industrial situation.

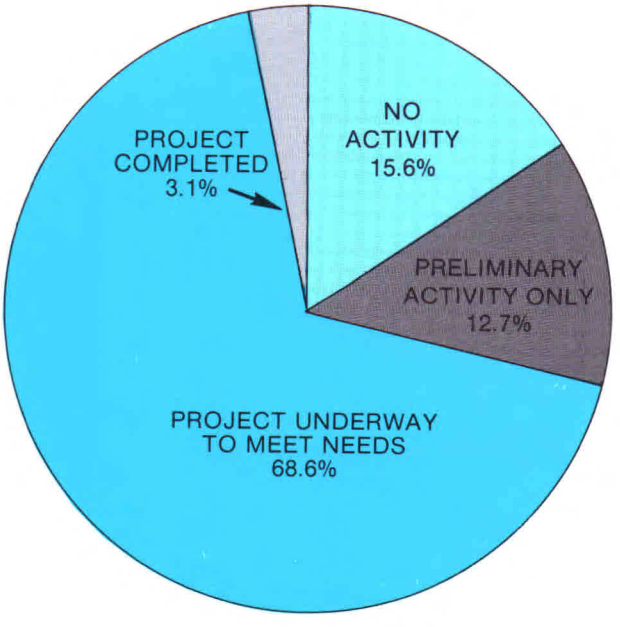
**Survey does not include:*
(1) Privately owned facilities treating domestic sewage of 40,000 gal/day or less.
(2) Industrial facilities of 40,000 gal/day or less.
(3) Industrial facilities requiring temperature adjustments only.
(4) Coal-related industrial facilities.

INDUSTRIAL FACILITIES WITH NEEDS*



* Total industrial plants surveyed, 1980 - 1981 678
Surveyed Industrial plants with needs. 127

MUNICIPAL FACILITIES WITH NEEDS*



* Total municipal plants surveyed, 1980-1981 1902
Surveyed Municipal plants with needs. 1189

meeting economic, environmental and energy needs

Economic prosperity, environmental quality and energy availability all interconnect to support the well-being of a state, basin or nation. The Ohio River Valley is parcelled out according to many political boundaries. But economic, scientific and cultural arguments exist for its behavior as a geographic unit. The states in the Valley are interdependent: what happens in one affects the others. Therefore, in certain cases, it may be more economical, more efficient, more effective and more practical for the states to address issues from a basinwide perspective.

The commission's record in improving water quality and protecting water supplies with the full cooperation of public and private interests is a success story of the basinwide approach in action. The perspective of the commission transcends the individual states, and provides not only a thorough appraisal of water quality but an increased sensitivity to basinwide economic conditions as well.

The effectiveness of this approach was illustrated in 1981 when the commission formally adopted a resolution concerning the control of wastewater discharges from public and private drinking water utilities on the Ohio River. The commission, in its resolution, connected the degree of treatment required for these discharges to the significance of their impact on Ohio River water quality. Thus, it was determined that the wastewater discharges which result from the removal of particulate and other materials from the Ohio River to convert river water to drinking water could be released on a controlled basis directly back to the river. For water utilities using the Ohio River as a source of supply, this meant significant savings of public funds that would have otherwise been needed to develop facilities to treat these discharges. By carefully regulating the discharges, the utilities could meet commission requirements, which include the prevention of conditions harmful to human health and aquatic life and/or conditions which adversely impact other water uses. This resolution has been forwarded to the three US EPA Regional Administrators with jurisdiction in the Ohio River Valley with the commission's recommendation that US EPA recognize controlled discharge of these wastewaters as Best Professional Judgement in the NPDES permits issued to water utilities.

