

The original documents are located in Box 6, folder “National Commission on Water Quality” of the Norman Ross Files, 1974-75 at the Gerald R. Ford Presidential Library.

Copyright Notice

The copyright law of the United States (Title 17, United States Code) governs the making of photocopies or other reproductions of copyrighted material. Norman E. Ross, Jr. donated to the United States of America his copyrights in all of his unpublished writings in National Archives collections. Works prepared by U.S. Government employees as part of their official duties are in the public domain. The copyrights to materials written by other individuals or organizations are presumed to remain with them. If you think any of the information displayed in the PDF is subject to a valid copyright claim, please contact the Gerald R. Ford Presidential Library.

Some items in this folder were not digitized because it contains copyrighted materials. Please contact the Gerald R. Ford Presidential Library for access to these materials.

National Commission on Water Quality

From the Senate:

Jennings Randolph
Edmund S. Muskie
Lloyd M. Bentsen
Howard H. Baker, Jr.
James L. Buckley

From the House of Representatives:

John A. Blatnik
Robert E. Jones
James C. Wright, Jr.
William H. Harsha
James R. Grover, Jr.

From the Public:

Edwin A. Gee
William R. Gianelli
Raymond Kudukis
Nelson A. Rockefeller
Carl E. Wright

Executive Director:

Frederick J. Clarke

1111 18th Street N.W.
P.O. Box 19266
Washington, D.C. 20036

"There is established a National Study Commission," now known as the National Commission on Water Quality, "which shall make a full and complete investigation and study of all the technological aspects of achieving, and all aspects of the total economic, social, and environmental effects of achieving or not achieving, the effluent limitations and goals set forth for 1983 in section 301 (b)(2) of this Act.

"Such Commission shall be composed of fifteen members, including five members of the Senate, who are members of the Public Works Committee, appointed by the President of the Senate, five members of the House, who are members of the Public Works Committee, appointed by the Speaker of the House, and five members of the public appointed by the President. . . .

"A report shall be submitted to the Congress of the results of such investigations and study, together with recommendations, not later than three years after the date of enactment of this title. . . ."

from Sec. 315. of the Water Pollution
Control Act Amendments of 1972
(Public Law 92-500)

Study Committee on Water Quality Policy

February, 1974



NATIONAL COMMISSION ON WATER QUALITY

Chairman

Hon. Nelson A. Rockefeller

Vice-chairmen

Hon. Edmund S. Muskie

Hon. Robert E. Jones

The National Commission on Water Quality has provided funds to the National Academy of Sciences and the National Academy of Engineering to establish a Study Committee on Water Quality Policy. The two academies are parallel organizations of distinguished scholars, set up to advise the Federal Government on questions of science and technology.

The new committee will meet regularly over the course of the Commission's life and will provide individual and group guidance on the design and conduct of the Commission's studies. The committee presently has 15 members, recruited from a wide range of engineering and scientific disciplines.

Members are listed below.

M. Gordon Wolman (Chairman). Dr. Wolman, a geologist and expert in river morphology and water resources, is chairman of the Department of Geography and Environmental Engineering at Johns Hopkins University.

Blair T. Bower. Mr. Bower, an engineer, has been an associate director of the Quality of the Environment Program of Resources for the Future since 1965. He is vice chairman of the Environmental Protection Agency's Information Advisory Committee on Effluent Standards and Water Quality.

Margaret Bryan Davis. Dr. Davis, a biologist, is professor of ecology at Yale University. She was formerly with the Great Lakes Research Division of the University of Michigan, serving from 1970 until 1973 as professor of zoology and research paleoecologist.

Otto A. Davis. Since 1960 he has been a member of the faculty of the Graduate School of Industrial Administration at Carnegie-Mellon University, where he is presently professor. An economist, his fields of interest include welfare economics and mathematical models of policy formation.

Robert K. Davis. Also an economist; Dr. Davis is professor of economics at Johns Hopkins University and previously held a similar position at George Washington University. A specialist in the economics of parks and wildlife development, he is economic consultant to the National Audubon Society.

