

SUMMARY OF CONFERENCE  
POLLUTION OF INTERSTATE WATERS  
OF THE  
MAHONING RIVER AND ITS TRIBUTARIES  
(OHIO-PENNSYLVANIA)

February 16-17, 1965

The Mahoning River drains an area of 1,131 square miles, of which 1,076 square miles are in northeastern Ohio, and 55 square miles are in western Pennsylvania. The headwaters of the Mahoning River are in the vicinity of Alliance, Ohio. It then flows northeasterly to Warren, Ohio, where it continues southeasterly through Youngstown, Ohio, crossing the State line about nine miles downstream from Youngstown. The Mahoning River flows through Pennsylvania for a distance of about 12 miles, before it joins the Shenango River near New Castle, Pennsylvania to form the Beaver River. The Beaver River then flows in a southerly direction about 20 miles, before it becomes confluent with the Ohio River at Rochester, Pennsylvania.

On the basis of reports, surveys, or studies, the Secretary of Health, Education, and Welfare, having reason to believe that pollution of the Mahoning River and its tributaries, caused by discharges of untreated and inadequately treated sewage and industrial wastes in Ohio, was endangering the health or welfare of persons in Pennsylvania, called a conference in the matter of pollution of the interstate waters of the Mahoning River and its tributaries. The conference was held on February 16-17, 1965, in the Voyager Motor Inn, 129 Market Street, Youngstown, Ohio.

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The following conferees representing the State water pollution control agencies of Ohio and Pennsylvania, the Ohio River Valley Water Sanitation Commission, and the U. S. Department of Health, Education, and Welfare, attended the conference:

E. W. Arnold, M.D.	Chairman Ohio Water Pollution Control Board Columbus, Ohio
Charles L. Wilbar, Jr., M.D.	Chairman, Sanitary Water Board Pennsylvania Department of Health Harrisburg, Pennsylvania
Richard Boardman	Chief, Water Quality Section Pennsylvania Department of Health Harrisburg, Pennsylvania
Edward T. Cleary	Executive Director and Chief Engineer Ohio River Valley Water Sanitation Commission Cincinnati, Ohio
Leonard A. Weakley	Legal Counsel Ohio River Valley Water Sanitation Commission Cincinnati, Ohio
H. W. Poston	U. S. Department of Health, Education, and Welfare Chicago, Illinois
Murray Stein, Chairman	U. S. Department of Health, Education, and Welfare Washington, D. C.

The following also participated in the conference:

Robert Barker	Superintendent Waste Water Treatment Department Warren, Ohio
Hayse Black	U. S. Department of Health, Education, and Welfare Cincinnati, Ohio
Walter Brazon	Civil Engineers U. S. Army Engineers District Pittsburgh, Pennsylvania



George Compson	Chief, Division of Legal Services Ohio State Department of Health Columbus, Ohio
Larry Cook	Secretary, Ohio Coal Industry Water Pollution Commission Columbus, Ohio
Clyde C. Cupps	Plant Engineer, Bumper Division Rockwell Standard Corp. Newton Falls, Ohio
R. F. Doolittle	Vice President Youngstown Sheet & Tube Company Youngstown, Ohio
George Eagle	Chief Engineer Ohio Department of Health Columbus, Ohio
Honorable Anthony B. Flask	Mayor Youngstown, Ohio
Samuel Gould, Jr.	Mahoning County Engineer Youngstown, Ohio
Bruce Graybill	Superintendent Water and Water Pollution Control Alliance, Ohio
Barton A. Holl	Chairman, Ohio River Valley Water Sanitation Commission Logan, Ohio
Robert K. Horton	Assistant Director Ohio River Valley Water Sanitation Commission Cincinnati, Ohio
Honorable John C. Jordon	Mayor New Castle, Pennsylvania
F. W. Kittrell	U. S. Department of Health, Education, and Welfare Cincinnati, Ohio
Maurice LeBosquet	U. S. Department of Health, Education, and Welfare Washington, D. C.
Kenneth M. Lloyd	Executive Secretary Mahoning Valley Industrial Council Youngstown, Ohio