Since 1978, the commission has been involved in another project in which its basinwide perspective on environmental quality and economic conditions has been essential. This project concerns the multistate impacts of major energy developments. The industrialized Ohio River Basin, with its proximity to north central and eastern urban centers, large coal fields, trained workforce, reliable water supply and established transportation corridors is a fertile ground for energy development. Forty-one coal and nuclear pow-

The Ohio and its tributaries are essential for energy production. View from Clifty Falls State Park, Madison, IN

Commissioners from Virginia, Kentucky, West Virginia and Indiana reviewing a report at the commission meeting at Shakertown, Pleasant Hill, KY, September, 1981

er plants operate along the Ohio River; another 37 operate along the major tributaries; another dozen are proposed for construction. Less conventional forms of energy development are underway, as well. Five synfuel facilities are currently operating in the eastern part of the Valley; another 16 are on the drawing boards. Twenty oil refineries exist in the area and oil shale facilities are proposed for Kentucky, West Virginia and Indiana. The feasibility of two coal slurry pipelines to carry pulverized coal mixed with Ohio River water from the Valley to southern states is under study.

The multistate nature of potential environmental impacts of this extensive energy development led the commission to initiate a study to investigate institutional methods or mechanisms that would enable affected states to work together to prevent concerns from becoming actual problems. The commission felt that early recognition and study of a potential interstate issue could prevent costly and time-consuming litigation later. A grant for the project was obtained from the John A. Hartford Foundation of New York City in early 1981 and a subcontract arranged with the Council of State Governments, a service and research organization formed by and for all state governments, located in Lexington, KY. The study is expected to be completed in mid-1982.

The installation of low-head hydropower electricity generating facilities at Ohio River dams has also involved the commission. Similar facilities are proposed for each of the 19 dams on the river. Such plants would be able to produce small amounts of electricity rela-

A tow guides a power plant up the river toward the new hydroelectric facility at Greenup Dam

Inspection tour of the Kanawha River at the commission meeting in Charleston, WV, May, 1981

tively inexpensively. However, in the process, they could prevent some aeration of the river water from taking place. During periods of low flow, this might be a contributing factor to decreasing levels of dissolved oxygen in the river. However, because this potential problem was recognized early in the development of these projects, a system of monitors and aeration equipment was recommended for installation at the "hydros." These facilities can thus maximize their electricity output, but minimize potential water quality concerns downstream. Dissolved oxygen conditions at the plant locations will be monitored and remedial measures to protect downstream water users applied when needed.

The paragraphs above emphasize the interrelationships among economics, environmental quality and energy in the Valley and how these are integral considerations in commission decision-making related to water quality. But a broader picture exists and that concerns how these three affect the quality of life in the Valley. Indeed, some might say that it is the relationship of these areas that *determine* our quality of life.

The beginning years of the 1980s have already brought some major changes to the Ohio River Valley, particularly in the areas of economic prosperity, environmental quality and energy stability. The impact of those changes and the potential impacts of others warrants concern, needs investigation and demands explanation. Recognizing this, the commission has acted to stimulate the financing and development of a major conference to examine the challenges and opportunities facing Ohio Valley leaders. The ramifications of key economic shifts in population, natural resource use and energy development will be discussed with the objective of developing recommendations to be used by the states, individually or collectively, in their policies, programs, initiatives and decisions. Through this, it is hoped that the states will be able to identify the highest priority issues confronting them and select the most beneficial solutions.

the year in brief

the commission

Three representatives from each of the member states and three representatives of the federal government are appointed by the chief executives of each of the member states and the nation to serve on the commission. Commissioners participate as a public service. They receive only reimbursement for their expenses in performing commission-related duties.

Dr. R.S. Engelbrecht of Illinois was elected to a second term as chairman of the commission. Lloyd N. Clausing of Ohio was re-elected vice chairman. Frank C. Campbell of Kentucky and Albert J. Brooks were also re-elected to their posts as secretary and treasurer, respectively.