Franklin D. Dryden. A design engineer, Mr. Dryden has been with the Sanitation Districts of Los Angeles County since 1957 and is at present Deputy assistant chief engineer. He is chairman of the Water Reuse Committee of the Water Pollution Control Federation.

Earnest F. Gloyna. A sanitary engineer, Dr. Gloyna is dean of engineering and the Joe J. King Professor of Engineering at the University of Texas. He has been a consultant to the World Health Organization, the U.S. Air Force, the U.S. Army and other agencies.

Gene Elden Likens. Dr. Likens, a limnologist, is associate professor of ecology and systematics at Cornell University. He is an expert on analysis of ecosystems with a special interest in ice-covered lakes and arctic and antarctic limnology. He is U.S. national representative to the International Limnological Societies.

Howard C. Madsen. Dr. Madsen is staff economist at the Center for Agricultural and Rural Development at Iowa State University. He is co-author of a study on the impact of eliminating pesticides in agriculture, for the NAS Committee for Agriculture and the Environment. He is a consultant to the Economic Research Service of the U.S. Department of Agriculture.

Perry L. McCarty. A sanitary engineer, he is professor of civil engineering at Stanford University. He was chairman of the water section of the Gordon Research Conference on Environmental Science in 1972 and was a member of the NAS-Indian workshop on Water in Man's Life in India in 1971.

Ronald T. McLaughlin. Dr. McLaughlin, a civil engineer, is director of ENWATS, a consulting firm specializing in hydrologic systems and modeling. He is a member of the Board of Technical Advisors of the Great Lakes Limnological Systems Model.

Ralph Mitchell. Dr. Mitchell is Gordon McKay Professor of Applied Biology at Harvard University. His fields of interest are micro-biological problems associated with water resources and water pollution, microbial ecology, microbial predatory-prey systems, and chemoreception in microorganisms.

Stuart S. Nagel. Dr. Nagel, a political scientist, is professor at the University of Illinois. He is editor of "Policy Studies Journal" and has served as consultant to the Administrative Conference of the U.S. His fields of interest include natural resources and environment, public policy formation and content and public law.

Stephen E. Reynolds. Mr. Reynolds has been State Engineer of New Mexico since 1955. A mechanical engineer, he is a member of the New Mexico Water Quality Control Commission. He was formerly a member of the President's Water Pollution Control Advisory Board.

Abe Silverstein. Dr. Silverstein, a mechanical engineer, has been director of environmental planning at Republic Steel Corp. since 1970. He was instrumental in the development of the U.S. space program and was credited with naming the Apollo moon-landing program. He was formerly director of the Office of Space Flight Programs for NASA and director of NASA's Lewis Research Center.

Municipal Treatment Technology

June, 1974



NATIONAL COMMISSION ON WATER QUALITY

Chairman

Hon. Nelson A. Rockefeller

Vice-chairmen

Hon. Edmund S. Muskie

Hon. Robert E. Jones

**National Commission
on
Water Quality**

From the Senate:

Jennings Randolph, West Virginia
Edmund S. Muskie, Maine
Lloyd Bentsen, Texas
Howard H. Baker, Jr., Tennessee
James L. Buckley, New York

From the House of Representatives.

John A. Blatnik, Eighth District, Minnesota
Robert E. Jones, Fifth District, Alabama
James C. Wright, Jr., Twelfth District, Texas
William H. Harsha, Sixth District, Ohio
James R. Grover, Jr., Second District, New York

From the Public:

Edwin A. Gee, Senior Vice-President,
E.I. du Pont de Nemours & Co.,
Wilmington, Delaware
William R. Gianelli, Consulting Engineer,
Pebble Beach, California
Raymond Kudukis, Director,
Department of Public Utilities,
Cleveland, Ohio
Nelson A. Rockefeller, former Governor,
State of New York
Carl E. Wright, Member, Arkansas
Commission on Pollution Control
and Ecology, 1954-1974*

*Deceased

Executive Director:
Frederick J. Clarke

1111 18th Street N.W.
P.O. Box 19266
Washington, D.C. 20036

One of the important responsibilities of the National Commission on Water Quality is to assess the ability of municipal sewage treatment technologies to meet the requirements and goals of the Federal Water Pollution Control Act Amendments of 1972 and to estimate how much this effort will cost. There are 21,000 publicly-owned treatment works in the United States, serving 150 million persons and discharging 20 billion gallons of treated, partially treated and in some cases raw sewage each day.