Walter A. Lyon	Director, Division of Sanitary Engineering Pennsylvania Department of Health Harrisburg, Pennsylvania
Kenneth M. Mackenthun	U. S. Department of Health, Education, and Welfare Cincinnati, Ohio
Samuel McBride	Manager, Beaver Falls Municipal Authority Beaver Falls, Pennsylvania
Seth L. Myers	National Delegate Pennsylvania Federation of Sportsmen's Clubs Sharon, Pennsylvania
John E. Richards	Engineer in Charge Sewage and Industrial Wastes Unit Ohio Department of Health Columbus, Ohio
J. P. Richley	Commissioner, Water Works Youngstown, Ohio
Honorable Raymond E. Schryver	Mayor Warren, Ohio
J. J. Sullivan	Chief Community Facilities Administration Chicago, Illinois
DeYarman Wallace	Research Department Youngstown Sheet & Tube Company Youngstown, Ohio
Graham Walton	U. S. Department of Health, Education, and Welfare Cincinnati, Ohio
Fred Wampler	U. S. Department of the Interior Cincinnati, Ohio
Kenneth S. Watson	Manager, Water Management Laboratory General Electric Company Louisville, Kentucky





The Chairman of the conference pointed out that:

1. Under the Federal Water Pollution Control Act (33 U.S.C. 466 et seq.) pollution of interstate waters which endangers the health or welfare of persons in a State other than the one in which the discharges originate, is subject to abatement under procedures described in section 8 of the Federal Act.
2. The first step of this procedure is the calling of a conference.
3. The purpose of the conference is to bring together the representatives of the State and interstate water pollution control agencies and the U. S. Department of Health, Education, and Welfare, to review the existing situation and the progress which has been made, to lay a basis for future action by all parties concerned, and to give the States, localities and industries an opportunity to take any remedial action under State and local law which may be indicated.

Conferees representing the Ohio Water Pollution Control Board, the Pennsylvania Sanitary Water Board, the Ohio River Valley Water Sanitation Commission, and the U. S. Department of Health, Education, and Welfare were present throughout the conference.

Representatives of the Department of Health, Education, and Welfare presented a report on the Mahoning River and its tributaries (Ohio-Pennsylvania) which specifically covered the sources of pollution, the types of wastes discharged, and the interferences with water uses.

Representatives of the Ohio Water Pollution Control Board, the Pennsylvania Sanitary Water Board, and the Ohio River Valley Water Sanitation Commission presented statements concerning pollution of the Mahoning River and its tributaries and remedial measures which have been taken.



In light of conference discussions the following conclusions were reached:

1. It is the position of the Federal conferee that interstate pollution of the Mahoning River is occurring which endangers health and welfare of persons in Pennsylvania from discharges in Ohio. Waste discharges from municipalities and industries in Ohio cause deterioration of the interstate waters of the Mahoning River so as to interfere with the use of these waters for municipal water supply, industrial water supply, recreation and fishing, and create an offensive appearance. From Warren, Ohio, to its mouth, bacterial pollution renders the Mahoning River hazardous to any who might swim in it, and even to those who might contact its waters incidentally in boating or fishing. Bacterial pollution of the Mahoning River caused by discharges in Ohio endangers the health and welfare of the users of the municipal water supply at Beaver Falls, Pennsylvania.
2. It is the position of the Federal conferee that measures presently used for treatment of sewage and industrial wastes are inadequate to secure abatement of pollution of the interstate waters of the Mahoning River. The delays in the abatement of such pollution are due to the failure to install adequate waste treatment facilities or other methods for reduction of pollution by the municipalities and industries concerned.
3. The Federal conferee recommended that the following pollution abatement program be put into effect:
  - a. Disinfection of all municipal sewage is to be practiced throughout the full year, starting immediately.



- b. The full capacity of municipal waste treatment plants are to be utilized the year round, starting immediately.
- c. Secondary treatment of all municipal wastes is to be accomplished within three years. Preliminary plans to be developed within six months; final plans to be developed within six months after completion of preliminary plans; financing to be completed within six months after final plans are developed; and construction to be completed no later than eighteen months after completion of financing.
- d. Industrial effluents are to be monitored and sampled daily; analysis to include all significant pollutants found in the raw waste.
- e. Industrial waste treatment is to remove essentially all oil, eliminate the discharge of toxic wastes, and eliminate acid discharges.
- f. Waste treatment provided by municipalities and industries is to meet the water quality control objectives of the 1954 report prepared by the Ohio Department of Health on the Mahoning River Basin.

