Ohio River Valley Water Sanitation Commission

4th

Annual Report · 1952

MEMBERS OF THE COMMISSION

E. BLACKBURN MOORE
Chairman

H. E. MOSES
Vice-Chairman

C. W. KLASSEN
Past-Chairman

INDIANA

L. E. Burney, M.D.
State Health Commissioner

B. A. Poole
Technical Secretary
Stream Pollution Control Board

Joseph L. Quinn, Jr.
The Hulman Company

ILLINOIS

Roland R. Cross, M.D.
Director of Public Health

Clarence W. Klassen
Chief Sanitary Engineer

W. H. Wisely
Champaign, Illinois

KENTUCKY

Bruce Underwood, M.D.
State Health Commissioner

Earl Wallace
Division of Game and Fish

Henry Ward
Commissioner of Conservation

NEW YORK

Martin F. Hilfinger
President, Associated Industries
of New York State, Incorporated

Herman E. Hilleboe, M.D.
State Health Commissioner

Charles B. McCabe
Publisher, New York Mirror

OHIO

Hudson Biery
Terrace Park, Ohio

Kenneth M. Lloyd
Executive Secretary
Mahoning Valley Industrial Council

John D. Porterfield, M.D.
Director of Health

PENNSYLVANIA

E. A. Holbrook
Pittsburgh, Pennsylvania

H. E. Moses
Consulting Chief Engineer

Russell E. Teague, M.D.
Secretary of Health

VIRGINIA

E. Blackburn Moore
Chairman, Water Control Board

T. Brady Saunders
Commissioner, Water Control Board

Ross H. Walker
Commissioner, Water Control Board

WEST VIRGINIA

N. H. Dyer, M.D.
State Health Commissioner

W. W. Jennings
State Water Commission

Robert F. Rocheleau
Executive Secretary-Engineer
State Water Commission

UNITED STATES GOVERNMENT

O. Lloyd Meehean
Fish and Wildlife Service

Leonard A. Scheele, M.D.
Surgeon-General
Public Health Service

Robert G. West
Corps of Engineers

Secretary
F. H. Waring

Legal Counsel
Leonard A. Weakley
Taft, Stettinius & Hollister

Treasurer
Robert K. Horton

STAFF

Edward J. Cleary, Executive Director and Chief Engineer
Robert K. Horton, Sanitary Engineer
John E. Kinney, Sanitary Engineer
William R. Taylor, Chemical Engineer
Elmer C. Rohmiller, Staff Assistant
E. Philip Baker, Jr., Asst. Sanitary Engineer
Harold W. Streeter, Consultant

Secretaries:
Verna B. Ballman, Carol A. Corbly, Annabella L. Kimsey
Esther V. Laaker, Henrietta R. Rothert

HEADQUARTERS: 414 WALNUT STREET • CINCINNATI 2, OHIO

4th ANNUAL REPORT

to the Governors of

ILLINOIS

INDIANA

KENTUCKY

NEW YORK

OHIO

PENNSYLVANIA

VIRGINIA

WEST VIRGINIA

OHIO RIVER VALLEY WATER SANITATION COMMISSION

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OHIO RIVER VALLEY
WATER SANITATION COMMISSION

414 WALNUT STREET CINCINNATI 2, OHIO

To the Chairman and
Members of the Commission

In accordance with your wishes, this report on program and progress has been prepared for the governors of the states signatory to the Ohio River Valley Water Sanitation Compact.

The content and presentation have been designed to show in simplified form the relationship of the many and varied elements that comprise the conduct of our regional pollution-abatement campaign. In addition, accomplishments have been matched against the goals sought in order to convey a picture of how far we have gone and what yet remains to be done.

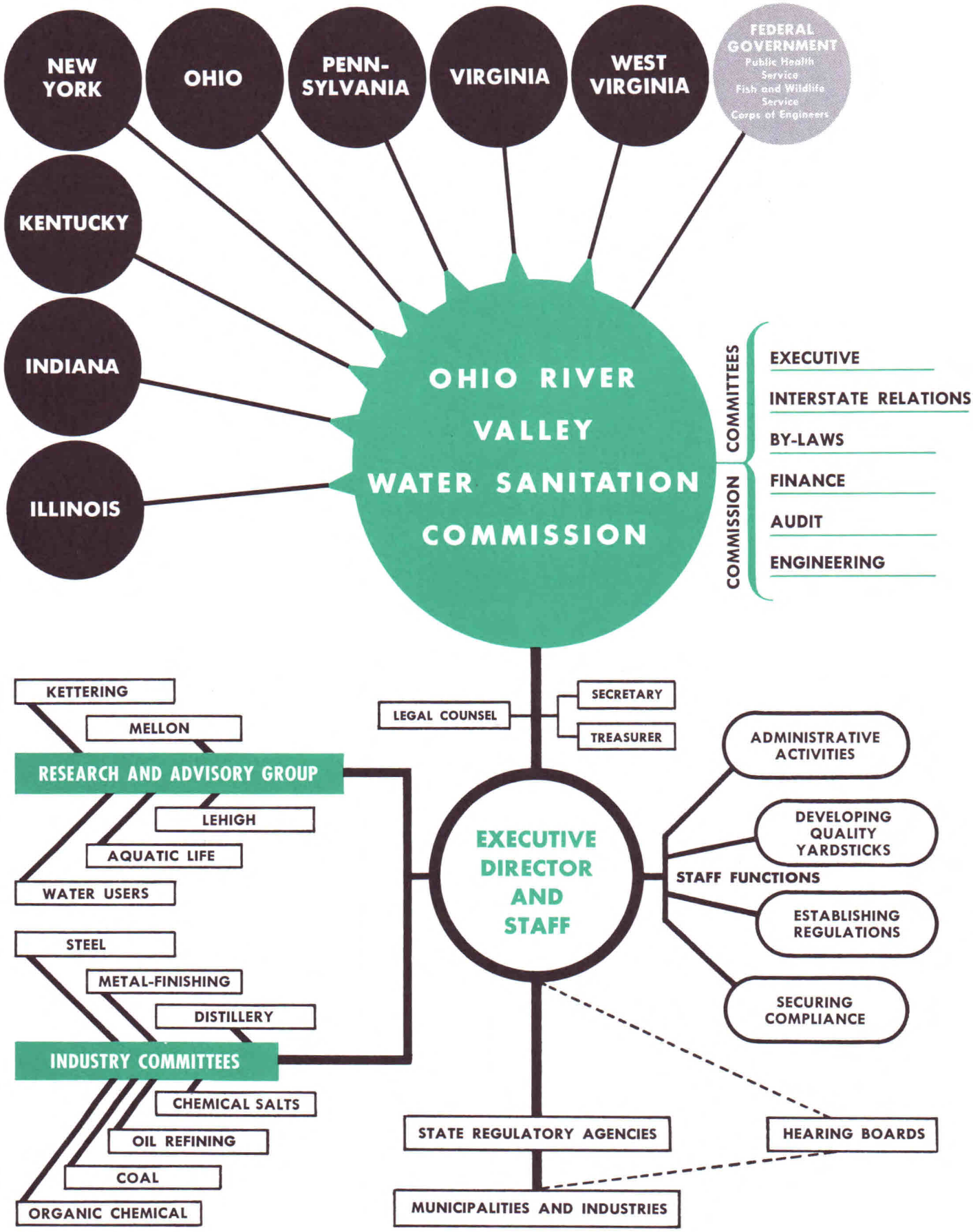
It is gratifying to record the names of many people representing public agencies and private enterprize who are lending their aid to the advancement of the Commission's task. In this connection your attention is invited to the listing of the industrial and advisory committees.

Respectfully submitted

Edward J. Cleary

EDWARD J. CLEARY

November 15, 1952


NEW YORK
OHIO
PENN-SYLVANIA
VIRGINIA
WEST VIRGINIA
FEDERAL GOVERNMENT
Public Health Service
Fish and Wildlife Service
Corps of Engineers
KENTUCKY
INDIANA
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WATER USERS
STEEL
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DISTILLERY
INDUSTRY COMMITTEES
CHEMICAL SALTS
OIL REFINING
COAL
ORGANIC CHEMICAL
LEGAL COUNSEL
SECRETARY
TREASURER
EXECUTIVE DIRECTOR AND STAFF
ADMINISTRATIVE ACTIVITIES
DEVELOPING QUALITY YARDSTICKS
STAFF FUNCTIONS
ESTABLISHING REGULATIONS
SECURING COMPLIANCE
STATE REGULATORY AGENCIES
HEARING BOARDS
MUNICIPALITIES AND INDUSTRIES

Pattern for Coordination

Illinois, Indiana, Kentucky, New York, Ohio, Pennsylvania, Virginia and West Virginia are joined by a compact to control water pollution in the Ohio River district. They operate through a commission on which sit three representatives from each state, appointed by the governor of the state, and three federal representatives, appointed by the President of the United States. The Commission is non-partisan and commissioners serve without compensation. Operating funds are provided by the signatory states on the basis of area and population within the compact district.

