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*as of December 31, 1983

TO:

The Honorable James R. Thompson
Governor of Illinois

The Honorable Robert D. Orr
Governor of Indiana

The Honorable Martha Layne Collins
Governor of Kentucky

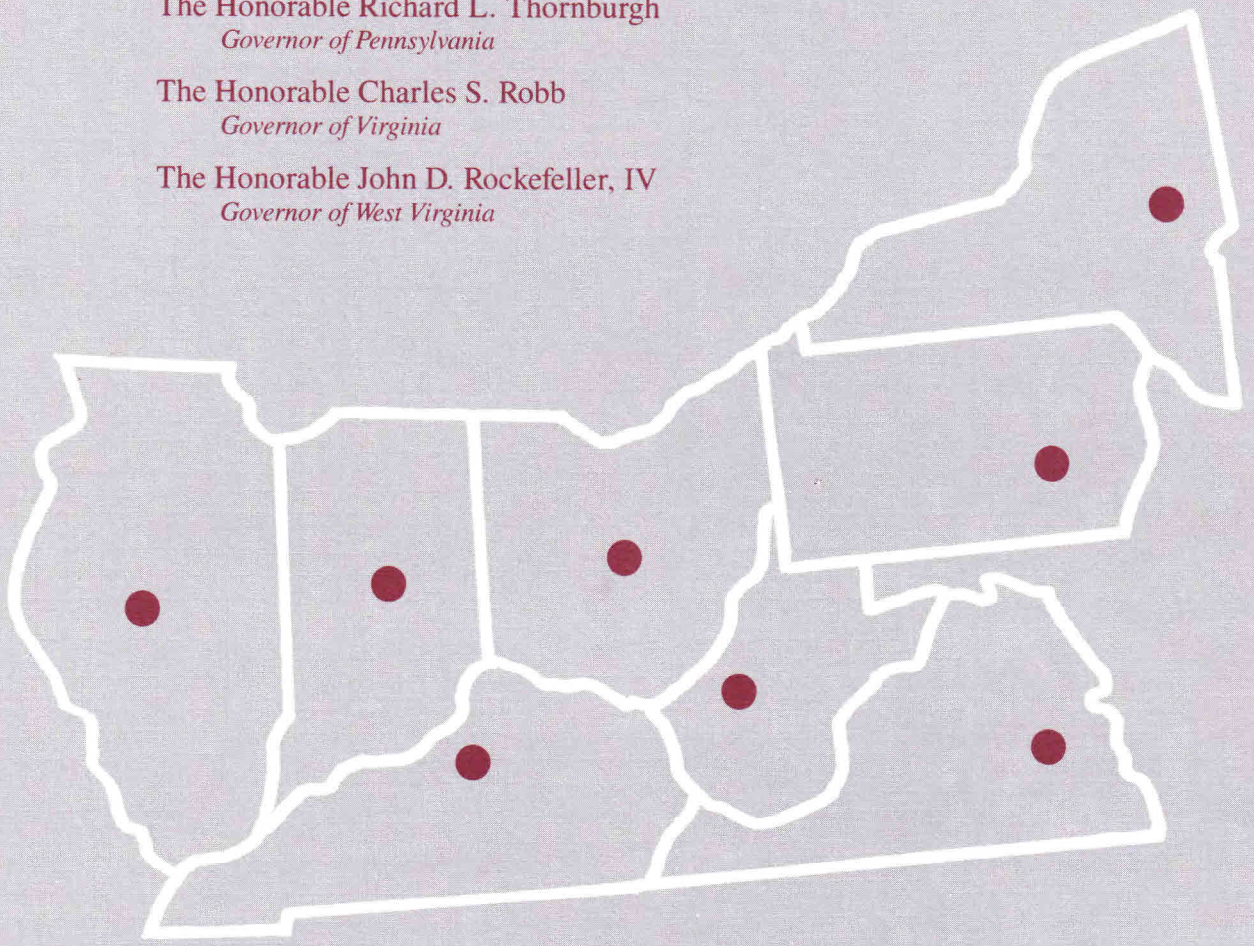
The Honorable Mario Cuomo
Governor of New York

The Honorable Richard F. Celeste
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

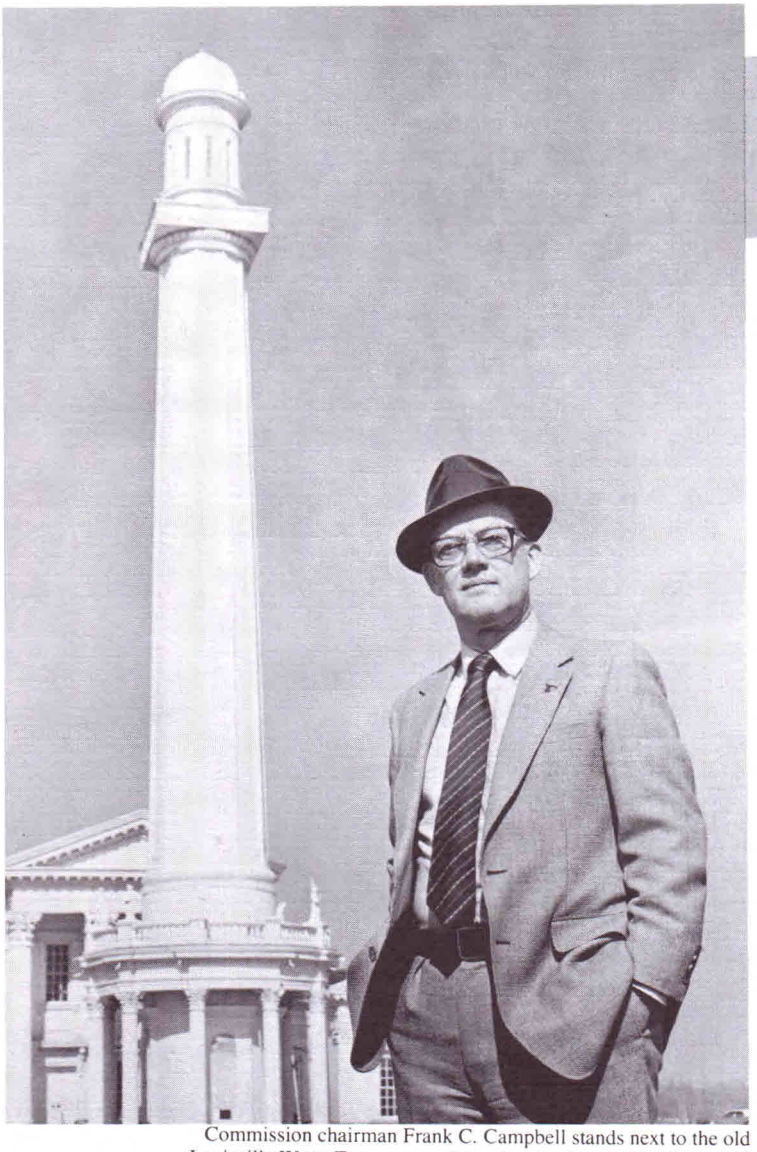


The Commissioners of the Ohio River Valley Water Sanitation Commission—an interstate compact agency created jointly in 1948 by

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 1983.

THE



Commission chairman Frank C. Campbell stands next to the old Louisville Water Tower, now a historical landmark. Mr. Campbell is vice-president and chief engineer of the Louisville Water Company.
Photo courtesy of Louisville Water Co.

FOR 35 YEARS the Ohio River Valley Water Sanitation Commission has worked to control water pollution on the Ohio River and its tributaries. It has been an enormous undertaking, born out of necessity and nurtured through cooperation among the eight states who signed the authorizing Compact in 1948. At that time, it was realized that interstate cooperation was the *only* solution, the single way that could lead to water pollution control on the 981 mile long Ohio River, which stretches along or through six states and drains portions of 12. The beneficiaries of this effort were and continue to be the citizens of the Ohio Valley, who today are turning more and more to their rivers for sources of drinking water, recreation and economic opportunity.