Richard J. Carlson succeeded Michael P. Mauzy as ex-officio commissioner from the State of Illinois. Albert R. Kendrick, Jr., Gerald C. Smith and David W. Robinson were appointed to the commission to fill vacancies in representation from Indiana, Pennsylvania, and West Virginia respectively. Peter Duncan replaced Clifford L. Jones as ex-officio member from Pennsylvania and Wayne S. Nichols succeeded James McAvoy as ex-officio member from Ohio. Commissioners Campbell of Kentucky, Stanonis of Kentucky and Henry of West Virginia were reappointed to the commission.

publications

The following reports were published by the commission in 1981 and are available from the commission office:

Annual Report: Riverscape, 1980
The Commission's review of activities during 1980 (20 pages, no charge)

Early Warning — Organics Detection System: Final Report
Review of two years of system operation (1979 and 1980) under a US EPA special grant. Background data analysis, system procedures, and unusual incidents, of high levels of volatile halogenated organics detected by this 11-station system on the Ohio River are reviewed (103 pages, $7.50 plus $2.50 postage and handling).

In Progress
An occasional newsletter on the "Institutional Mechanisms and the Siting of Energy Facilities Along The Ohio River" study. Summer and fall issues, no charge)

Ohio River Valley Fish Population Data 1968-1980
A compilation of the results of fish population surveys in Ohio River locks and dams (40 pages, $3.50 plus $2.50 postage and handling).

Quality Control Assurance Program
A compilation of quality control requirements utilized in various commission surveillance programs, including quality control methods in field sampling, contract laboratories and the Organics Detection System and maintenance of automatic monitors (83 pages, $5.00 plus $2.50 postage and handling).

Quality Monitor
Data from automatic monitoring program, published monthly. Manual sampling data included quarterly. (8 pages except January, April, July, and October issues, which are 16 pages, no charge).

Report and Notification of Spills and Accidental Discharges, revised, 1981.
A compilation of instructions on the appropriate agencies to notify when a spill or accidental discharge occurs on the Ohio River or tributary. (8 pages, no charge).

Status of Wastewater Facilities, 1980
The results of the 1980 survey of municipal and industrial wastewater treatment plants in the Ohio Basin. (36 pages, $3.00 plus $2.50 postage and handling).

Study of Wastewater Discharges from Water Treatment Plants
Report of a study to project the effects of wastewater discharges from water treatment plants along the Ohio River and major tributaries and recommend methods for handling these discharges. (65 pages, no charge, $2.50 postage and handling).

staff*

Leo Weaver, *Executive Director and Chief Engineer*
William L. Klein, *Assistant Executive Director*
Thea Teich Townsend, *Information Specialist*
Ruth M. Lindemann, *Secretary*

administration

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Albert J. Brooks, *Accountant*
Kathi Allender Cobb, *Account Clerk*
Deborah Wilson, *Computer Programmer*
Donna M. Carroll, *Computer Operator*
Janice Squires, *Secretary*

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Linda C. Shumway, *Environmental Specialist*
Peter A. Tennant, *Water Resources Engineer*
Alan H. Vicory, Jr., *Environmental Engineer*
Jane W. Renaldo, *Secretary*

Robert C. Kroner, *Consultant Chemist*

surveillance

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John L. Keyes, *Senior Surveillance Specialist*
Robert D. Timmerman, Jr., *Surveillance Specialist (Evansville, IN)*
Glenn E. White, *Surveillance Specialist (Moundsville, WV)*
Ken H. Cheng, *Chemist*
Janis R. Vincent, *Assistant Chemist*
Norma W. English, *Laboratory Technician (Pittsburgh, PA)*
George Vassilaros, *Laboratory Technician (Pittsburgh, PA)*
Lillian G. Revenco, *Secretary*

Photography:
Bernard F. Dowler, WV Dept. of Natural Resources
Union Carbide Corporation
Thea Teich Townsend, ORSANCO
Patrick Reddy/The Cincinnati Post

*As of December 31, 1981.

financial report

The following information relative to revenues, expenses, and statement of resources was extracted from the Annual Auditors Report of Wm. H. Mers & Co., Certified Public Accountants, for the year ended June 30, 1981.