4. The conferees representing the States of Ohio and Pennsylvania, and the Ohio River Valley Water Sanitation Commission requested that the record of the conference be held open for two weeks so that the conferees could evaluate conference discussions and submit additional statements for the record. The conference Chairman stated that the record would be held open for two weeks.

5. Subsequent to the conference, the conferees representing Ohio, Pennsylvania, and the Ohio River Valley Water Sanitation Commission

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submitted individual statements, which have been made part of the conference record. These statements follow:

Subsequent to the conference the Pennsylvania Department of Health presented the following statement, March 2, 1965, for the record:

Based upon the statements presented and evidence submitted at the conference with respect to pollution of the Mahoning River which was held at Youngstown, Ohio, on February 16-17, 1965, pursuant to call of the Secretary of Health, Education, and Welfare, as conferee for the Commonwealth of Pennsylvania, I have reached the following conclusions:

1. The State of Ohio aggressively attacked the problem of pollution of the Mahoning River in 1954 on the basis of a comprehensive program for the abatement of pollution of that stream prepared by the Ohio Department of Health in collaboration with the United States Public Health Service. That program, which was approved by the Surgeon General of the United States Public Health Service, established treatment requirements and water-quality control objectives for the Mahoning River.
2. Impressive accomplishments in curbing pollution of the Mahoning River have resulted from the efforts of the Ohio Water Pollution Control Board in furthering that program.
3. In response to the leadership provided by the State of Ohio, every municipality on the Mahoning River has or is in the process of constructing treatment works and, with the completion of the Youngstown, Ohio, disposal system, which is scheduled to occur within the next five months, all sewage discharges into the Mahoning River from communities situated in Ohio will be purified in accordance with the requirements of the 1954 program mentioned above.





4. Installation of industrial waste-control facilities for plants situated on the Mahoning River has also proceeded in accordance with the 1954 program mentioned above. Currently, 70% of such installations are meeting pollution-abatement requirements established by the program and an additional 13% of such installations have control facilities under construction. The schedule developed by the State of Ohio for the furtherance of the 1954 program calls for compliance with its requirements by all industrial installations prior to the end of 1966, with the exception in a few instances of those related to spent acid-pickling discharges. Decisions with regard to the latter problem are presently being held in abeyance pending final work on an important technological innovation related to acid-pickling operations in steel mills.
5. As evidenced by data compiled by the monitoring station at the Ohio-Pennsylvania State line and by records of the water plant at the downstream City of Beaver Falls, Pennsylvania, water quality in the Mahoning River already has been improved; with the sewage-treatment facilities of the City of Youngstown in full operation and with the completion of industrial-waste control facilities now under construction, additional improvements in water quality of the Mahoning River can be anticipated.
6. The remedial measures taken and being taken with respect to abatement of pollution of the Mahoning River by municipalities and industrial installations are designed to maintain quality conditions established by the State of Ohio and by the eight States signatory to the Ohio River Valley Water Sanitation compact; however, final evaluation with regard to adequacy of



the degree of sewage treatment to meet quality objectives cannot be made until after the treatment facilities of the City of Youngstown are placed in full operation during the coming summer and following the conduct of detailed evaluation of river-quality tests.

7. The effectiveness with which the water pollution abatement authorities of the State of Ohio, together with the municipalities and industrial installations situated on the Mahoning River, have been curbing the existing interstate pollution of the Mahoning River, coupled with the progress which has already been made in that direction, eliminates any legal or practical basis for further intervention of the Department of Health, Education, and Welfare, in carrying out provisions of the Federal Water Pollution Control Act.