It would be very gratifying to believe that all the problems associated with water pollution had been solved over the last 35 years. How fine it would be if this Commission could quote the very Compact that established us and say that the waters of the Ohio Valley are now "in a satisfactory sanitary condition, available for safe and satisfactory use as public and industrial water

UNFINISHED AGENDA

supplies after reasonable treatment, suitable for recreational use, capable of maintaining fish and other aquatic life . . . and adaptable to such other uses as may be legitimate."

However, we cannot completely claim this achievement at this time. Certain water quality problems remain, despite the progress that has been made. In September of 1983, an accidental industrial discharge resulted in one of the largest fish kills on record in the upper river. In late December the first unreported spill of an organic chemical in three years was detected by our Organics Detection System.

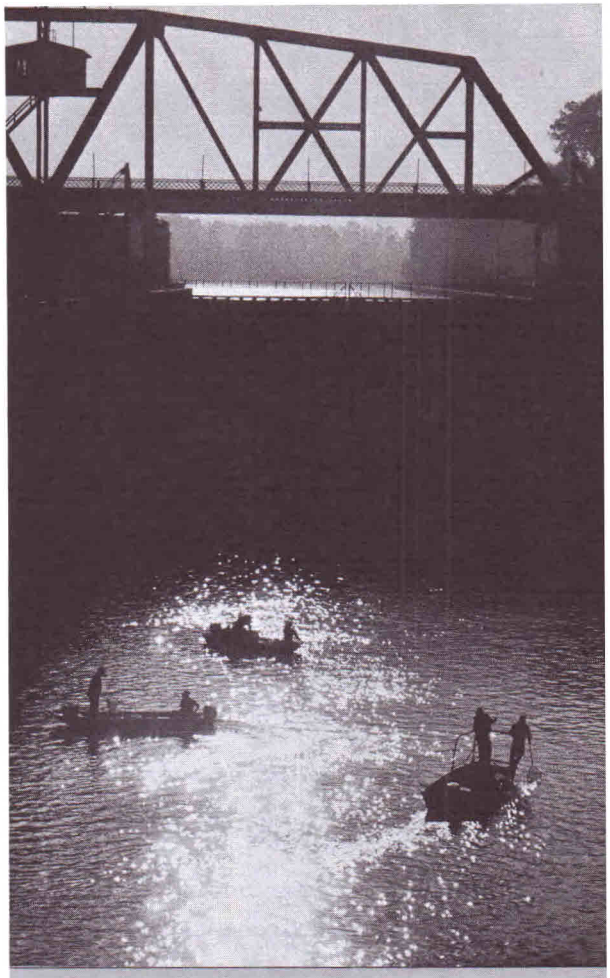
Despite these isolated occurrences, industry generally has responded very well to the need to protect water quality since the Commission was established. Conditions at municipal wastewater treatment plants have been less satisfactory, however. Many of these facilities are not meeting requirements for treatment of wastes before discharge.

The very nature of the combined storm and sanitary sewer systems in the valley's large cities results in raw sewage overflows during wet weather. This periodic gross pollution, coupled with apparent failures of secondary wastewater treatment facilities during dry weather, fuels a public perception of the Ohio as a "dirty river", and with justification.

These problems, along with discharges from non-point souces of pollution, comprise the Commission's UNFINISHED AGENDA. Our task for the future consists of continuation of monitoring activities to control spills and to record water quality trends; collection and dissemination of information on industrial and municipal wastewater discharges; specific actions on water pollution control measures as directed by the Commissioners from time to time; and publication of facts relating to the Ohio River in a fashion understandable to the general public.

"Stopping on Third Base will add Nothing to the Score..."

—Edward J. Cleary



Fish population surveys started at sunrise in 1983
Photo copyright 1984, The Louisville Times.
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THE NEED to treat wastewaters from communities and industries was the major impetus for the formation of the Ohio River Valley Water Sanitation Commission in 1948. Within 15 years, 99 percent of the sewered communities in the Valley had built treatment works to provide primary sewage treatment.

The intervening years since 1948 have brought many changes to the Ohio Valley and the Commission's program has altered accordingly. The Ohio River no longer is the open sewer it was in 1948. Pollution still exists; only now, certain pollutants are more insidious—because techniques for measuring minute quantities of organic chemicals, for example, have been developed only recently. Pollution control requires a degree of sophistication undreamed of in 1948 when the effects of contamination were more obvious. The Commission has pioneered in the use of such techniques and can detect levels of organic chemicals minute in volume but much more significant in terms of toxicity. Because of this, the Valley's water pollution control program can be considered to be at third base. However, the distance to home plate is disproportionately long because new problems arise as old ones are solved. The job that remains to be done is the Commission's Unfinished Agenda; and this will be the Commission's focus in the years ahead.

The Unfinished Agenda has five major aspects:

— municipal wastewater treatment plants that fail to meet even minimum discharge requirements;

— industrial discharges—particularly of organic chemicals in toxic amounts;

— spills and unreported discharges of toxic substances;

— pollution from non-point sources, such as agricultural and urban runoff; and

— pollution of groundwaters with its attendant special effect upon surface waters.

Municipal Wastewater Treatment in the Ohio Valley

SINCE the inception of the Commission, municipal sewage treatment has been on its agenda. Sewage treatment is difficult to "sell"; those who benefit are usually downstream of those who pay for it. However, the streams of the Ohio Valley are shared by many municipalities and many states, some of which are upstream and downstream of one another. In the early years of the Commission, sewage treatment plants provided "primary" treatment. Simply stated, this involved holding the sewage stationary in tanks for a period of time so that the larger solids settled out, and then disinfecting before discharge to the river. In more recent years, "sewage" has been referred to as "wastewater."

By the late 1960's, the growth of population and industrial development in the Ohio Valley necessitated further treatment of wastewater to protect the river's uses, such as aquatic life propagation and a source of public water supply. In regulations promulgated in 1970, the Commission required secondary treatment for municipal wastes. This was two years before the passage of the Federal Water Pollution Control Act Amendments of 1972 which required secondary treatment nationally.

By 1983, 70 percent of the significant municipal discharges along the Ohio River had secondary treatment facilities at their plants, up from 61 percent in 1981. For purposes of the survey to determine levels of treatment provided by communities, the Commission defines "significant" as a discharge to the river of greater than 40,000 gallons per day. These secondary plants serve almost 90 percent of the 3.3 million people living in municipalities near the Ohio River. The remaining 10 percent of the population are still served by only primary treatment facilities.

These secondary wastewater treatment plants, when operating effectively, provide significant protection by removing contaminants from the wastewaters they treat before discharging them to our rivers. Secondary treatment removes many toxic materials from wastewater, for example. Communities where secondary treatment facilities are either under construction currently or where facilities have been completed since 1981 are listed in Figure 1. Those communities along the Ohio River which have a population greater than 10,000 and are still served by only primary treatment plants are listed in Figure 2.

FIGURE 1

SECONDARY TREATMENT FACILITIES ALONG THE OHIO RIVER COMPLETED SINCE 1981 OR CURRENTLY UNDER CONSTRUCTION

Community	*Population*
Wheeling, WV	84,100 (completed)
New Haven, WV	5,800 (completed)
Belpre, OH	7,200 (completed)
Wellsville, OH	5,900 (completed)
Shadyside, OH	5,100 (completed)
West Point, KY	1,700 (completed)
Augusta, KY	1,400 (completed)
Ashland, KY	29,200 (completed)
Charlestown, IN	5,500 (completed)
Huntington, WV	74,000 (to be completed in early 1984)
Parkersburg, WV	43,000 (to be completed in mid-1984)
McMechen, WV	2,000 (under construction)
Belmont Co., OH	32,000 (under construction)
Tell City, IN	8,500 (under construction)

FIGURE 2

CITIES ALONG THE OHIO RIVER WITH MORE THAN 10,000 POPULATION STILL SERVED BY PRIMARY TREATMENT

Community	*Population*
Ironton, OH	15,000
Marietta, OH	16,900
East Liverpool, OH	20,000
Moundsville, WV	19,000
Vienna, WV	12,000

HOWEVER, THE PRESENCE of equipment and facilities to perform secondary treatment does not always mean that secondary treatment will be consistently provided and standards met. A plant may be well equipped, but if that equipment is in disrepair, does not work to specifications, or is unused, the result will be inadequately treated discharge. In this category are approximately 10 percent of the wastewater treatment plants along the Ohio River. Two of these plants serve major metropolitan areas.