The National Commission is a government body created by Section 315 of the 1972 Act. It is charged with making a "full and complete investigation and study of all the technological aspects of achieving, and all aspects of the total economic, social, and environmental effects of achieving or not achieving the effluent limitations and goals set forth (in the Act) for 1983." It will make its report to Congress and the public in October, 1975 in time for the Congress to make any mid-course corrections in the law which may be necessary.

For its studies of municipal wastewater treatment technology, the Commission has contracted with the Boston consulting firm of Metcalf & Eddy and with the American Public Works Association to review reports on present and future municipal needs. This leaflet explains what these contractors will be doing in the coming months, working with Commission staff and with the staffs of Federal, State, local, and private agencies.

The Metcalf & Eddy and the American Public Work Association projects are only two of a number which the Commission will be sponsoring. Among others will be studies of industrial technologies, of economic, social, and environmental effects, and of pollution problems and solutions as they are being encountered in certain selected river basins. Citizens interested in the complete study design may obtain copies by writing to the Commission's Office of Public Affairs, Box 19266, Washington, D.C. 20036.

The Law's Requirements and Goals

The requirements and goals of the Federal Water Pollution Control Act Amendments of 1972 call for a higher level of treatment than many communities now provide. The required level for 1977 is secondary treatment, and as defined by the Environmental Protection Agency will accomplish major reductions in three common measures of pollution, biochemical oxygen demand, suspended solids, and fecal coliform bacteria. For 1983 the law specifies a level of treatment described as the "best practicable waste treatment technology over the life of the works." In some communities where the receiving waters are exposed to especially heavy pollution loads, even higher levels of treatment will be required.

The Act establishes goals as well as requirements. For 1983, the goal is water of sufficient quality to provide for the protection and propagation of fish, shellfish, and wildlife and for recreation in and on the water, wherever attainable. The 1985 goal is the elimination of the discharge of pollutants into the navigable waters.

Meeting the Requirements

A number of treatment technologies are available or are likely to become available in the near future which are capable of meeting the 1977 and 1983 goals and requirements for publicly-owned treatment works. Metcalf & Eddy will assess the efficiencies and costs of each of these technologies, taking into consideration how they can be adapted to different situations, how much they will cost, and what the amount and character of their discharge will be. The question of adaptability will touch on such matters as size of community, the kind of wastes received (including industrial wastes), the collection systems in use, and the climate. Costs will cover design and construction, operating and maintenance, and the needs for such non-financial resources as manpower, materials, chemicals, energy, and land. These costs will include not only those eligible for matching with Federal funds but also those which must be borne fully by

the city or municipality. The final discharge will be described in terms of the characteristics of the wastes which are released to surface or ground waters, to the air or to the land at the end of treatment.

Metcalf & Eddy will analyze the costs and capabilities not only of conventional but of innovative technologies for treating wastewater and for disposing of sludge, the solid residue remaining after treatment. In the case of 1983 it will pay special attention to the reuse of treated wastewater as a source of supply for municipal, agricultural, and industrial use, and to the disposal of treated effluent to the land.

Working with Commission staff, the contractor will use the 1977 and the 1983 assessments to forecast what the national cost will be to build and operate systems capable of meeting, first the 1977 and then the 1983 requirements. Along with these estimates of costs will be estimates of the quantity and characteristics of the residual wastes which will be produced.