To carry out its assigned task of adopting and enforcing regulations for control of interstate pollution the Commission coordinates and supplements the water-pollution control operations underway in the eight states. To this end Commission activities are designed to reflect the attitudes of state regulatory agencies and to integrate information on water use and conservation from a host of sources and interests.

Thus, the Commission is involved with many relationships. Some of these are charted on the opposite page, which shows how:

- ★ Representatives of eight states and the federal government form a corporate body known as the Ohio River Valley Water Sanitation Commission.
- ★ The Commission conducts its business through internal committees and an executive director.
- ★ Execution of Commission activities is secured through a technical staff whose operations are supplemented by:
  - Research and advisory groups sponsored by the Commission, and
  - Industry-action advisory committees voluntarily organized to assist the Commission.
- ★ Contacts with municipalities and industries are maintained directly through state water-control regulatory agencies, except for the conduct of public hearings.

PROGRAM GOALS AND TASKS

Program necessities of the Ohio River Valley Water Sanitation Commission are set forth in the compact adopted by the eight states. Here we find both the broad outline of the job to be done and certain specific requirements. In addition, the commissioners define through policy statement and directives the manner in which the program is to be executed.

What must be done

In broad terms the Commission's responsibility is to place and maintain the waters of the Ohio River basin in a condition so that they are . . .

1. available for safe and satisfactory use as public and industrial water supplies after reasonable treatment,
2. suitable for recreational usage,
3. capable of maintaining fish and other aquatic life,
4. free from unsightly or malodorous nuisances due to floating solids or sludge deposits, and
5. adaptable to such other uses as may be legitimate.

More specifically, a floor is established calling for minimum treatment of all sewage. The compact also recognizes that no single standard for treatment of sewage or industrial waste is applicable in all parts of the district, and in some cases a higher degree may be necessary. The guiding principle of the compact is that pollution originating within one signatory state shall not injuriously affect the various uses of the interstate waters.

Further, the compact instructs the Commission to "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 . . ."

Finally, the Commission is empowered with legal authority to insure remedial action.

How the job is being tackled

To carry out the requirements of the compact and accomplish its purpose, activities of the Commission fall into three broad tasks:

TASK I — Establishing criteria of water-quality

First it is necessary to ascertain what substances are present in the waters. Then each substance must be studied to determine the maximum concentration that can be tolerated without deleterious effect, beyond which the water is unsuitable for certain uses. Uniform methods of testing polluting substances, particularly industrial wastes, must be established.

TASK II — Establishing control regulations

Comprehensive investigations relating to pollution loads, stream characteristics and water uses must be made, on the basis of which recommendations for control are drafted.

When it is found necessary to prescribe a standard higher than the minimum required by the compact, or to specify treatment for industrial wastes, a public hearing must be held to validate Commission findings and to give all those affected an opportunity to be heard. After weighing this evidence the Commission adopts a regulation.

TASK III — Securing compliance

Securing compliance with Commission regulations by municipalities and industries is a pledged responsibility of the state agencies. Educational activities and persuasion precede formal action by the states for local compliance. The Compact provides for ultimate action by the Commission when and if this should become necessary.

ASSISTING THE COMMISSION

As the agency representing eight states and with the responsibility for decisions affecting the interests of millions of people and hundreds of industries, the Commission seeks and receives advice from numerous sources. The Commission acknowledges with pride and satisfaction the talents and resources that have been so generously made available in aiding its deliberations and promoting its work. Among the principal groups collaborating with the Commission are:

STATE WATER POLLUTION CONTROL AGENCIES – who deal directly with municipalities and industries in their respective areas in promoting and enforcing pollution abatement. Their records, surveys and long-time familiarity with conditions in the Ohio River valley provide the base on which has been erected the Commission structure.

U. S. PUBLIC HEALTH SERVICE – is represented on the Commission by the Surgeon-General, through appointment by the President of the United States. In addition, through its Division of Water Pollution Control and under provisions of Public Law 845, the Service has made financial grants available to the Commission for the conduct of industrial waste surveys and research. Also, through the laboratory of the Environmental Health Center at Cincinnati, many specialized services and opportunities for consultation are available to the Commission.

U. S. CORPS OF ENGINEERS – is represented on the Commission through a member of its Ohio River Division staff, by appointment of the President of the United States. Division and district offices of the Corps provide maps, data and other services relating to its extensive operations on river regulation. Flood control and navigation facilities planned, built and operated by the Corps bear an intimate relationship to pollution-control measures.

U. S. FISH AND WILDLIFE SERVICE – is represented on the Commission by the chief of the Branch of Game-fish and Hatcheries, Fish and Wildlife Service, through appointment by the President of the United States. This representation makes available a specialized viewpoint on conservation matters relating to aquatic life.

ENGINEERING COMMITTEE – is a technical advisory arm of the Commission. Each of the signatory states is represented in this group by a person responsible for water-pollution control activities in his state. Here the engineering aspects of problems are reviewed so that recommendations can be made to aid the Commission in evaluating various proposals.

INDUSTRY-ACTION COMMITTEES – are the culmination of a desire on the part of the Commission to enlist industrial participation in the conduct of a program of regional pollution control. It reflects a Commission philosophy that local interests who have a stake in the region should have an opportunity to assume responsibility for guiding development of the program in the public interest. Thus far seven generic industry groups have allied themselves with the program at the invitation of the Commission. Four committees representing the steel, metal-finishing, chemical salts and distillery industries have been organized for more than two years. A bituminous coal advisory group was activated last year and within recent months an oil refinery committee and one representing organic-chemical manufacturers have been formed. Work programs of each committee are coordinated by a member of the Commission staff. Additional liaison in some cases is also achieved by delegation of a commissioner to sit in on committee meetings and through attendance of industry-committee representatives at meetings of the Commission and its Engineering Committee. Committees and their membership are listed on pages 17, 18 and 19.

WATER USERS COMMITTEE – includes the managers of municipal and industrial water-treatment plants that draw on the Ohio River for their supply. Their experience in preparing water for domestic consumption and industrial processes provides the Commission with the counsel of a group uniquely qualified to pass judgment on water quality. As a voluntary contribution they supply regular analyses of the water at various locations on the Ohio River and thus perform an invaluable service for monitoring and control purposes. See page 19 for names of participants.

AQUATIC-LIFE ADVISORY COMMITTEE – is a group of nationally recognized experts who were invited and volunteered to study conditions in the Ohio River valley and make recommendations for maintaining aquatic life. Their reports aid the Commission in drafting water-quality criteria. Members are listed on page 19.

U. S. COAST GUARD – with responsibility for control of oil pollution under federal statute, and in its regular patrolling of the river to insure protection of life and property, maintains liaison with the Commission. This activity is guided by Captain C. W. Thomas, St. Louis, and Commander Samuel G. Guill, Cincinnati.

KETTERING LABORATORY OF APPLIED PHYSIOLOGY – is under contract with the Commission for the evaluation of information on the potential toxicity to man and animals of substances that may be found in water, with particular reference to industrial wastes. Recommendations are made to aid in the establishment of water-quality regulations. The National Cash Register Co., a member of the Metal-Finishing Industry Action Committee, has assigned a full-time staff member to aid in this research and the Steel Industry Action Committee is making plans for similar participation. Dr. Jules S. Cass of Kettering Laboratory is project director.

LEHIGH UNIVERSITY – is under contract with the Commission for the development of analytical methods to measure the pollutional effects of certain metal-finishing wastes. Members of the metal-finishing and steel industry action committees are field-testing these methods in order to insure their practical application. Dr. Earl Serfass of Lehigh University is project director.

MELLON INSTITUTE – is under joint contract with the Commission, the Bituminous Coal Industry Advisory Committee of the Commission and the Pennsylvania Sanitary Water Board for the conduct of research in the control of mine-acid drainage. Dr. S. A. Braley of Mellon Institute directs this work.

Task 1 . . . DEVELOPING WATER-QUALITY CRITERIA

The role of the Commission is broadly stated in the compact to make the waters of the district "satisfactory," "suitable" or "adaptable" to certain uses. A primary task of the Commission, therefore, is to define these conditions in more precise terms. In other words, the task is to determine what substances are present in the waters and in what ranges of concentration these substances would affect the suitability of water for drinking supplies, industrial needs, recreational purposes and maintenance of aquatic life. How this is being done by sponsorship of research and enlisting the talents of Commission industry and advisory committees is shown below.

TOXICITY LEVEL EVALUATION

Kettering Laboratory
Aquatic-Life Committee
Industry Committees

Evaluation of effects of all substances in water to determine those that are toxic to man and animals and in what concentration they can be tolerated without harmful effect.

QUALITY RELATED TO USE

Water Users Committee
Industry Committees
Aquatic-Life Committee

Determination of the detrimental effects of wastes discharged to streams on water supply operations, industrial processing, aquatic life, recreation and other legitimate uses.