In Figure 3, 13 river basins in the Ohio Valley are charted, according to size of population served by wastewater treatment plants discharging within that particular basin. The Ohio River directly receives wastewater discharges from plants serving 3.3 million people. Plants in the Scioto River Basin in Ohio serve one million; the Great Miami Basin in Ohio and the Wabash River Basin in Indiana receive wastewaters from plants serving about one million and two million people, respectively.

Population Served by Wastewater Treatment Plants in the Ohio Valley

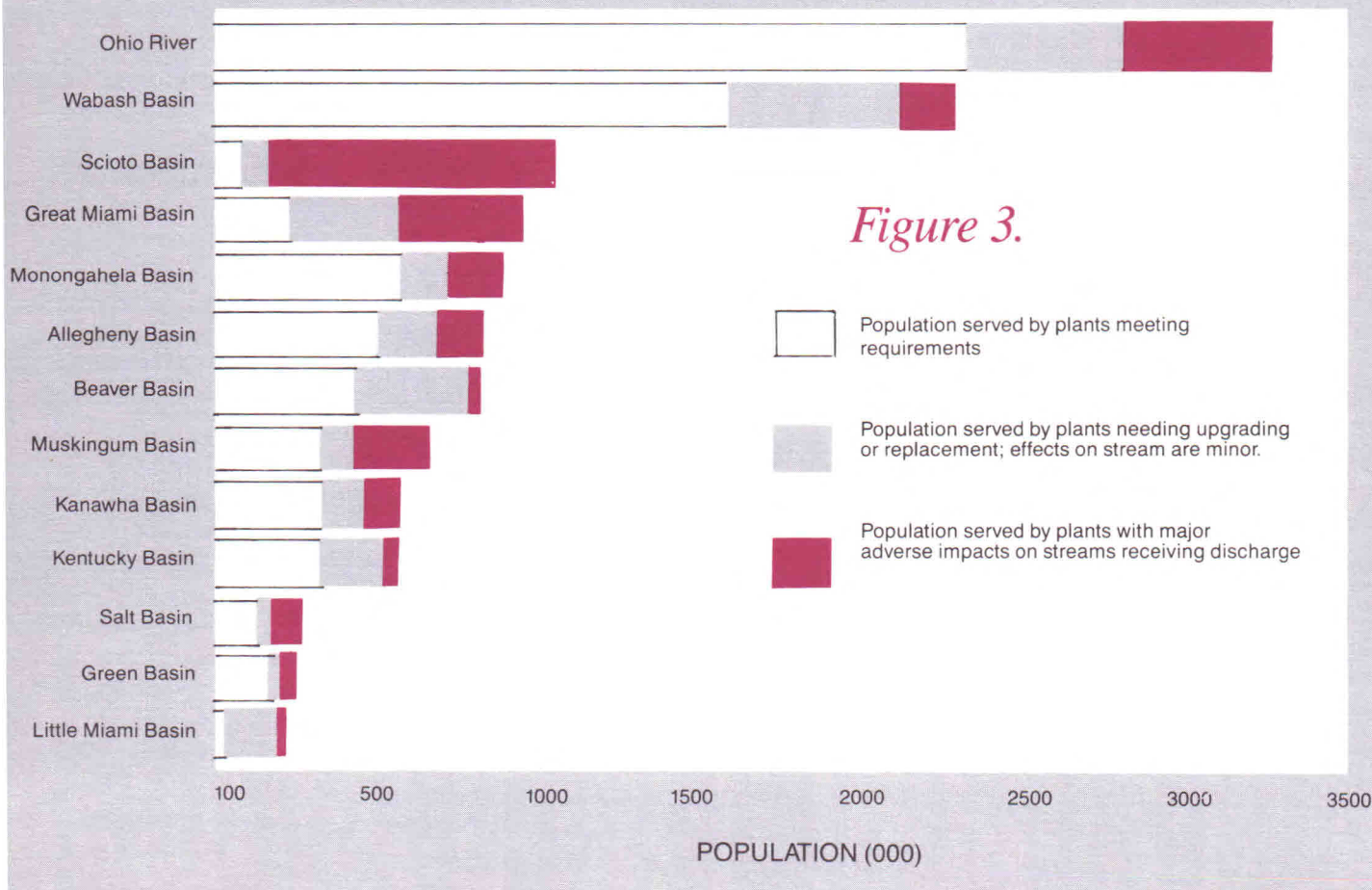


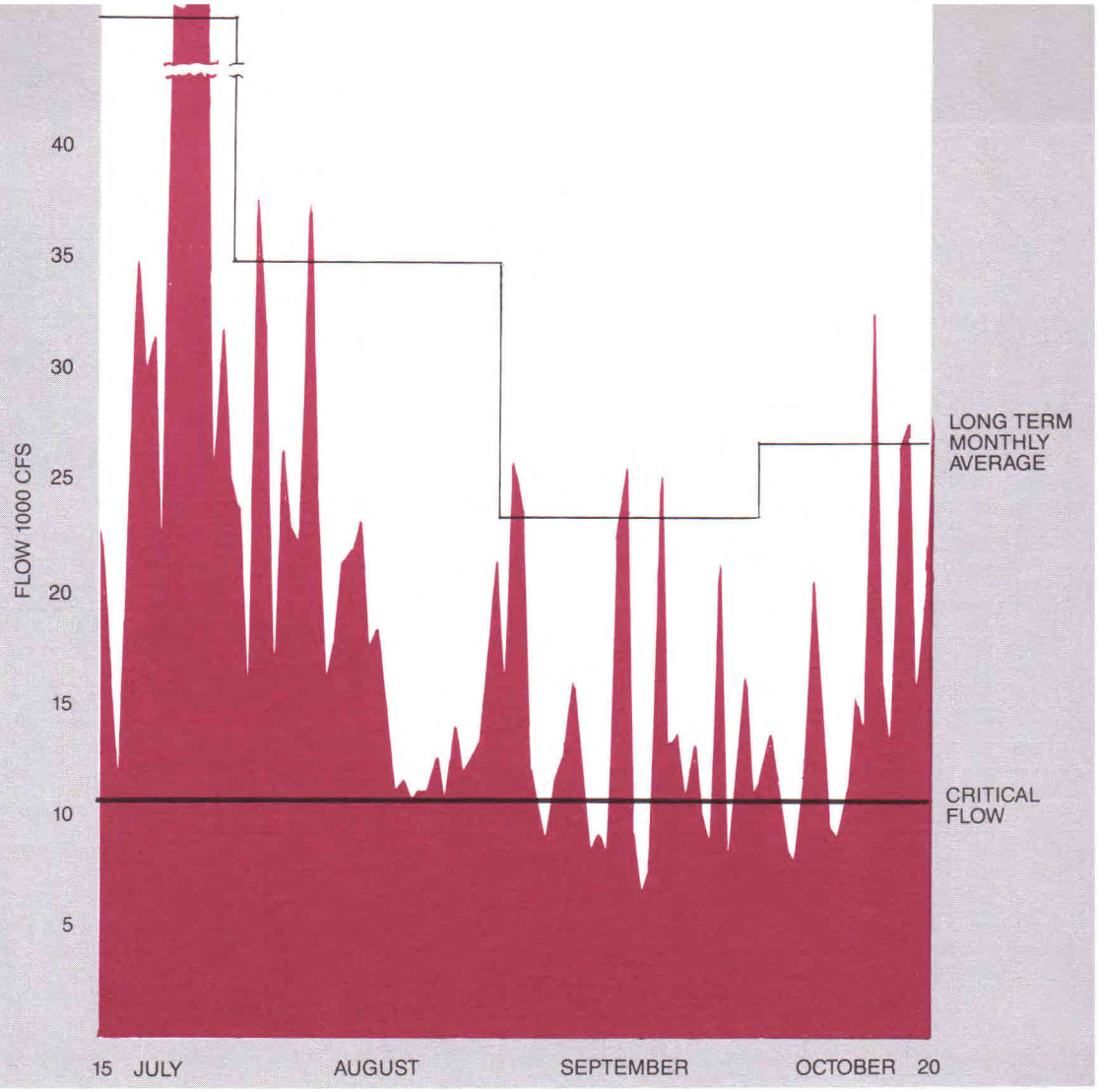
Figure 3.