Subsequent to the conference, the Ohio Water Pollution Control Board presented the following statement, March 2, 1965, for the record:

Based upon the statements presented and evidence submitted at the conference with respect to pollution of the Mahoning River which was held at Youngstown, Ohio, on February 16 and 17, 1965, pursuant to call of the Secretary of Health, Education, and Welfare, the conferee representing Ohio has reached the following conclusions:

1. The State of Ohio aggressively attacked the problem of pollution of the Mahoning River in 1954 on the basis of a comprehensive program for the abatement of pollution of that stream prepared by the Ohio Department of Health in collaboration with the United States Public Health Service. That program, which was approved



by the Surgeon General of the United States Public Health Service, established treatment requirements and water-quality control objectives for the Mahoning River.

2. Impressive accomplishments in curbing pollution of the Mahoning River have resulted from the efforts of the Ohio Water Pollution Control Board in furthering that program.
3. In response to the leadership provided by the State of Ohio, every municipality on the Mahoning River has or is in the process of constructing treatment works and, with the completion of the Youngstown, Ohio, treatment plant, which is scheduled to occur within the next five months, all sewage discharges into the Mahoning River from communities situated in Ohio will be treated in accordance with the requirements of the 1954 program mentioned above.
4. Installation of industrial waste-control facilities for plants situated on the Mahoning River has also proceeded in accordance with the 1954 program mentioned above. Currently, 70% of such installations are meeting pollution-abatement requirements established by the program and an additional 13% of such installations have control facilities under construction. The schedule developed by the State of Ohio for the furtherance of the 1954 program calls for compliance with its requirements by all industrial installations prior to the end of 1966, with the exception in a few instances of those related to spent acid-pickling discharges. Decisions with regard to the latter problem are presently being



held in abeyance pending final work on an important technological innovation related to acid-pickling operations in steel mills, which would in itself solve the problem.

5. As evidenced by data compiled by the monitoring station at the Ohio-Pennsylvania State line and by records of the water plant at the downstream City of Beaver Falls, Pennsylvania, water quality in the Mahoning River already has been improved; with the sewage-treatment facilities of the City of Youngstown in full operation and with the completion of industrial-waste control facilities now under construction, additional improvements in water quality of the Mahoning River can be anticipated.
6. The remedial measures taken and being taken with respect to abatement of pollution of the Mahoning River by municipalities and industrial installations are designed to maintain quality conditions established by the State of Ohio and by the eight States signatory to the Ohio River Valley Sanitation compact; however, final evaluation with regard to adequacy of remedial measures to meet quality objectives cannot be made until after the treatment facilities of the City of Youngstown are placed in full operation during the coming summer and following the conduct of detailed evaluation of river-quality tests.
7. The effectiveness with which the water pollution abatement authorities of the State of Ohio, together with the municipalities and industrial installations situated on the Mahoning River, have been curbing pollution of the Mahoning River, coupled with the progress which has already been made in that direction,





eliminates any legal or practical basis for intervention of the Department of Health, Education, and Welfare, in carrying out provisions of the Federal Water Pollution Control Act.

8. If it is the aim of Federal policy to promote optimum use of water resources -- and this is the reason why Congress has appropriated millions of dollars for comprehensive river-basin studies -- then it is inconsistent for the Federal conferee at the Mahoning Conference to conclude at this time that all sewage discharges must be provided with 85% treatment. Such a conclusion ignores the fact that the Public Health Service is currently embarked on a \$7 million comprehensive study in the Ohio Valley whose purported objective is to provide the data for evaluating future waste treatment needs in such areas as the Mahoning River.
9. The lack of scientific objectivity displayed in the report on the Mahoning River compiled by the Department of Health, Education, and Welfare, which was distributed prior to the conference is deplorable. We note in particular that when the report was presented at the conference, it was preceded with verbal corrections of alleged statements of fact. This acknowledgment of inaccuracies coupled with other admissions made upon questioning by the conferees as set forth in the transcript of the proceedings, leads to lack of confidence in the validity of findings contained in the report. In brief, the report was hastily contrived and distribution of several hundred copies has rendered a disservice not only to the public and to the State and interstate agencies, but to the Federal agency that produced it.