TECHNIQUE AND ECONOMY OF CONTROL

Industry Committees
Water Users Committee

Considerations relating to the methods and costs of corrective measures, and the means for measuring performance.

REPORTS REVIEWED BY ENGINEERING COMMITTEE WITH RECOMMENDATIONS TO THE COMMISSION FOR ESTABLISHMENT OF WATER-QUALITY CRITERIA

'ABLISHING POLLUTION

The map shows what parts of Tas
interstate rivers in the Ohio
status of cities on the Ohio River

WHAT STEPS ARE TAKEN

STAFF INVESTIGATIONS are made of pollution conditions, on the basis of which a report is written setting forth the facts, an interpretation of what they mean and recommendations for corrective measures.

PUBLIC HEARINGS are conducted on the recommendations during which opportunity is afforded to all interested parties to submit testimony for or against the findings.

ADOPTION OF REQUIREMENTS by the Commission follows critical evaluation by a hearing board of all the findings and testimony.

FORMAL NOTICES for compliance based on lists supplied by state agencies, are issued to municipalities and industries in the area affected.

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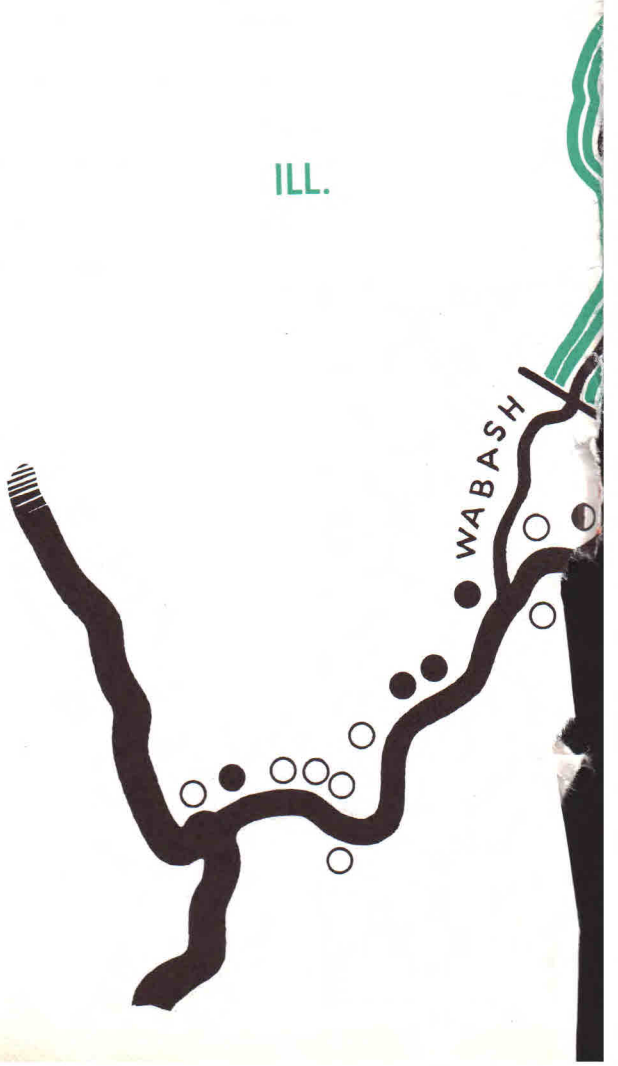
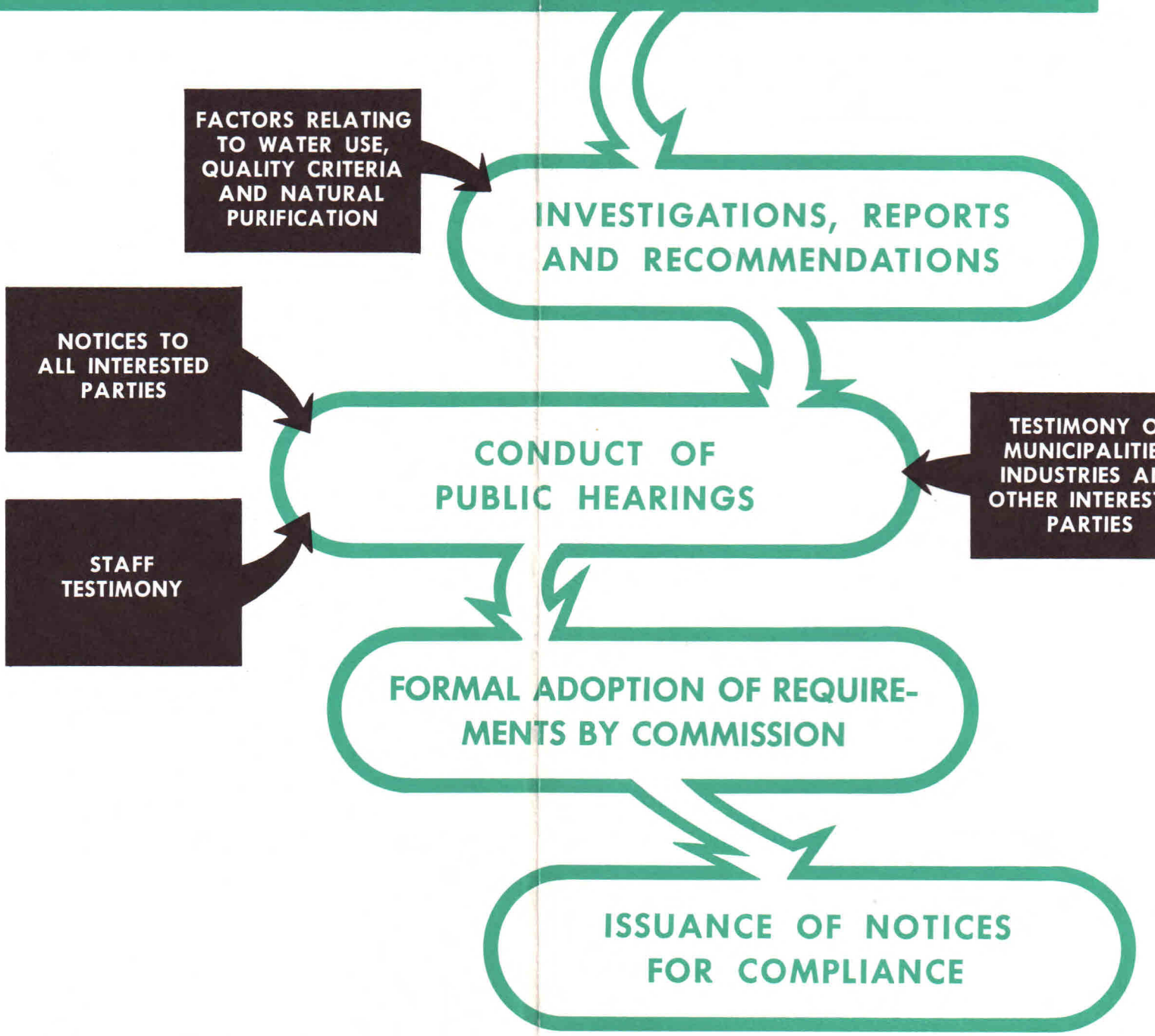


Task 2 . . . ESTAB

Determination of waste-treatment requirements for interstate rivers, or specified sections of such rivers, involves four steps of procedure designed to satisfy technical and legal considerations. These steps and the order in which they follow are shown below.



WHAT HAS BEEN DONE

BACTERIAL LIMITS – have been defined with relation to water for drinking and for recreational purposes (see report *Bacterial-Quality Objectives for the Ohio River.*) Findings were applied in the regulation setting forth treatment requirements for the Huntington-Cincinnati stretch of the Ohio River.

PHENOL LIMITS – The steel industry committee is compiling two reports on the extent of phenol wastes and measures for removal. Research sponsored by the Commission and subsidized by industry has shown that three methods of chemical oxidation treatment can be used to reduce phenols (see report *Phenol Wastes Treatment by Chemical Oxidation.*) The water users committee is monitoring the Ohio River three times weekly to establish relationship between phenols and threshold tastes and odors. The oil industry committee is defining its phenol-waste problem. The engineering committee is evaluating data with industry committees preparatory to making recommendations for adoption by the Commission on limits, treatment capabilities and application of regulations.

POLIO AND CYANIDE POISONING – a special report from Kettering Laboratory revealed that there is no relationship between symptomatology of poliomyelitis and cyanide poisoning. Questions were raised about this possibility because trace amounts of cyanide may appear in streams used for water supply. (See *Engineering News-Record,* April 3, 1952, p. 76)

FLUORIDE LIMIT – Evaluation of public-health aspects of fluoride in water evaluated by Kettering and report made on recommendations for maximum permissible concentration in streams. Report is in hands of members of industry and other advisory committees, as well as the engineering committee, for discussion.