Figure 4

Flow at Cincinnati

(mp 462)

July 15-Oct. 20, 1983

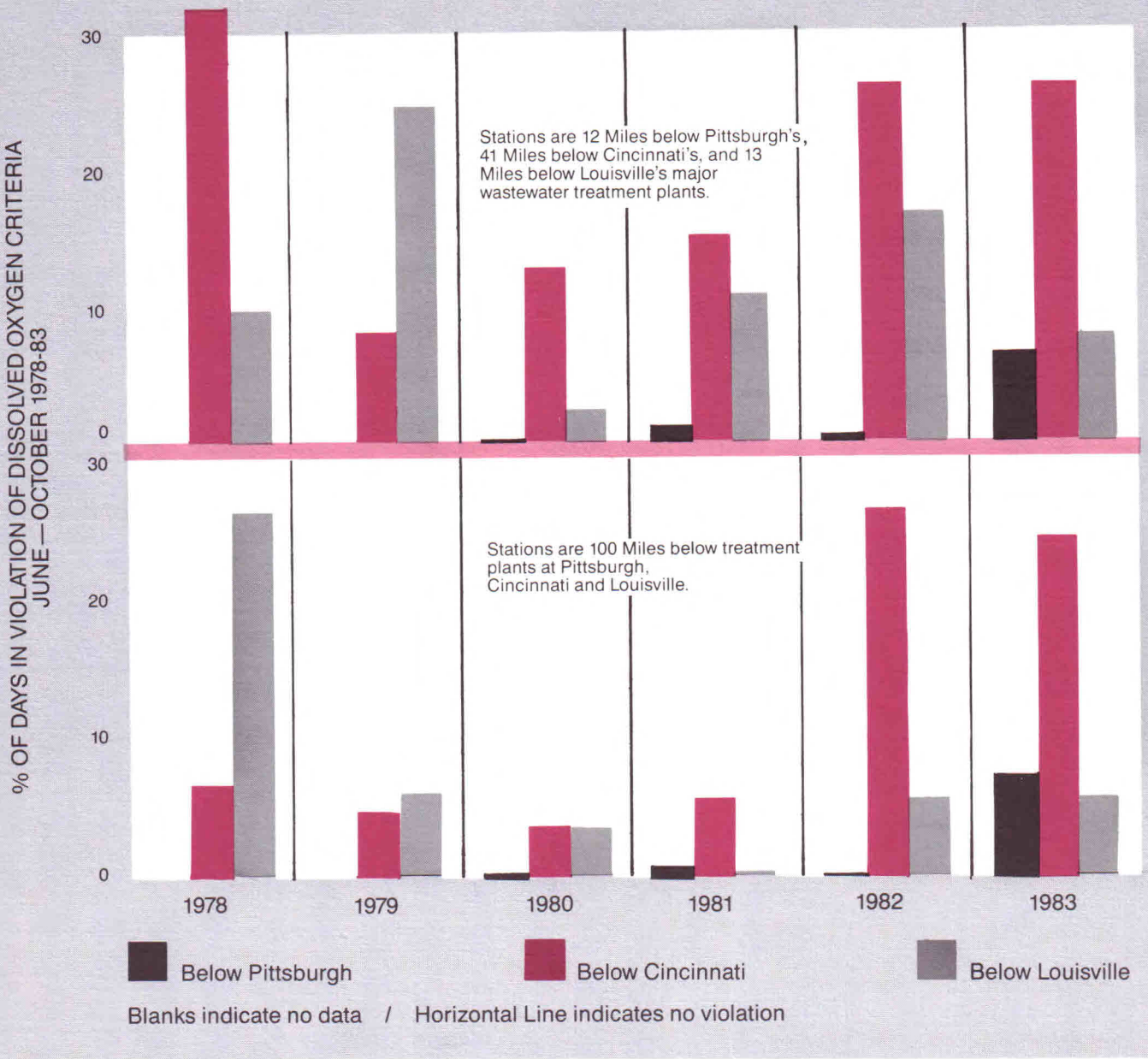


POPULATIONS served tell only part of the story. The graph also shows the populations served by plants that have "needs" — for upgrading, expansion, replacement or a combination of these. More importantly, it shows the number of people who are served by treatment plants whose discharges have major adverse impacts on the receiving stream. A major adverse impact is defined for the purposes of this survey as negative effects that can be monitored for a distance downstream from the immediate location of the wastewater treatment plant. For the Ohio River, monitoring data show that the area impacted the most by inadequately treated wastewater is below Cincinnati, Ohio. During the period of low flow between July and October, 1983, the effects of these discharges were monitored for 100 miles downriver.

Approximately 15 plants have major adverse impacts on streams in the Scioto River Basin in Ohio. The two largest plants in that basin that have major impacts are the secondary plants which serve the city of Columbus, Ohio. Construction of additional facilities to provide more sludge handling capability is currently underway there. In the Great Miami River Basin, also in Ohio, eight plants are now causing major adverse impacts on the streams. The city of Dayton's secondary wastewater treatment plant, the largest contributor, is now in the construction phase of its capital improvements program to provide needed advanced waste treatment.

LOW FLOWS on the Ohio River can increase the impact of pollutant discharges. During the summer and early fall of 1983, flows were quite low, as presented graphically in Figure 4. Extremely low rainfall and high temperatures combined to keep flow levels below average at Cincinnati on 84 days out of the 97 day period presented. Flow fell below critical levels for 13 days of the period (the critical flow is the minimum flow level used in the design of wastewater treatment systems and other facilities).

Figure 5



Usually associated with low flows are low dissolved oxygen levels, a condition which can result in stress to aquatic life. Inadequately treated wastewater discharges further depress dissolved oxygen levels because oxygen is used in the natural breakdown of materials left in the wastewater. Data collected by the Commission from continuous electronic monitoring for dissolved oxygen at 15 points on the Ohio River and 7 of its tributaries provide information on violations of the Commission's criteria for dissolved oxygen. The percentage of the time the dissolved oxygen criteria were violated at selected stations during months of July, August, September and October, in each of the years between 1978 and 1983, is plotted on the graphs in Figure 5. The stations in the top graph are located a relatively short distance from the three largest treatment plants in the Ohio Valley; those in the bottom graph are about 100 miles below these plants.

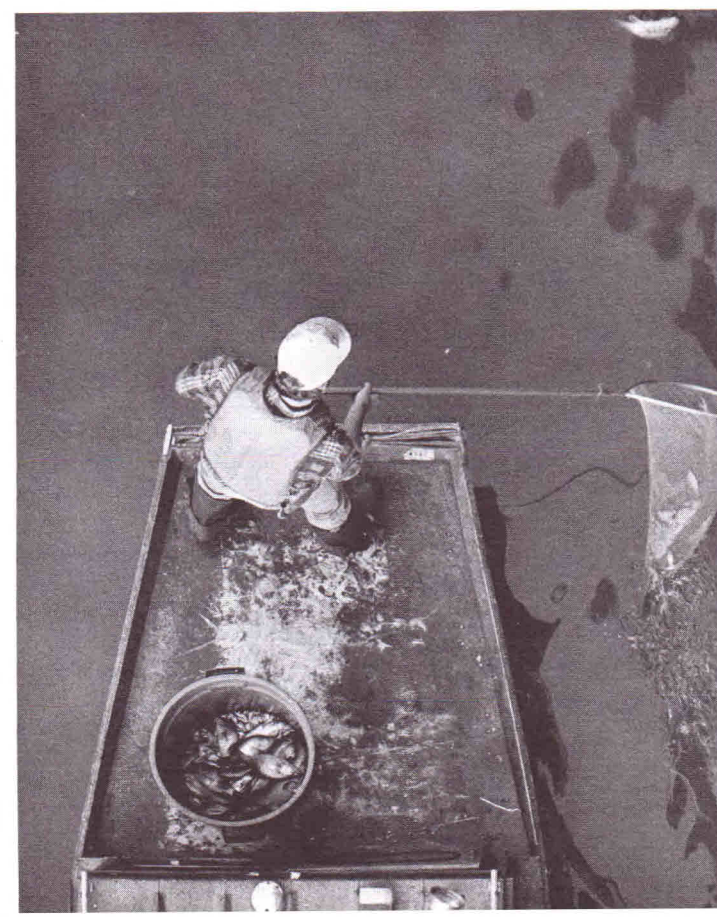
ANOTHER INDICATOR of inadequately treated municipal wastewater is the level of fecal coliform bacteria found in the river. Fecal coliform are bacteria found in the digestive systems of warm-blooded animals, including humans. Fecal coliform are not harmful; but, they serve as a surrogate indicator for other microorganisms, some of which can be pathogenic and cause illness.