OHIO RIVER VALLEY WATER SANITATION COMMISSION
STATEMENT OF REVENUES AND EXPENSES FOR YEAR ENDED JUNE 30, 1981

Revenues:		
From Signatory States:		
State of Illinois	$ 18,900.00	
State of Indiana	69,788.00	
Commonwealth of Kentucky	78,000.00	
State of New York	3,975.00	
State of Ohio	96,112.00	
Commonwealth of Pennsylvania	54,825.00	
Commonwealth of Virginia	12,825.00	
State of West Virginia	40,575.00	
Total from Signatory States		$375,000.00
From U.S. Environmental Protection Agency:		
Water Pollution Control Act Grant		338,328.00
From U.S. Corps of Engineers:		
Electronic Monitoring Support	$ 64,566.68	
Allegheny and Pittsburgh District Support	49,316.64	
River Stage Measuring System	2,235.56	
Total from U.S. Corps of Engineers		116,118.88
From The John A. Hartford Foundation, Inc.		55,278.57
From Water Utilities		18,954.00
Other Revenues		13,853.80
Total Revenues		917,533.25
Expenses:		
Basic Program	$846,298.97	
Energy Facility Siting Project	55,278.57	
Water Treatment Plant Discharge Study	18,954.00	
River Stage Measuring System	2,211.20	
Early Warning — Organics Detection System	(203.88)	
Total Expenses		922,538.86
Excess of Expenses Over Revenues		$ 5,005.61

STATEMENT OF RESOURCES AT JUNE 30, 1981

Cash		$156,772.39
Deposits		710.80
Accounts Receivable		
U.S. Environmental Protection Agency	$ 42,585.00	
Employee Advances	874.11	
Total Accounts Receivable		43,459.11
Total		$200,942.30
Less:		
Accounts Payable	$ 34,994.37	
Advance Payment — Signatory States	30,240.00	
Advance Payment — The John A. Hartford Foundation, Inc.	98,155.43	
Advance Payment — Water Utilities	5,546.00	
Total		168,935.80
Available Resources June 30, 1981		$ 32,006.50
Available Resources at Beginning of Year	$ 37,012.11	
Excess of Expenses Over Revenues	5,005.61	
Available Resources at End of Year		$ 32,006.50

OHIO RIVER VALLEY WATER SANITATION COMMISSION
414 WALNUT ST. CINCINNATI, OHIO 45202

regulatory agencies of the signatory states

ILLINOIS
Division of Water Pollution Control
Environmental Protection Agency
2200 Churchill Road
Springfield, Illinois 62706
(217) 782-1654

INDIANA
Stream Pollution Control Board
State Board of Health
1330 West Michigan Street
Indianapolis, Indiana 46206
(317) 633-0700

KENTUCKY
Division of Water Quality
Department for Natural Resources
and Environmental Protection
18 Reilly Road
Fort Boone Plaza
Frankfort, Kentucky 40601
(502) 564-3410

NEW YORK
Division of Water
Department of Environmental
Conservation
50 Wolf Road
Albany, New York 12233
(518) 457-6674

OHIO
Office of Wastewater Pollution Control
Environmental Protection Agency
Post Office Box 1049
Columbus, Ohio 43216
(614) 466-7427

PENNSYLVANIA
Bureau of Water Quality Management
Department of Environmental Resources
Post Office Box 2063
Harrisburg, Pennsylvânia 17120
(717) 787-2666

VIRGINIA
State Water Control Board
Post Office Box 11143
Richmond, Virginia 23230
(804) 257-0056

WEST VIRGINIA
Division of Water Resources
Department of Natural Resources
1201 Greenbrier Street
Charleston, West Virginia 25311
(304) 348-2107

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