10. Statements of the Department of Health, Education, and Welfare, that they were hampered in their investigations by lack of cooperation in obtaining information from either the State agencies or ORSANCO are simply not true. The State agencies and ORSANCO provided all the reports, investigations and data in their possession from which it would be possible to make an assessment of river conditions. The contention of the Department of HEW that it needed additional data on the volumes and characteristics of individual waste discharges in order to evaluate river conditions cannot be supported.

Subsequent to the conference the Ohio River Valley Water Sanitation Commission presented the following statement, March 3, 1965, for the record:

Based upon the statements presented and evidence submitted at the conference with respect to pollution of the Mahoning River which was held at Youngstown, Ohio, on February 16-17, 1965, pursuant to call of the Secretary of Health, Education, and Welfare, the conferees representing the Ohio River Valley Water Sanitation Commission have reached the following conclusions:

1. The State of Ohio aggressively attacked the problem of pollution of the Mahoning River in 1954 on the basis of a comprehensive program for the abatement of pollution of that stream prepared by the Ohio Department of Health in collaboration with the United States Public Health Service. That program, which was approved by the Surgeon General of the United States Public Health Service, established treatment requirements and water quality objectives for the Mahoning River.



2. Impressive accomplishments in curbing pollution of the Mahoning River have resulted from the efforts of the Ohio Water Pollution Control Board in furthering that program.
3. In response to the leadership provided by the State of Ohio, every municipality on the Mahoning River has or is in the process of constructing treatment works and, with the completion of the Youngstown, Ohio, disposal system, which is scheduled to occur within the next five months, all sewage discharges into the Mahoning River from communities situated in Ohio will be purified in accordance with the requirements of the 1954 program mentioned above.
4. Installation of industrial waste-control facilities for plants situated on the Mahoning River has also proceeded in accordance with the 1954 program mentioned above. Currently, 70% of such installations are meeting pollution-abatement requirements established by that program and an additional 13% of such installations have control facilities under construction. The schedule developed by the State of Ohio for the furtherance of the 1954 program calls for compliance with its requirements by all industrial installations prior to the end of 1966, with the exception of a few instances involving control of spent acid-pickling discharges. Decisions with regard to the latter problem are presently being held in abeyance pending final work on an important technological innovation related to acid-pickling operations in steel mills.
5. As evidenced by data compiled by the monitoring station at the Ohio-Pennsylvania State line and by records of the water plant at



the downstream City of Beaver Falls, Pennsylvania, water quality in the Mahoning River already has been improved; with the sewage treatment facilities of the City of Youngstown in full operation and with the completion of industrial-waste control facilities now under construction, additional improvement in the quality of the water in the Mahoning River can be anticipated to the extent that criteria established by the State of Ohio in the 1954 program will be satisfied.

6. The remedial measures taken and being taken with respect to abatement of pollution of the Mahoning River by municipalities and industrial installations are designed to maintain quality conditions established by the State of Ohio and by the eight States signatory to the Ohio River Valley Water Sanitation compact; however, final evaluation with regard to adequacy of remedial measures to meet quality objectives cannot be made until after the treatment facilities of the City of Youngstown are placed in full operation during the coming summer and following the conduct of detailed evaluation of river-quality tests.
7. The effectiveness with which the water pollution abatement authorities of the State of Ohio, together with the municipalities and industrial installations situated on the Mahoning River have been curbing existing interstate pollution of the Mahoning River, coupled with the progress which has already been made in that direction, eliminates any legal or practical basis for intervention of the Department of Health, Education, and Welfare in carrying out provisions of the Federal Water Pollution Control Act.





8. Finally, we regard the conclusion of the Federal conferee -- that all sewage discharges into the Mahoning River should be provided with secondary (85%) treatment -- as a premature and arbitrary determination. Such a conclusion ignores the fact that the Public Health Service is currently embarked on a \$7 million comprehensive study of pollution-control requirements in the Ohio Valley whose objective is to provide the necessary data for evaluating future waste-treatment needs in such areas as the Mahoning River.

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THE UNIVERSITY OF CHICAGO

DEPARTMENT OF CHEMISTRY

PHYSICAL CHEMISTRY

LECTURE NOTES

BY

PROFESSOR

JOHN D. COLE

CHICAGO, ILL.

1960