During the summer of 1983, an intensive survey was made of the segment of the Ohio River starting just above Cincinnati to just above Louisville. Since fecal coliform levels can be the result of runoff from agricultural land as well as from human wastes, special tests were also run to differentiate between the two sources. Results from fecal strep tests indicate that most of the fecal coliform originated from human wastes and therefore, further supported concern about inadequately treated municipal wastewaters in the Cincinnati area. Recreational use of the river, in particular, is adversely impacted by excessive bacterial levels.

The assessment of causes of violations of the Commission's fecal coliform bacteria criterion for the protection of recreational use was the subject of a major investigation completed in 1983 for the Commission by a consultant. The investigators looked at long term trends in fecal coliform levels at eight locations along the Ohio River; the pattern of levels of these bacteria during dry and wet weather; the relative impact of bacterial levels resulting from point, non-point and tributary stream sources; and current wastewater disinfection practices at selected discharges.

Among the conclusions and recommendations reached by the study were:

- the Commission's recommended fecal coliform bacteria criterion for the protection of recreational use was probably met less than 50 percent of the time on average during the 10-year period at the eight locations;
- during dry weather periods, sections of the river in the vicinity of Wheeling/Weirton, West Virginia; Cincinnati, Ohio; and Louisville, Kentucky continued to violate the Commission-recommended criterion for fecal coliform bacteria;
- contributions to fecal coliform levels by tributary streams are relatively small, particularly in dry weather (no information on the contribution from non-point sources was available);
- a number of point source dischargers are not providing effective disinfection of wastewater, which may contribute to the fecal coliform levels at various sites; and
- suggestions for management and improvement include: increased regulation of point source dischargers; adjustment of fecal coliform monitoring to more accurately define causes and effects; and analysis to determine additional actions and their cost/benefit should stream water quality problems continue after implementation of the two previous suggestions.

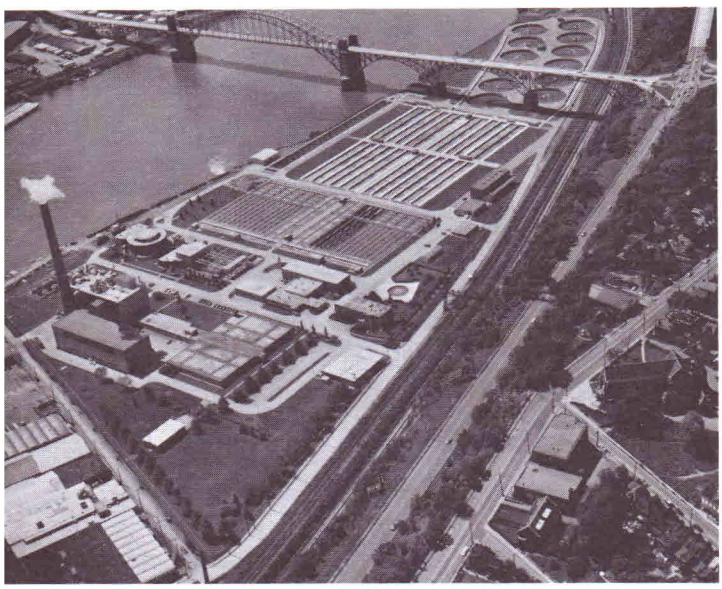


A bird's eye view of the fish population survey.

Wastewater Treatment Plants

Wastewater Treatment Facilities

The construction of facilities to treat wastewater from municipalities before discharge to rivers and streams probably has been the single most significant factor leading to the clean-up of the Ohio River. Some problems remain, however. Below are descriptions of some of the treatment plants serving the 3.3 million people living in communities along the river.

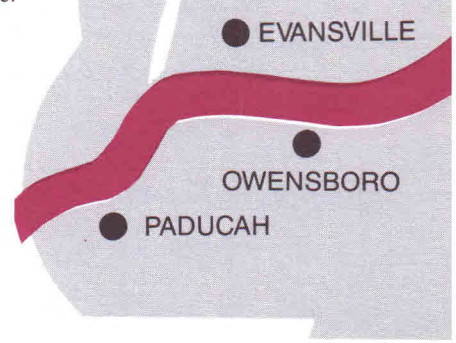


ALCOSAN, the largest wastewater treatment plant on the Ohio River, is located just downstream of Pittsburgh, PA. Photo courtesy of ALCOSAN.

ALCOSAN — The Allegheny County Sanitary Authority — is the largest sewage treatment plant on the Ohio river, serving one million people and having a capacity to treat an average of 200 million gallons per day. Secondary treatment is provided through the activated sludge process, in which extended aeration increases the growth and action of microorganisms in breaking down solids in the wastewater. The secondary facilities were installed in 1973 at a cost of $47 million. The plant, located just below the confluence of the Allegheny and Monongahela Rivers, forming the Ohio, meets the Commission's water pollution control standards.

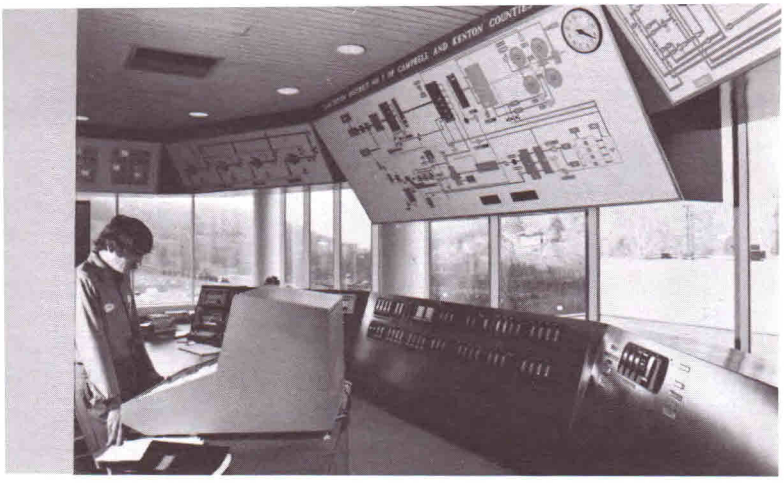
Wheeling, West Virginia's new Wastewater Treatment Facility was dedicated in October, 1983. The plant handles the wastewater of nearly 85,000 people. Flow design capacity is 10 million gallons per day, although up to 15 million gallons can receive secondary treatment. Treatment is accomplished by the activated sludge process. The solids portion is landfilled after dewatering. To upgrade the plant cost $15 million and its effluent meets Commission standards.

Parkersburg, West Virginia, Wastewater Treatment Plant's secondary treatment system, built at a cost of $13 million to serve 43,000 people, was being tested in late 1983. Parkersburg is using rotating biological contactors as its secondary treatment process. This mechanism performs the same function as activated sludge.

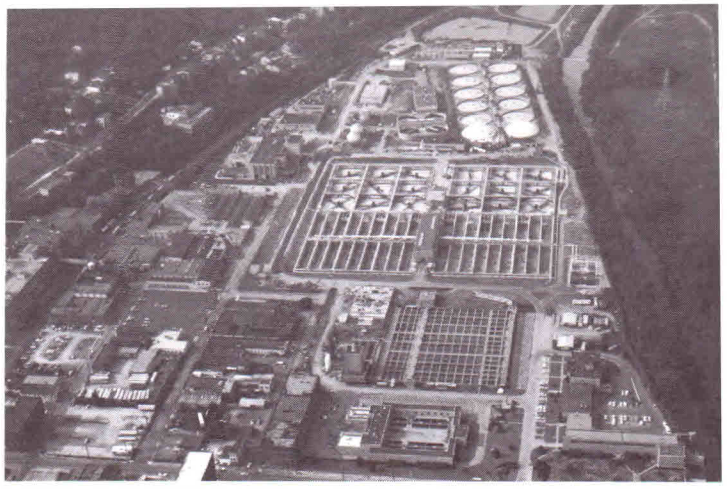


The new Wheeling, West Virginia, wastewater treatment plant was dedicated in 1983. Photo courtesy of the City of Wheeling.