LEAD LIMIT – Kettering, with the aid of the metal-finishing and steel industry committees, is compiling all known information on toxicity to man and animals of substances in water. Evaluation and recommendation is expected by the end of 1952.

COPPER LIMIT – same status as lead report.

CHLORIDES – data on physiological effects are being assembled by Kettering. The Commission has completed investigation of effect of wastes on a heavily polluted stream. (See report *Brine Contamination in the Muskingum River.*) The chemical-salts committee and other industry groups are reporting on economic considerations.

DISSOLVED-OXYGEN LIMIT – The aquatic-life committee is preparing recommendations in relation to aquatic-life requirements.

OTHER SUBSTANCES – Kettering has compiled a list of some 190 elements or compounds found in industrial wastes entering the Ohio River. Depending on importance of the waste – in terms of potential toxicity and quantity – priorities have been assigned for evaluation studies with the aid of industry committees.

CONTROL REGULATIO

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Valley compact district. The circles sho
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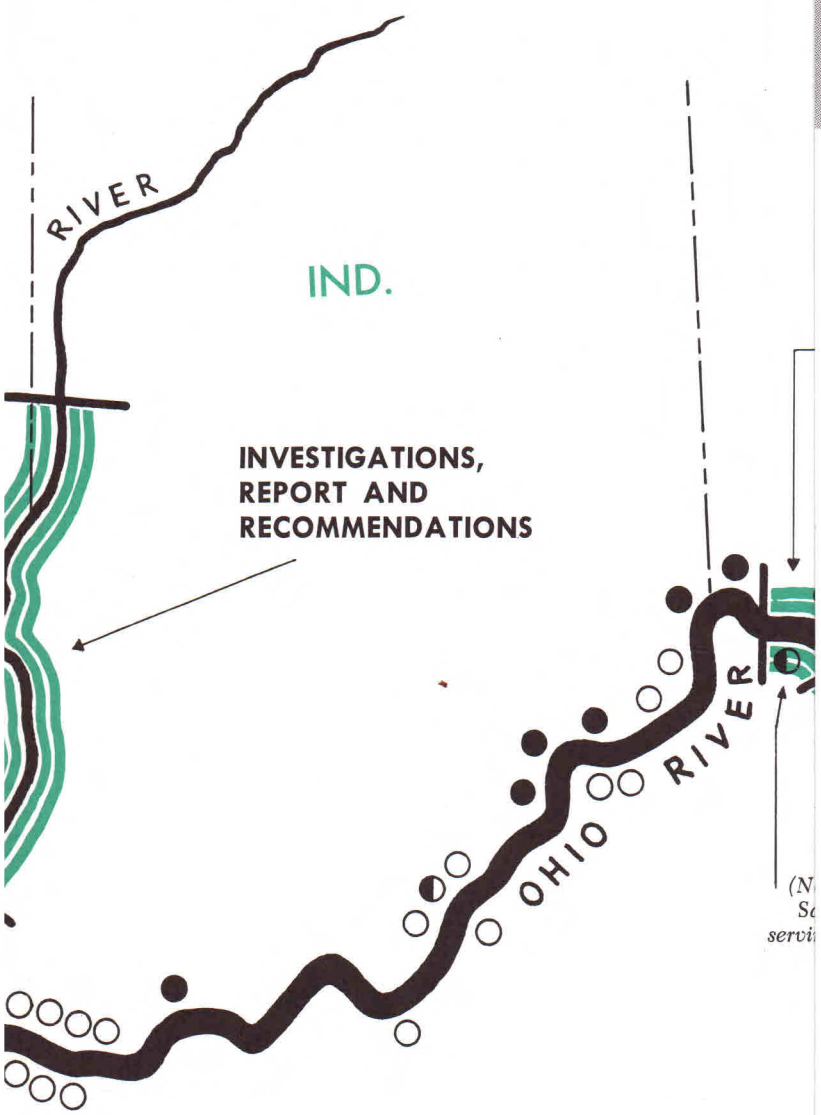


LEGEND
- ● TREATMENT PROVIDED
- ◐ CONSTRUCTION STAGE
- ○ NO TREATMENT

HOW FAR THE JOB IS DONE

ALL STEPS have been taken on 182 miles of the 981 in Ohio River.

INVESTIGATIONS PARTLY completed on 301 miles.

INVESTIGATIONS COMPLETED on 130 miles of the Wabash River.

MUNICIPAL TREATMENT STATUS

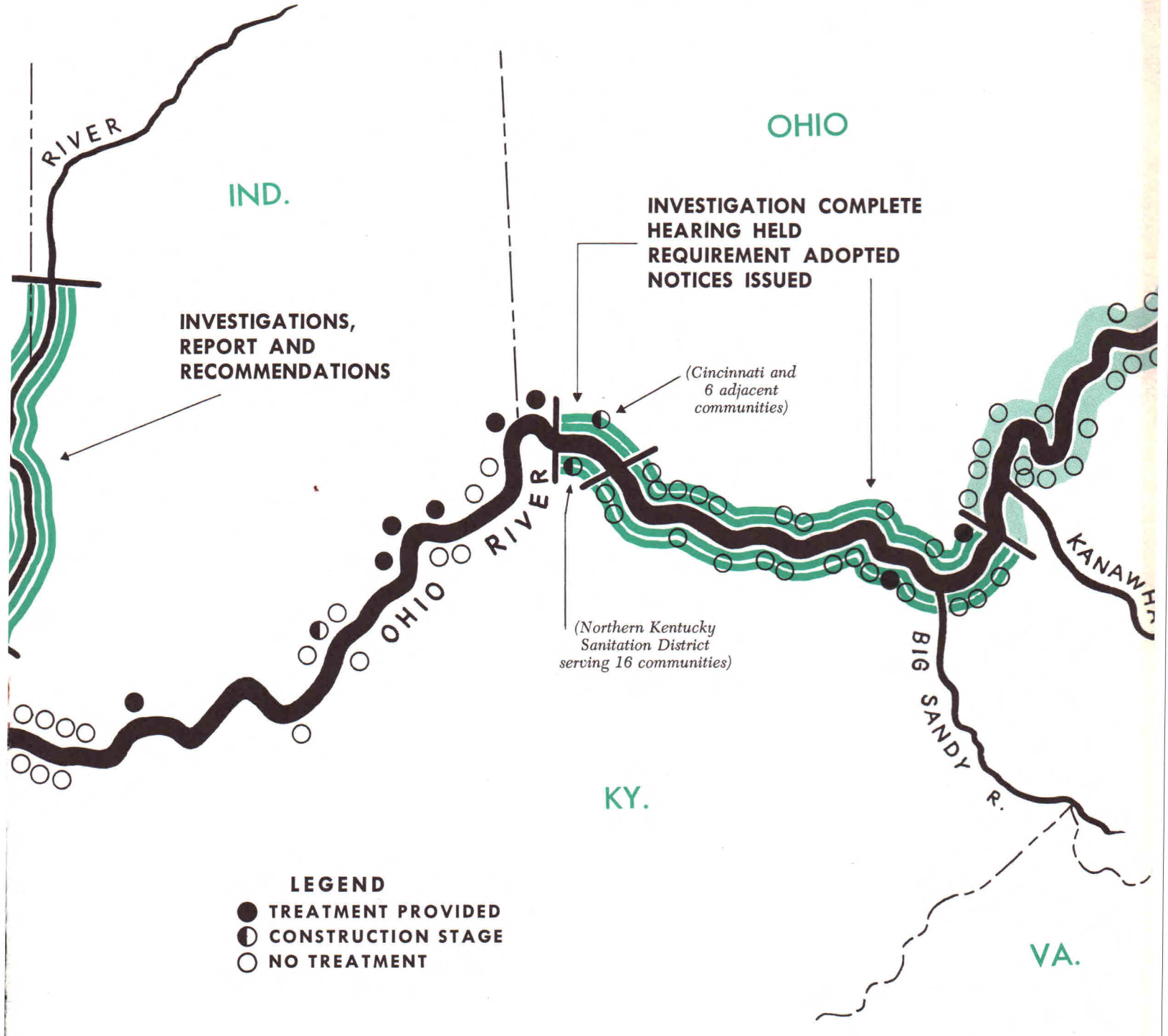
	Cities	*Population*
Treatment provided..	357	1,834,300
Construction stage...	26	782,000
No treatment.....	970	6,667,700

INDUSTRIAL WASTE CONTROL

Plants in operation.....	693
Under construction	42
Plans in preparation.....	150
Requiring attention	385

CONTROL REGULATIONS

: 2 have been completed and are underway on the alley compact district. The circles show the in meeting their obligation for sewage treatment.