Huntington, West Virginia's secondary treatment facilities are under construction, although treatment units were being tested in late 1983. The total cost of the plant will be $25 million to handle the wastewater of a city of about 74,000 people. Activated sludge is the secondary treatment method and solids removed from the wastewater will be landfilled until incineration facilities are completed in 1985.

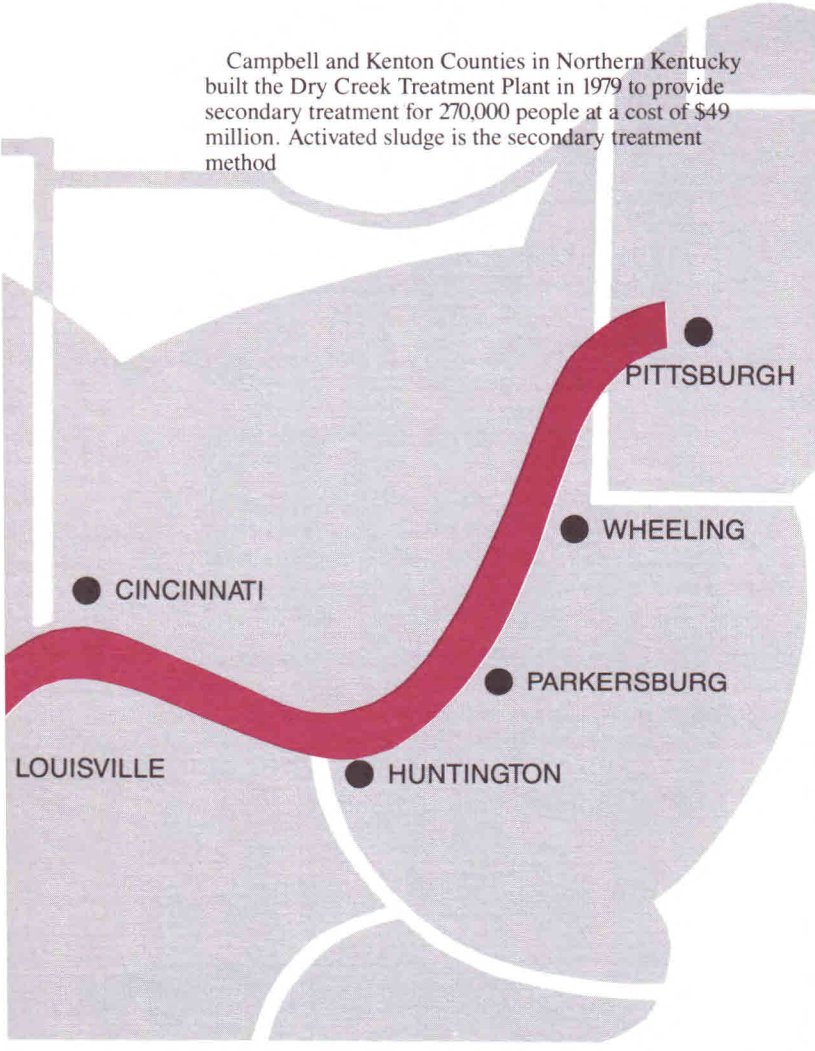


The control room at the Dry Creek Wastewater Treatment Plant in Kenton County in northern Kentucky. Photo courtesy of Kenton Co. Sanitation District #1.



The Mill Creek Wastewater Treatment Plant at Cincinnati, OH, is the second largest on the Ohio River.
Photo courtesy of the City of Cincinnati.

Campbell and Kenton Counties in Northern Kentucky built the Dry Creek Treatment Plant in 1979 to provide secondary treatment for 270,000 people at a cost of $49 million. Activated sludge is the secondary treatment method



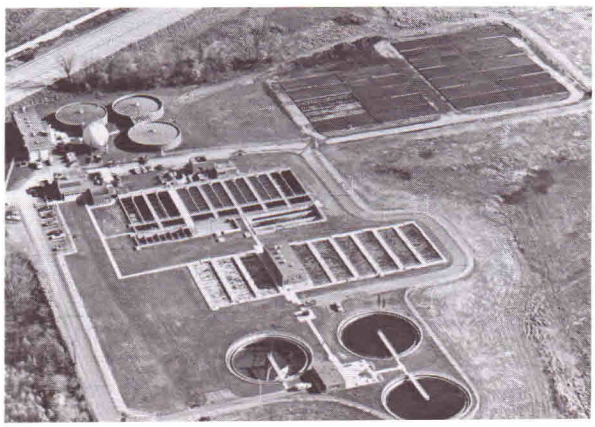
Cincinnati, Ohio's Mill Creek Plant is the second largest on the Ohio River, with a capacity of 120 million gallons per day to serve approximately 500,000 people. Activated sludge secondary treatment facilities were installed in 1976 at a cost of $63 million, but severe solids handling problems have been encountered in the secondary process; only 16 percent of the plant's discharge actually received secondary treatment in 1982. To bring the plant into compliance will cost nearly $90 million, according to estimates prepared by a consultant to the city in 1983.

Louisville, Kentucky's Morris Forman Wastewater Treatment Plant is the third largest plant on the Ohio River with a capacity of 105 million gallons per day, to serve about 500,000 people. Secondary treatment cost $65 million to install in 1976 and a pure oxygen activated sludge process is used. Major operational problems have occurred. The plant is under a consent decree issued by the US Environmental Protection Agency. An additional $10 million has been spent to remedy the situation; estimates call for about $14 million more. Steps taken have resulted in marked improvements in the plant's discharges, but despite this progress, the plant did not meet secondary treatment requirements in 1983..

Owensboro, Kentucky's Wastewater Treatment Plant installed secondary treatment in 1975 at a cost of $3.9 million to serve this city of 54,000. This facility can handle 12 million gallons per day and uses a modified trickling filter system. The solids are landfilled after concentration and the plant meets Commission standards.

In Evansville, Indiana, a community of 130,000, wastewater treatment is provided by two almost equally-sized plants with a combined capacity of about 39 million gallons per day. In 1973, the cost to install secondary treatment through activated sludge at both plants was $12.5 million. While the discharges from the plants met requirements in 1983, the solids removed from the wastewater are presenting a disposal problem. The city is temporarily stockpiling the material until a method of disposal is determined.

Paducah, Kentucky's Wastewater Treatment Plant in 1983 handled flows 25 percent above its design limitation of 4 million gallons per day; the plant met Commission discharge standards. Secondary treatment by activated sludge was installed in 1976 at a cost of $2.4 million. The solids are dried in sand beds and landfilled.



One of two wastewater treatment plants serving Evansville, IN
Photo courtesy of HNTB, Inc.

THE UNFINISHED AGENDA

Spills and Accidental Discharges

The 981-mile Ohio River is used as a transportation artery for products ranging from coal to cereal grains, from gasoline to fertilizers. Furthermore, the industries that use and/or produce these products and others are found along the river's banks. Therefore, spills and accidental discharges can occur despite the many precautions that are taken.

On September 9, 1983, a massive fish kill occurred in the river between Martins Ferry, Ohio (milepoint 88) and Benwood, West Virginia (milepoint 95). Investigation by the Ohio Environmental Protection Agency pinpointed the cause as a spill of zinc cyanide from Eastern Plating in Martins Ferry. The West Virginia Department of Natural Resources estimated 1.5 million fish were killed.

Subsequent action suspended operations and fines were levied. By late 1983, plans to install a treatment system for the cyanide at the plant were being implemented by the company, which expected to re-open in early 1984.

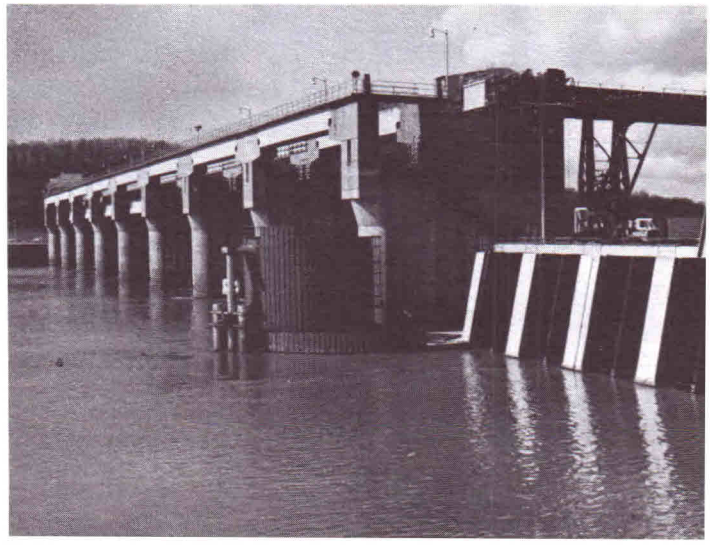
Organics Detection

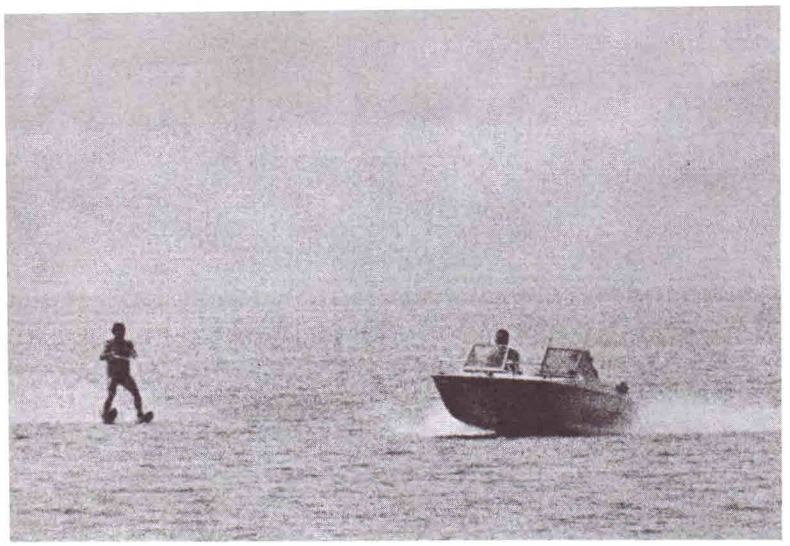
The Commission's Organic Detection System (ODS), a 12-station network run cooperatively with 10 water utilities and two industries along the Ohio River and its major tributaries, provides an early warning to safeguard water supplies in the event of a spill of organic chemicals. For more than three years, since August, 1980, there were no increases in levels of these compounds which warranted the issuance of public notification by the Commission.

However, on December 29, 1983, a concentration of 22 parts per billion of the organic chemical benzene was found by the ODS station at the Wheeling, WV, Water Works. The volume of benzene was quickly diluted. Samples taken later the same day showed levels one-third of the earlier finding, and no elevated concentrations were found at the next ODS station downstream at Parkersburg, WV. A conditional (preliminary) alert was issued to West Virginia and Ohio water pollution control agencies. The conditional alert was cancelled when the second sample was found to contain the decreased levels.

Staff from the West Virginia Department of Natural Resources investigated the massive fish kill on the Ohio River in September, 1983. Photo courtesy of the West Virginia Department of Natural Resources.

Hydroelectric power is generated at the Racine Dam on the Ohio River n





Recreation: a sign of improved water quality
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Toward Water Quality

Standards

A three year effort to revise the Commission's Pollution Control Standards, originally promulgated in 1970, culminated in 1983 with three public hearings at Coraopolis, PA (near Pittsburgh), at Highland Heights, KY (near Cincinnati) and at Evansville, Indiana. Main areas of change in the proposed regulations included provisions for temperature limitations, toxic discharge limitations and the stipulation of stream criteria which will prevail when minimum technology-based discharge standards do not assure the maintenance of designated uses of the river.

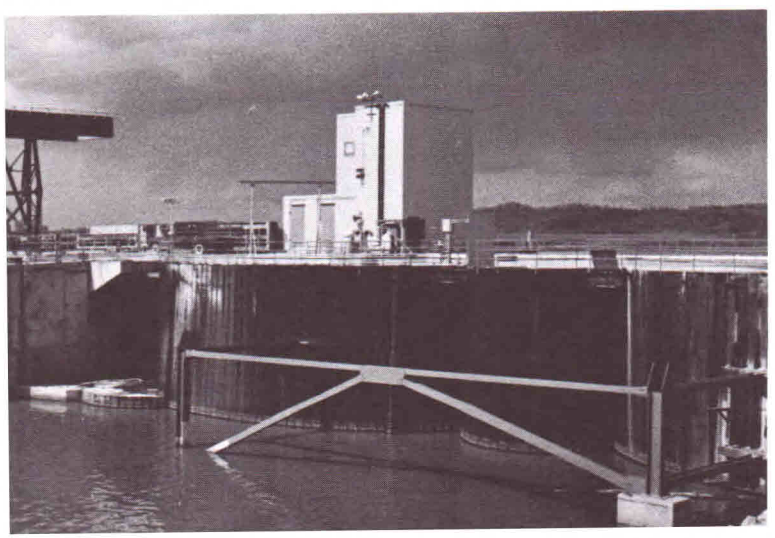
Comments received at the hearings were reviewed by a Hearing Board consisting of seven commissioners. The recommendations of the Hearing Board are presented to the full Commission for determination of the final standards for promulgation.

The Commission promulgated its first sewage treatment standard in 1949, less than a year after its establishment. Between 1949 and 1954, treatment standards were developed for all the segments of the Ohio River.

Between 1955 and 1965, the Commission passed regulations concerning industrial wastes, mine drainage, boats and floating facilities, chloride, oil pollution, and phenolics. As early as 1959, the Commission required that an entity responsible for a spill report that information to water pollution control agencies. By 1961, the Commission had also adopted a resolution prohibiting toxic substances in municipal discharges.

In 1970, prior to the enactment of the Federal Water Pollution Control Act Amendments of 1972, the Commission promulgated a major set of regulations which required secondary treatment of municipal wastewater. These regulations were, by 1980, in need of revision because of technological changes and national developments reflected in revised US Environmental Protection Agency requirements.

n Haven, WV Photo courtesy of the American Electric Power Service Corp.



The Commission's Hearing Board reviews comments regarding proposed pollution control standards.
Commission file photo

Surveys

Fish

The biennial fish population survey done at Ohio River and tributary lock chambers, in cooperation with state and federal environmental protection and natural resources agencies, was conducted in September and October, 1983. Initial data analysis showed a decrease in population diversity in areas where increases had occured in previous years, with the notable exception of Dashields Locks located 13 miles below Pittsburgh. At Dashields, diversity increased significantly in 1983. Total catch poundage was down, but large numbers of young-of-the-year were found, indicating spawning had been successful in 1983.

Decreased diversities can be the result of a number of factors, including natural population cycles and weather. Low flow conditions during the survey period may have also hampered sampling efficiency.

Mercury

A July, 1983,intensive survey for mercury was done between Cincinnati and Louisville, a segment of the river where monitoring data had indicated violations of criteria. However, only three of the 52 samples collected showed detectable levels of mercury and these were below criteria limits.

Phenolics

In February, 1983, a survey coordinated by the Commission and carried out in cooperation with the water pollution control agencies of Pennsylvania, Ohio, West Virginia and the US Environmental Protection Agency's Wheeling, WV, Laboratory pinpointed sources of excessive discharges of phenolics, compounds which can cause taste and odor problems in water supplies and taint fish flesh. Notification was made to sources of the violations through the permitting agencies of the affected states.

Phenolics again became a problem in late December, 1983, when excessive amounts were discharged at U.S. Steel's Clairton Works on the Monongahela River. A cease and desist order was issued by the Commonwealth of Pennsylvania. Downstream states and water utilities were notified and the slug of phenolics was tracked as it moved downstream for about five weeks. Alerted drinking water treatment plants instituted additional treatment methods to assure continued high quality water for their customers.