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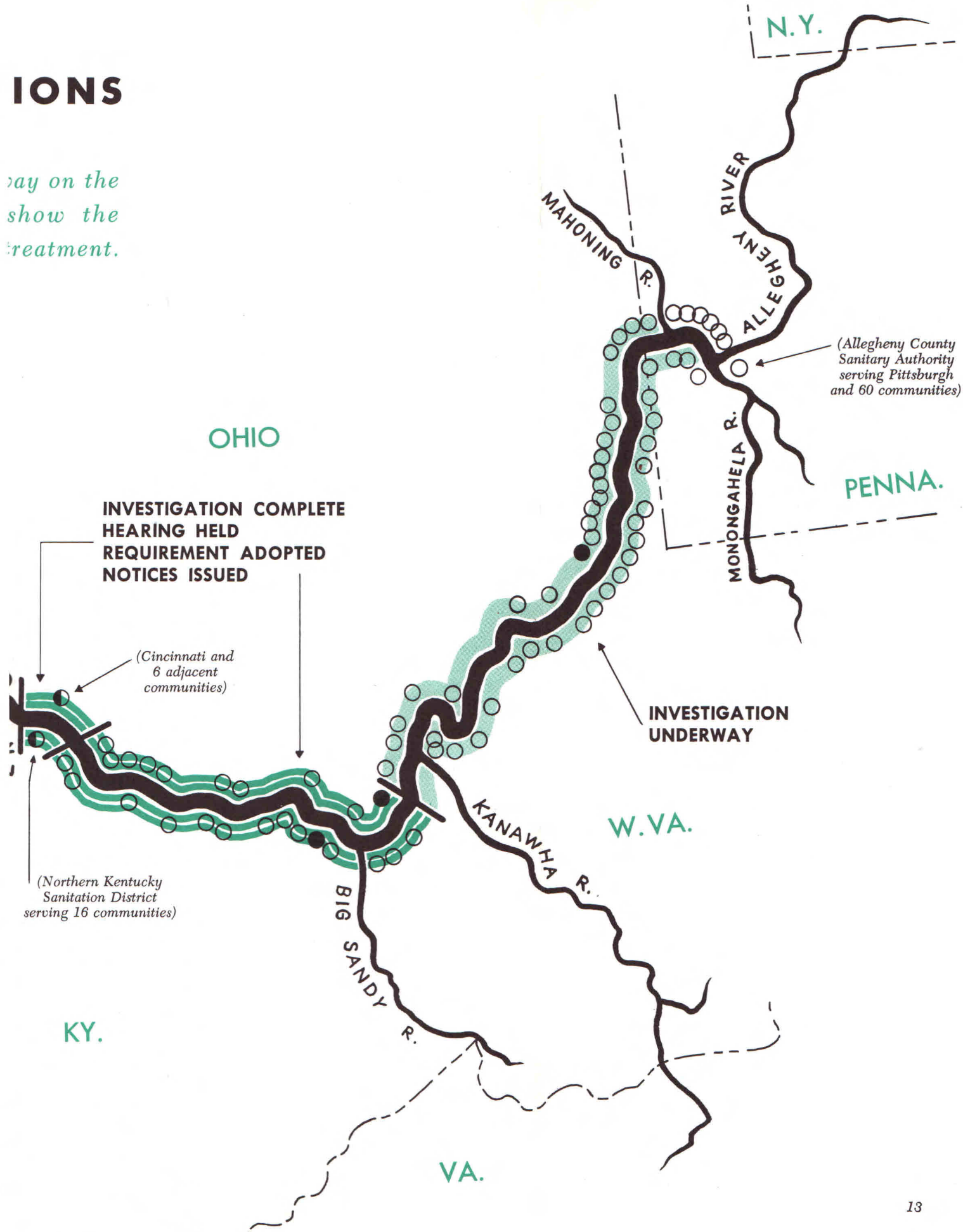


Task 3 . . . SECURING COMPLIANCE

Securing compliance with Commission regulations by municipalities and industries is a pledged responsibility of the state agencies. However, the Commission engages in educational activities and other methods of persuasion to promote local action. Should state efforts prove ineffective, the Commission may take direct action.

EDUCATIONAL AND PROMOTIONAL EFFORTS

Conducted by the commission supplement . . . . . .

DIRECT ACTION BY STATE CONTROL AGENCIES

. . . For enforcement of commission requirements and

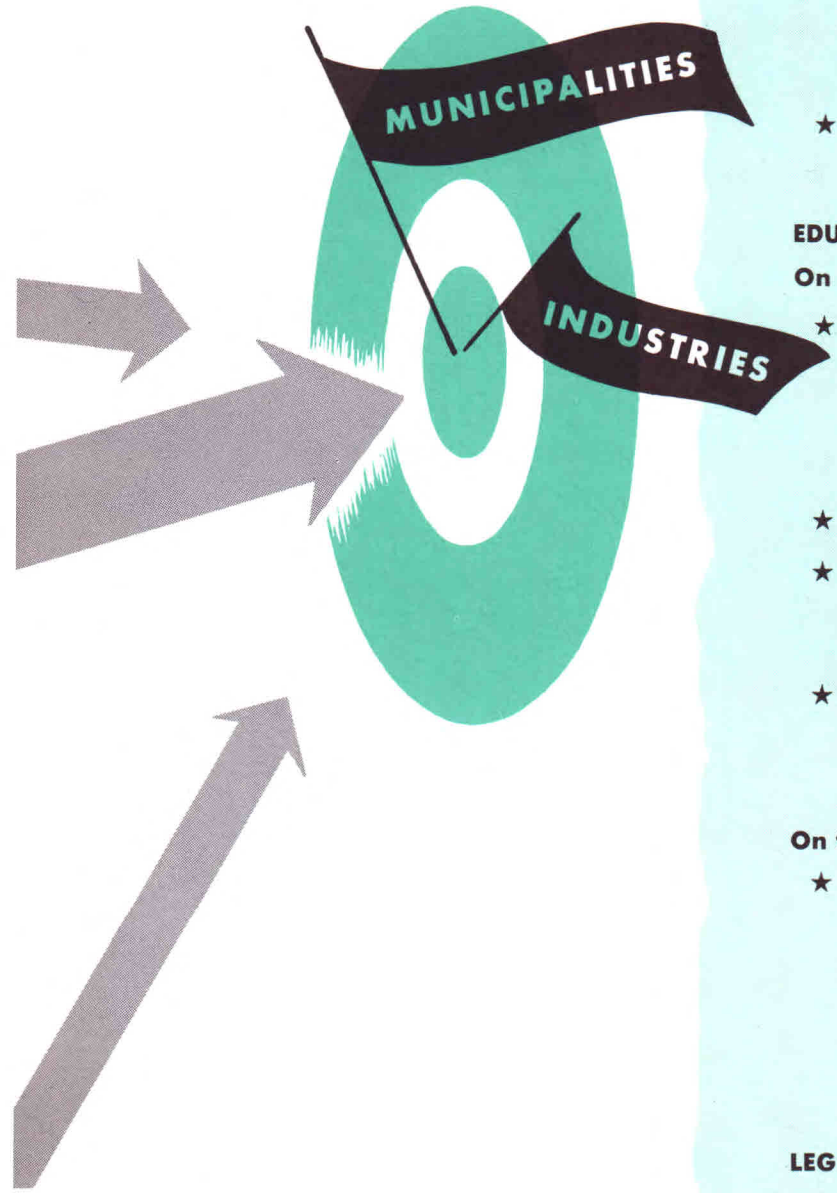
where necessary

APPLICATION OF LEGAL RESTRAINTS

Obtained in the courts by the commission

★

WHAT HAS BEEN DONE



DIRECT ACTION BY STATE CONTROL AGENCIES

★ Through existing agencies or new agencies created since establishment of the Ohio River Compact, enforcement measures have been strengthened and accelerated in the eight signatory states.

★ Uniformity of legislation and application of regulations have been brought closer to realization.

EDUCATIONAL AND PROMOTIONAL EFFORTS

On the municipal front . . .

★ Commission has developed community-action campaign material for use in municipalities. This includes fact sheets, speech outlines, proclamations, resolutions, news releases, program outlines for radio and television presentations, slogan cards, booklets and films.

★ Exhibit material is available for cities and state fairs.

★ A handbook has been published for the use of city councilmen on financial procedures, securing engineering aid and legislative requirements.

★ Speeches, newspaper and magazine articles create public understanding and support for pollution abatement.

On the industrial front . . .

★ Committees representing seven generic industries are defining the extent of their waste-control problems, assembling information on corrective measures and participating in the development of water-quality criteria. Through preparation of manuals of practice (see page 24) the benefits of committee findings are being made available throughout the Ohio Valley.

LEGAL COMPULSION

★ No signatory state has found it necessary thus far to request the Commission to institute any legal action.

★ Commission is issuing notices for compliance where requirements have been established on the Ohio River to all communities and industries. These notices and periodic reports on progress toward compliance will constitute part of the formal record for such legal action as the Commission eventually may find necessary.

FOR THE RECORD

E. Blackburn Moore, chairman of the Commission for the year 1952-1953, brings to this office a broad background of legislative experience, as well as a practical knowledge of water pollution control problems. He has been a member of the Virginia Legislature since 1933 and for the past several years has served as speaker of the House of Delegates for that Commonwealth. He is chairman of the Virginia Water Pollution Control Board.