In Memoriam

The Commission was saddened to be informed of the death of its first Executive Director, Edward J. Cleary on March 31, 1984. Hailed as an environmental pioneer, Edward Cleary served the Commission from 1949 until 1967. For almost five years after that, he provided the Commission with his expertise as a consultant. The recipient of many national awards, he was recently profiled in a published interview by the Public Works Historical Society. When Ed Cleary became employed by the Commission, less than one percent of the communities in the Ohio River Valley treated their wastewater before discharge to rivers and streams. By 1964, 99 percent provided treatment. Ed Cleary was "a major force in the field of public works for nearly half a century" according to the Society's interview. So shall we remember him.

Edward J. Cleary assists at groundbreaking ceremonies for the Little Miami Sewage Treatment Works, near Cincinnati, OH, in 1951. Commission file photo

Commissioners from Illinois meeting in Cincinnati: l. to r.: Thomas McSwiggin (proxy for Richard Carlson), Springfield; Dr. Richard Engelbrecht, Urbana-Champaign; and Cordell McGoy, Cairo.

The Year in Brief...

The Commission

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

Frank C. Campbell of Kentucky was elected Chairman of the Commission for the period of July 1, 1983 to June 30, 1984. David W. Robinson of West Virginia and Paul Emler, Jr. of Pennsylvania were elected Vice-Chairman and Secretary-Treasurer, respectively.

Over the year, resolutions were passed by the Commission to recognize the service of a number of Commissioners whose terms of office came to an end, namely: Richard C. Armstrong (Federal); Robert L. Barber (New York); Norman H. Beamer (Federal); Wayne S. Nichols (Ohio)*; Ralph C. Pickard (Indiana); and Jackie Swigart (Kentucky).

Kentucky Governor Martha Layne Collins appointed Charlotte E. Baldwin *ex officio* Commissioner from that state by virtue of Ms. Baldwin's selection as Secretary of the Kentucky Environmental Protection and Natural Resources Cabinet. New York's Governor Mario Cuomo made two appointments to the Commission in 1983: Thomas A. Storch, Ph.D., and Henry G. Williams, who will serve *ex officio* by virtue of his position as Commissioner of the New York Department of Environmental Conservation. Ohio Governor Richard F. Celeste and Pennsylvania Governor Richard L. Thornburgh appointed Robert H. Maynard, Director of the Ohio Environmental Protection agency, and Nicholas DeBenedictis, Secretary of the Pennsylvania Department of Environmental Resources, respectively, to serve as their states' *ex officio* Commissioners. Joseph S. Cragwell and Robert C. Wininger were appointed to the Commission by Virginia Governor Charles S. Robb to replace Watkins M. Abbitt, Jr. and David H. Miller. President Ronald Reagan appointed Jean M. Barren and Joseph D. Cloud to represent the federal government on the Commission.

Committees

The Commission receives input from a number of committees—including its Technical Committee which consists of representatives of state water pollution control agencies, the US Environmental Protection Agency, US Army Corps of Engineers and US Geological Survey—and several special interest committess, representing the public, water utilities, publicly-owned wastewater treatment plants and the chemical and power industries. Certain of these committees are appointed by the Commission Chairman; members receive reimbursement for committee meeting expenses. Industrial committee members do not receive reimbursement for expenses.

In 1983, the Commission reviewed its committee structure to increase the effectiveness of committee input and improve communications channels. In particular, the Technical Committee, because of its close ties with the water pollution control programs of the member states, was designated a "standing" committee of the Commission. Commissioner Frank Stanonis of Kentucky was appointed to chair the Technical Committee and Chief Engineer Leo Weaver was placed on it *ex officio.*

*The Commission regretted to hear of Mr. Nichol's death in March, 1984.

Publications

Publications are developed to provide information regarding findings from the Commission's water pollution control programs. Charges for publications are levied to cover production costs. These charges are waived when requests are received from government agencies and non-profit organizations and institutions (single copies only). In 1983, the following publications were produced:

Annual Report: 1982
The Commission's review of activities during 1982 (24 pages, no charge).

Fishes of the Ohio River: Testimony to Clean Water
A general interest publication reviewing the resurgence of the Ohio River as a recreational fishery, utilizing information from 13 years of Commission surveys, descriptions of fish commonly found, drawings and photographs (24 pages, $4).

Procedures Manual: Organics Detection System
A technical publication on the use of detection equipment utilized in the Commission's Organics Detection System, providing descriptions of procedures, operations and reporting methods (103 pages, $6)

Radioactivity in the Ohio River
A general interest booklet tracing the decline of radioactivity levels in the Ohio River since the ban of open-air testing of nuclear weapons, providing explanations of radioactivity measurement and standards (6 pages, no charge).

Quality Monitor
A monthly publication of data summaries from Electronic Monitors, along with quarterly summaries of monthly Manual Sampling data. (8 pages except January, April, July and October issues, which are 16 pages, no charge).

Report and Notification of Spills and Accidental Discharges, revised, 1983
A compilation of instructions on the appropriate agencies to notify when a spill or accidental discharge occurs on the Ohio River or a tributary (8 pages, no charge).

*Staff**

Administration
Leo Weaver, *P.E., Executive Director and Chief Engineer*
William L. Klein, *Assistant Executive Director*
Kathi Allender Cobb, *Administrative Assistant*
Richard L. Herd, *Accountant/Office Manager*
Ruth M. Lindemann, *Secretary*
Betty Ann Robinson, *Accounting Technician*
Thea Teich Townsend, *Information Specialist*

Technical Services
Gerald P. Brezner, *P.E., Manager*
Marilyn P. Kavanaugh, *Secretary*
Linda C. Shumway, *Environmental Specialist*
Peter A. Tennant, *P.E., Water Resources Engineer*
Alan H. Vicory, Jr., *P.E., Environmental Engineer*

Surveillance
Glenn E. Moore, *Manager*
Douglas Adams, *Surveillance Specialist (Marietta, Ohio)*
Nancy L. Armstrong, *Secretary*
Donna M. Carroll, *Computer Operations Specialist II*
Janis R. Flick, *Chemist*
John L. Keyes, *Biologist*
Ali Sodeifi, *Electronics Engineer*
Robert D. Timmerman, Jr., *Surveillance Specialist (Evansville, Indiana)*
Millie S. Woolwine, *Computer Operations Specialist I*

*as of March 31, 1984.

Art: Ray Loos

FINANCIAL REPORT

The following information relative to revenues, expenses, and statement of resources was extracted from the Annual Auditors Report of Clark Schaefer Hackett & Co., Certified Public Accountants, for the year ended June 30, 1983

THE OHIO RIVER VALLEY WATER SANITATION COMMISSION

STATEMENT OF REVENUES, EXPENSES AND AVAILABLE RESOURCES
YEAR ENDING JUNE 30, 1983

Revenues		
Signatory States:		
State of Illinois	$ 30,240	
State of Indiana	111,660	
Commonwealth of Kentucky	124,800	
State of New York	6,360	
State of Ohio	153,780	
Commonwealth of Pennsylvania	87,720	
Commonwealth of Virginia	20,520	
State of West Virginia	64,920	
Total — Signatory States		$ 600,000
U.S. Environmental Protection Agency:		
Water Pollution Control Grant		410,735
U.S. Army Corps of Engineers:		
Electronic Monitoring Support	$ 67,500	
Allegheny and Pittsburgh District Support	51,550	
Total — U.S. Army Corps of Engineers		119,050
Other Revenues		11,398
Available Resources at beginning of year		99,372
Total — Resources		$1,240,555
Expenses		
Salaries and employee benefits	$ 601,734	
Electronic monitoring	51,650	
Manual monitoring	38,765	
Organics detection	191,074	
Data processing	31,980	
Subcontracted studies	36,300	
General expenses	241,198	
Total — Expenses		$1,192,701
Available resources at end of year		$ 47,854

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
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
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, Pennsylvania 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

OHIO RIVER VALLEY WATER
SANITATION COMMISSION

414 Walnut Street
Cincinnati, Ohio 45202