In addition to his leadership in governmental affairs, Mr. Moore enjoys a wide reputation as an apple grower and is president of the National Apple Institute. It was the fouled condition of the Shenandoah River flowing through his orchards that first aroused his interest in a state anti-pollution law, which he now administers.

★ ★ ★ ★ ★ ★ ★ ★ ★ ★

COMMITTEE ASSIGNMENTS

(for year ending June 30, 1953)

Engineering

H. E. Moses, *Chairman*
Earl Devendorf
F. C. Dugan
Clarence W. Klassen
Edgar Landenberger
Maurice LeBosquet
O. Lloyd Meehean
Richard Messer
Blucher A. Poole
Robert F. Rocheleau
W. W. Towne
F. H. Waring

Audit

Ross H. Walker, *Chairman*
Earl Wallace
L. E. Burney

Executive Committee

Chairman – E. Blackburn Moore
Vice Chairman – H. E. Moses
Past Chairman – Clarence W. Klassen
Illinois – W. H. Wisely
Indiana – Joseph L. Quinn, Jr.
Kentucky – Henry Ward
New York – Martin F. Hilfinger
Ohio – John D. Porterfield
Pennsylvania – E. A. Holbrook
Virginia – T. Brady Saunders
West Virginia – W. W. Jennings
Federal – Robert G. West

By-Laws

Clarence W. Klassen, *Chairman*
Hudson Biery
Henry Ward

Finance

Blucher A. Poole, *Chairman*
W. W. Jennings
Kenneth M. Lloyd
Henry Ward

Interstate Relations

Hudson Biery, *Chairman*
W. W. Jennings
Henry Ward
Ross H. Walker

Pension Trust

John D. Porterfield
Ross H. Walker
Robert K. Horton

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

IN MEMORIAM

With profound sorrow the Ohio River Valley Water Sanitation Commission records the death on May 2, 1952, of Commissioner J. J. Woltmann of Illinois. During his more than three years of service, Mr. Woltmann's sound counsel and his conscientious attendance at virtually every meeting of the Commission reflected great credit on him, the State of Illinois and the compact commission. With the sense of our loss is mingled deep sympathy for the members of his family. (This resolution passed at the quarterly meeting of the commission on July 2, 1952)

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

INDUSTRY-ACTION AND ADVISORY COMMITTEES

STEEL INDUSTRY COMMITTEE

C. W. Weesner, *Consulting Metallurgical Engineer*
Sharon Steel Corporation
Chairman of the committee

Grant A. Pettit, *Industrial Waste Engineer*
Armco Steel Company
Co-chairman of the committee
Chairman, Subcommittee on By-Product Coke-plant Effluents

R. F. Pullen, *Fuel Engineer*
Bethlehem Steel Company
Chairman, Subcommittee on Settleable Solids Disposal

G. M. Dreher, *Chemical Engineer*
Jones and Laughlin Steel Company

R. H. Ferguson, *Assistant Director of Industrial Relations*
Republic Steel Corporation

Ralph Drews, *Metallurgist*
Republic Steel Corporation
Chairman, Subcommittee on Coating and Plating Wastes

Earl Smith, *Chief Metallurgist*
Republic Steel Corporation

G. A. Howell, *Assistant Chief Engineer*
U. S. Steel Company
Chairman, Subcommittee on Water Quality

C. A. Bishop, *Research Associate*
Research and Development
U. S. Steel Company

Thomas F. Reed, *Research Associate*
Research and Development Laboratory
U. S. Steel Company
Chairman, Subcommittee on Acid Pickle Liquor

J. S. Williamson, *Vice-President*
Weirton Steel Company

Joseph Sample, *Chief Chemist*
Weirton Steel Company

J. H. Strassburger, *Manager*
Department of Service and Maintenance
Weirton Steel Company

H. A. Stobbs, *Special Engineer*
Wheeling Steel Corporation

P. S. Snyder, *District Engineer*
Youngstown Sheet and Tube Company

B. A. Poole
Commission liaison member

J. E. Kinney
Committee coordinator

METAL-FINISHING COMMITTEE

R. G. Chollar, *Director of Research*
National Cash Register Company
Chairman of the committee

William J. Neill, *Past President*
American Electroplaters' Society
Columbus Metal Products, Inc.
Chairman, Subcommittee on Methods of Analysis

G. A. Logsdon, *Plating Superintendent*
Louisville Works, American Radiator and Standard Sanitary Corporation

C. L. Prichard, *Manager, Electrical Appliances and Dinette Furniture Plants*
Arvin Industries, Inc.

Allen M. Reed, *Chemist*
Electric Auto-Lite Company
Chairman, Subcommittee on Industry Liaison

K. S. Watson, *Coordinator of Waste Treatment*
Manufacturing Facilities Service Department
General Electric Company

David Milne, *Chemical Engineer*
Production Engineering Section
General Motors Corporation

Hubert S. Kline, *Director*
Industrial Hygiene and Sanitary Engineering
Frigidaire Division, General Motors Corporation
Chairman, Subcommittee on Methods of Treatment

Walter Miller, *Assistant Secretary-Treasurer*
Hamilton Manufacturing Corporation

W. L. Pinner, *Manager, Process Development Division*
Houdaille-Hershey Corporation
Chairman, Subcommittee on Waste Reduction in Plant Operations

W. H. Toller, *Chief Chemical Engineer*
Huntington Division, Houdaille-Hershey Corporation
Chairman, Subcommittee on Methods for Measuring Waste Discharges

L. J. Hibbert, *Head, Finishes Laboratories*
National Cash Register Company
Chairman, Subcommittee on Toxicity

C. C. Cupps, *Engineer, Newton Falls Division*
Standard Steel Spring Company

H. W. McElhaney, *Head Foreman*
Metal Finishing, Plating and Waste Disposal
Talon, Inc.

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Please turn page

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Committee coordinator

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Dr. Walter A. Chipman, *Chief*
Special Shellfishery Investigations
U. S. Shellfish Laboratory

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School of Public Health
University of Minnesota

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and . . . Stone Institute of Hydrobiology

Dr. Clarence M. Tarzwell, *Chief, Biology Section*
Environmental Health Service
U. S. Public Health Service

Dr. O. Lloyd Meehean
Commission liaison member

John E. Kinney
Committee coordinator

STATUS OF MUNICIPAL AND INSTITUTIONAL SEWAGE-TREATMENT FACILITIES — JULY 1, 1952

STATUS	Number of Communities (in color) and Population by Compact States								TOTALS	% OF TOTALS
	ILLINOIS	INDIANA	KENTUCKY	N.Y.	OHIO	PENNA.	VA.	W. VA.		
Adequate treatment	32 217,791	69 398,646	70 218,971	9 47,215	105 701,154	47 183,387	13 31,680	12 35,419	357 1,834,263	26.4 19.7
Treatment provided, not adequate	6 12,999	33 642,903	22 148,132	3 46,537	46 840,429	30 154,719	12 14,470	14 34,264	166 1,894,453	12.3 20.4
Treatment works under construction	0 0	9 167,992	0 0	0 0	10 583,268	1 4,500	4 23,509	2 2,700	26 781,969	1.9 8.5
Final plans approved	22 54,660	31 224,032	13 110,920	1 8,861	48 386,311	95 598,241	4 9,210	21 304,878	235 1,697,113	17.4 18.2
Final plans in preparation	0 0	1 35,568	8 127,079	0 0	2 58,982	79 ** 1,068,270	0 0	2 94,385	92 1,384,284	6.8 14.9
Preliminary plans or report approved or in preparation	2 6,900	6 36,724	4 16,064	1 1,492	7 280,945	27 94,127	12 30,338	7 37,041	66 503,631	4.9 5.4
Treatment program under discussion	1 1,119	12 29,409	1 1,351	0 0	1 2,523	6 13,987	0 0	33 117,810	54 166,199	4.0 1.8
Order, notice or recommendation for treatment issued by state	0 0	24 78,673	1 369,129	0 0	0 0	6 27,541	0 0	25 43,076	56 518,419	4.1 5.6
Sewage discharged to stream by permit or law	0 0	0 0	0 0	0 0	0 0	18 * 59,208	13 * 30,570	0 0	31 89,778	2.3 1.0
Pollution of minor significance	0 0	85 78,173	25 28,281	0 0	0 0	0 0	0 0	15 15,610	125 122,064	9.2 1.3
No action	3 17,300	0 0	22 81,075	0 0	82 126,932	0 0	1 1,000	37 65,420	145 291,727	10.7 3.2
TOTALS	66 310,769	270 1,692,120	166 1,101,002	14 104,105	301 2,980,544	309 2,203,980	59 140,777	168 750,603	1,353 9,283,900	100.0 100.0

* Acid stream law (Pa.), Sewage permits (Va.).
** 982,875 pop. to Allegheny County Sanitary Authority.

SUMMARY OF SIGNIFICANT CHANGES SINCE JULY 1951 IN MUNICIPAL SEWAGE-TREATMENT STATUS

STATUS	Number of Communities (in color) and Population by Compact States								TOTAL
	ILLINOIS	INDIANA	KENTUCKY	N.Y.	OHIO	PENNA.	VA.	W. VA.	
New plants placed in operation	5 12,442	3 15,843	4 6,397	0 0	6 19,560	0 0	2 2,795	2 3,058	22 60,095
Plants or additions placed under construction	0 0	6 440,834	1 1,800	0 0	7 91,050	3 9,964	2 6,955	1 500	20 551,103
Final plans approved	5 25,133	14 105,136	2 13,194	0 0	9 51,585	12 101,329	1 2,005	6 27,615	49 325,997
TOTALS	10 37,575	23 561,813	7 21,391	0 0	22 162,195	15 111,293	5 11,755	9 31,173	91 937,195

STATUS OF INDUSTRIAL WASTE-CONTROL FACILITIES—JULY 1, 1952

for industries discharging wastes directly to streams

STATUS	ILLINOIS	INDIANA	KENTUCKY	N.Y.	OHIO	PENNA.	VA.	W. VA.	TOTAL	% OF TOTAL
Adequate treatment or control facilities	6	95	50	2	18	63	12	36	282	22
Inadequate treatment or control facilities	2	80	35	10	68	8	1	30	234	19
Inadequate--preparing plans for improvement		22	3		7			14	46	4
Adequacy undetermined	2	7	62	1	15	27	4	13	131	10
Total facilities in operation	10	204	150	13	108	98	17	93	693	55
Facilities under construction	1	5	3			29	1	3	42	3
Plans completed or in progress		3	3	2	8	110	1	23	150	12
Need for facilities undetermined		3			10	27	10	146	196	15
No formal action by the company		11		15	104	26	5	28	189	15
Total number of industries reported	11	226	156	30	230	290	34	293	1270	100

Data pertains only to number of plants, without regard to type or volume of waste. Information supplied by state pollution control agencies.

REPORT ON PUBLIC HEARING HELD AT HUNTINGTON, WEST VIRGINIA

resulting in establishment of Treatment Standard No. 2 by the Commission on April 2, 1952.

The undersigned, appointed pursuant to action taken by the Commission at its meeting of January 9, 1952, constitute the Hearing Board empowered and instructed to conduct a public hearing with regard to the degree of treatment which shall be given to sewage discharged or permitted to flow into the waters of the Ohio River between Huntington, W. Va. and Cincinnati, Ohio. In accordance with the direction of the Commission, the undersigned submit the following report of the conduct of such hearing together with their findings and recommendations based upon the testimony and other evidence produced at that hearing.

1. The hearing was held, with all members of the Hearing Board present, on the 29th day of February, 1952, at the United States District Court, Room Nos. 218 and 220, Second Floor, U. S. Post Office and Court House, Ninth Street and Fifth Avenue, Huntington, West Virginia, commencing at 10:00 o'clock, a.m. A complete stenographic transcript was made of the proceedings had at the hearing and a copy thereof is filed herewith.

2. Prior notice of the hearing had been published and had been served upon interested parties in the manner and to the extent set forth in the attached transcript of proceedings.

3. Parties interested in the subject matter of the hearing were present or were represented to the extent indicated by the roster of appearances which is attached to the transcript of proceedings filed herewith.

4. A written report of the Commission staff setting forth information, data, testimony and other evidence, relevant and material to the subject matter of the hearing, was presented in evidence and was supported by oral testimony of members of the Staff. A copy of that report is attached as an exhibit to the transcript of proceedings filed herewith.

5. Full opportunity was given to all parties present or represented at the hearing to introduce evidence or testimony relevant or material to the subject matter of the hearing and to express their views with regard to the report and recommendations of the Staff. No evidence other than that presented by the Staff was offered and the only views expressed by parties present affirmed the findings and approved the conclusions set forth in the above-mentioned report.

6. Opportunity for the submission of written evidence or views pertinent to the subject matter of the hearing was expressly provided to any interested party, subject to the condition that it be submitted to the Hearing Board on or before the 31st day of March, 1952. No such additional evidence or views were submitted to this Board prior to the expiration of the period specified.

7. From a consideration of the evidence presented at the hearing, this Board finds that the information and other data submitted as above stated by the Staff are accurate and pertinent to the subject matter of the hearing, and the Board further finds that the conclusions of the Staff which are expressed in the written report presented at the hearing, as above stated, are reasonable and are fully supported by the evidence and data therein contained.

8. The Board finds that a standard of treatment for sewage to be discharged or permitted to flow into this section of the Ohio River, should be adopted by the Commission and put into effect, which (1) will provide adequate protection for public water supplies by reducing the presence of coliform organisms at all water supply intakes located in this section of the Ohio River to not more than 5,000 per 100 milliliters, as a probable monthly average, (2) will, under normal summer flow conditions, maintain in substantial areas of the Ohio River between Cincinnati and Maysville, between Maysville and Portsmouth and between Portsmouth and Ironton, a water quality, suitable for recreational purposes, of not more than 1,000 coliform organisms per 100 milliliters as a probable monthly average, and (3) will otherwise accomplish the objectives of the Ohio River Valley Water Sanitation Compact with respect to the discharge of sewage into this stretch of the Ohio River. On the basis of information and data submitted at the hearing the Board is of the opinion that the establishment of the standard of treatment for sewage which is hereinafter recommended is based upon these considerations, is reasonable and is in conformity with the provisions of the Ohio River Valley Water Sanitation Compact.

9. Therefore, this Board recommends that the Commission take appropriate action to establish, subject to further revision as changing conditions may require, the following standard for the treatment of sewage from municipalities or other political subdivisions, public or private institutions or corporations discharged or permitted to flow into that portion of the Ohio River extending from U. S. Corps of Engineers Dam No. 27, located about five miles upstream from Huntington, West Virginia, and being 301 miles downstream from Pittsburgh, Pa., to U. S. Corps of Engineers Dam No. 36, located about three miles upstream from Cincinnati, Ohio, and being 461 miles downstream from Pittsburgh, Pa.:
   (a) Substantially complete removal of settleable solids; and
   (b) Removal of not less than forty-five per cent of the total suspended solids; and, in addition
   (c) Reduction in coliform organisms in accordance with the following schedule:

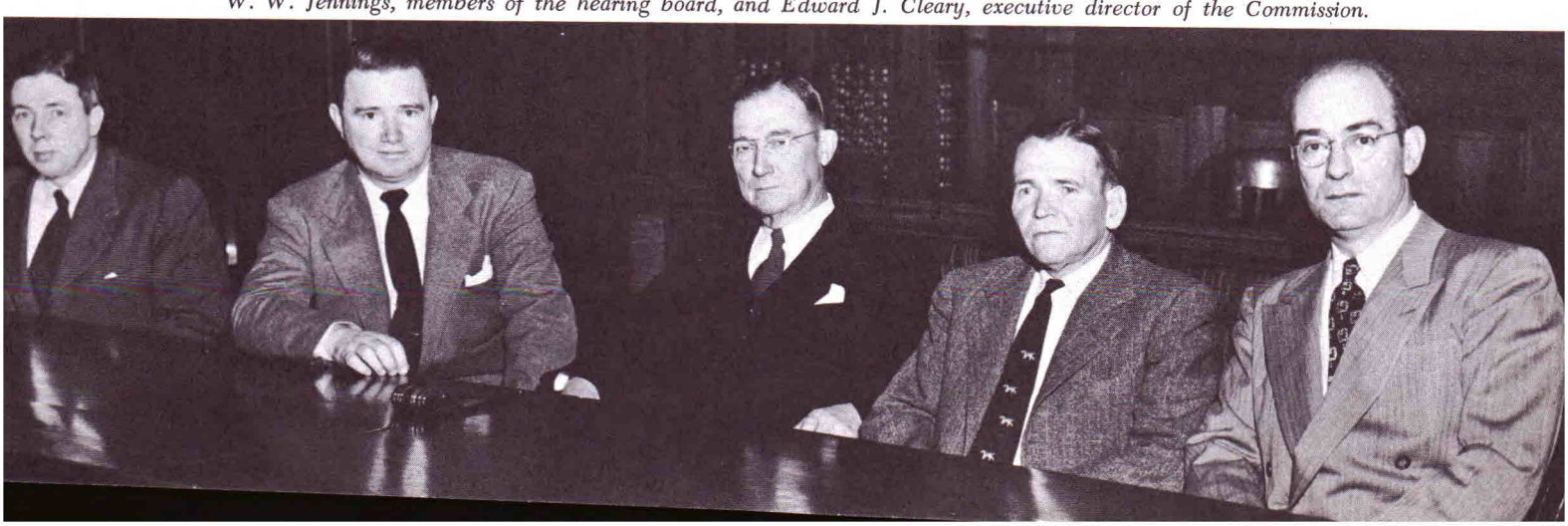
   Not less than 90% reduction during the months May through November.

   Not less than 80% reduction during the months December through April.

Respectfully submitted,
Hudson Biery, Chairman
Henry Ward
W. W. Jennings

Cincinnati, Ohio
April 1, 1952

Hearing Board Panel at Huntington – Leonard A. Weakley, legal counsel, Henry Ward, Hudson Biery, W. W. Jennings, members of the hearing board, and Edward J. Cleary, executive director of the Commission.



OHIO RIVER VALLEY WATER SANITATION COMMISSION

STATEMENT OF RECEIPTS AND DISBURSEMENTS

Year Ended June 30, 1952

STATEMENT OF RECEIPTS AND DISBURSEMENTS

RECEIPTS:

From signatory states	$100,000.00
From Federal Security Agency (Grant from P. L. 845 fund)	26,084.00
Interest earned on bank deposit	210.58
Sale and handling of publications	144.80
Total Receipts	$126,439.38

DISBURSEMENTS

From state funds:

Salaries	$ 47,622.92	
Dues and subscriptions	400.41	
Telephone and telegraph	1,473.65	
Printing	6,304.65	
Office supplies	2,145.75	
Postage	1,086.50	
Meetings	2,193.26	
Travel–commissioners	4,268.07	
Travel–staff	5,108.17	
Electric and water	586.66	
Insurance	265.33	
Office rent	4,014.98	
Miscellaneous	2,117.18	
General office equipment and furnishings	2,059.41	
Legal services	13,600.00	
Auditing	425.00	
Consulting service	3,600.00	
Information materials and services	2,253.22	
Employees pension trust	5,394.49	
Social security tax	844.39	
	$105,764.04	

From federal funds:

Salaries	13,575.07	
Printing	2,036.94	
Travel	2,827.58	
Rent	1,200.00	
General office equipment and furnishings	809.25	
Mellon Institute of Industrial Research	2,000.00	
Kettering Laboratory of Applied Physiology	11,700.00	
	$ 34,148.84	
Total Disbursements		$139,912.88
Excess of Disbursements over Receipts		$ 13,473.50

NOTE: The above receipts of $126,439.38 does not include an amount of $15,850.00 received from the Commonwealth of Pennsylvania covering its contribution for the period of twelve months ending June 30, 1953.

NOTE: The Commission received an amount of $31,700.00 from the Commonwealth of Pennsylvania during the year ended June 30, 1952. An amount of $15,850.00, covering the twelve months ending June 30, 1953, is not shown in the above receipts.

STATEMENT OF UNUSED RESOURCES

June 30, 1952

	State Funds	Federal Funds	Total
Unused resources, June 30, 1951	$ 64,491.46	$ 8,064.84	$ 72,556.30
Annual budget – July 1, 1951 – June 30, 1952	100,000.00		100,000.00
Federal Security Agency		26,084.00	26,084.00
Interest earned on bank deposit	210.58		210.58
Sale and handling of publications	144.80		144.80
	$164,846.84	$34,148.84	$198,995.68
Disbursements July 1, 1951 June 30, 1952	105,764.04	34,148.84	139,912.88
Unused resources for period to June 30, 1952	$ 59,082.80	None	$ 59,082.80
Add: Receipt from Commonwealth of Pennsylvania covering period of 12 months ending June 30, 1953	15,850.00		15,850.00
Unused resources June 30, 1952	$ 74,932.80	None	$ 74,932.80

The above Unused Resources at June 30, 1952 is comprised as follows:

Cash on deposit with the Central Trust Company	$73,871.72
Petty cash on hand	200.00
Cash on deposit with American Airlines, Inc.	425.00
Due from employees for advances of social security tax and employees pension trust contributions	436.08
	$74,932.80

SCHEDULE OF RECEIPTS FROM SIGNATORY STATES

State of Illinois	$ 5,600.00
State of Indiana	17,300.00
Commonwealth of Kentucky	21,500.00
State of New York	1,150.00
State of Ohio	22,600.00
Commonwealth of Pennsylvania	15,850.00
Commonwealth of Virginia	3,750.00
State of West Virginia	12,250.00
	$100,000.00

In our opinion, the accompanying statement of receipts and disbursements, statement of unused resources, and schedule of receipts from signatory states present fairly the operations of the commission on a receipts and disbursements basis for the fiscal year ended June 30, 1952, and its financial condition on June 30, 1952.

Wm. H. Mers & Co., Certified Public Accountants

COMMISSION PUBLICATIONS

FIRST ANNUAL REPORT

Nov. 1949 (26pp., illus.) Background leading to establishment of Commission; plans and goals; reproduction of the compact, policy statement and budget distribution.

PREVENTING STREAM POLLUTION FROM OIL PIPELINE BREAKS

Sept. 1950 (22pp., illus.) A guidebook of recommended practice in preventive measures, emergency organization methods and equipment for handling breaks. (Out of print)

SECOND ANNUAL REPORT

Nov. 1950 (44pp., illus.) An accounting of activities and projects; status of municipal sewage-treatment programs; development and work of industry-action committees; an appraisal of mine-acid drainage; abstract of report on Wabash River pollution-abatement needs.

WABASH RIVER POLLUTION-ABATEMENT NEEDS

Aug. 1950 (83pp., graphs and tables) Findings with regard to the natural-purification characteristics of the river under varying loads and run-off. Recommendations for treatment requirements. Description of survey methods and analysis of data. (Out of print)

BACTERIAL-QUALITY OBJECTIVES FOR THE OHIO RIVER

June 1951 (26pp., graphs and tables) Recommendations adopted by the Commission as a guide in the establishment of requirements for sewage discharges, and as a yardstick for evaluating sanitary conditions in waters used for potable supplies and recreational purposes.

PHENOL WASTES TREATMENT BY CHEMICAL OXIDATION

June 1951 (42pp., illus.) Final report of a cooperative research project conducted by industrial representatives and public agencies on coke-plant waste. Laboratory studies, confirmed by pilot-plant operations, show how phenols can be destroyed by three methods of chemical oxidation – using chlorine, ozone and chlorine dioxide. (Out of print)

POLLUTION PATTERNS IN THE OHIO RIVER—1950

June 1951 (57pp., maps and graphs) Water quality changes and conditions revealed by a simultaneous sampling of a 963-mile stretch of the Ohio River from Pittsburgh to Cairo. An analysis of pollution conditions that occur during a period of minor freshets when flush-outs occur. (Limited supply)

PLATING-ROOM CONTROLS FOR POLLUTION ABATEMENT

July 1951 (20pp., illus.) A manual of principles and practice on "good housekeeping" to curb losses of solutions and metals that otherwise might find their way into water courses. Compiled by sixteen industrial representatives who comprise the Metal-Finishing Industry Action Committee of the Commission. (Price 50c)

BRINE CONTAMINATION IN THE MUSKINGUM RIVER

Aug. 1951 (43pp., illus.) Determination of the nature and magnitude of brine-waste discharges from salt processing operations and their effect on water quality. (Limited supply)

CLEAN STREAMS FOR THE OHIO VALLEY

Sept. 1951 (18pp., illus.) A public education booklet in layman's language that tells the story of water pollution, something about the cost of such a plant, and what citizens can do to get action in their communities.

THIRD ANNUAL REPORT

Nov. 1951 (36pp., illus.) Outline of program activities, including details of technical studies, river investigations and educational campaign. Status report, by states, on municipal sewage treatment installations. Composition and program of industry-action committees.

OHIO RIVER POLLUTION-ABATEMENT NEEDS—HUNTINGTON TO CINCINNATI STRETCH

Feb. 1952, (20pp., 19 illus.) Findings on treatment requirements for maintaining oxygen and bacterial-quality objectives in a 160-mile section of the Ohio River, which served as the basis for the establishment of Treatment Standard No. 2. (Limited supply)

PLANNING AND MAKING INDUSTRIAL WASTE SURVEYS

April 1952 (44pp., 27 illus.) Detailed instructions for measuring volume of flow, obtaining representative samples and calculating waste loads, applicable to any type of industrial waste; compiled by the Metal-Finishing Industry-Action Committee of the Commission. (Price $1.00)

HOW TO GET SEWAGE TREATMENT WORKS IN OHIO

June 1950 (40pp.) A guide describing recommended step-by-step engineering and financial procedures for cities or villages undertaking a sewage works project. (Price $1.00)

DISPOSAL OF SPENT SULFATE PICKLING SOLUTIONS

Oct. 1952 (76pp., 17 illus.) An evaluation of methods for treating spent solutions resulting from sulphuric acid pickling to reduce stream pollution. Compiled by the Steel Industry Action Committee of the Commission. (Price $2.00)

Edited by Verna B. Ballman

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OHIO RIVER VALLEY
AN INTERSTATE AGENCY
ESTABLISHED JUNE 30, 1948
WATER SANITATION COMMISSION