The contractor will determine what further steps are necessary after the 1983 requirements have been met in order to achieve the goal of the elimination of the discharge of pollutants. It will identify what it believes to be economically and environmentally feasible techniques available or likely to become so in the foreseeable future and will determine their costs and identify their residuals.

Waste Collection and Combined Sewer Overflows

The 1972 Act not only requires communities to upgrade the treatment of wastes but also encourages them to reduce the amounts of wastewaters and to do a better job of collecting them. Metcalf & Eddy will study the technologies which are available or likely to become available to accomplish these ends and will subject them to the same cost and effectiveness analysis as in the case of treatment technologies.

One of the problems to be studied is that of combined sewer overflow, which plagues most older communities in the United States. In these communities the same sewers are used for carrying off both sanitary wastes and storm water. When it rains, some of the resulting run-off is often bypassed into the receiving waters along with its content of raw sewage in order to avoid flooding the treatment plant. The waste load is increased because the waters perform a flushing action, carrying street wastes and pipe sediments into the system and thence into the receiving waters.

A companion problem is that of storm water which finds its way into the receiving waters over the streets or through storm sewers. This urban run-off will not be considered in the Metcalf & Eddy contract but in another study.

How Well Are We Doing?

A question which the Commission has voted to address is the progress made towards meeting the 1977 requirements of the law, the 1983 requirements and goal, and the 1985 goal. To help the Commission in this inquiry, the American Public Works Association will shortly begin reviewing and estimating future needs for publicly-owned facilities.

A starting point for these studies will be the "needs survey" which the law requires of the Environmental Protection Agency. States are currently gathering data for the next survey which the American Public Works Association will review. In some respects the Association will extend its scope, seeking information on costs such as land acquisition which are not eligible for Federal funding.

The Association will visit 18 states and three municipalities and will complete its data-gathering through mail questionnaires to the other states and to selected municipal agencies. The states to be visited, chosen by population and region, are California, Colorado, Connecticut, Florida, Georgia, Kentucky, Illinois, Massachusetts, Michigan, Minnesota, Missouri, New Jersey, New York, Ohio, Pennsylvania, Texas, Virginia, and Washington. The Association of Metropolitan Sewerage Agencies will assist in the surveys of municipalities.

The questions which APWA will ask of the State and local agencies will cover the progress being achieved toward meeting the 1977 and 1983 requirements and will touch on such matters as sludge disposal, the correction of inflow and infiltration into collection systems, the transfer of pollutants from the water to the land and into the air, the extent of industrial use of publicly-owned treatment works, and the sources of non-Federal funds for construction of facilities.

If it appears to the Commission, from the APWA survey and other information, that a delay is being experienced in meeting the 1977 requirements of the Act, the Commission will attempt to determine the causes of delays. It will also attempt to estimate how any delays being experienced in meeting the 1977 requirements may impact the efforts to meet the 1983 requirements and goal.

Contract WQ4AC012

For Metcalf & Eddy:

Charles Y. Hitchcock, Jr., Project Director
Hubert V. Spurway, Project Manager

Contract WQ4ACO14

For the American Public Works Association:
Richard H. Sullivan, Project Manager

For the National Commission on Water Quality:
Joe G. Moore, Jr., Program Director
and Contracting Officer
Charles W. Carry, Director, Technology
Assessment Section and Project Manager
J. Charles Baummer, Jr., Staff Assistant

"There is established a National Study Commission," now known as the National Commission on Water Quality, "which shall make a full and complete investigation and study of all the technological aspects of achieving, and all aspects of the total economic, social, and environmental effects of achieving or not achieving, the effluent limitations and goals set forth for 1983 in section 301(b)(2) of this Act.**

"Such Commission shall be composed of fifteen members, including five members of the Senate, who are members of the Public Works Committee, appointed by the President of the Senate, five members of the House, who are members of the Public Works Committee, appointed by the Speaker of the House, and five members of the public appointed by the President. . . .

"A report shall be submitted to the Congress of the results of such investigations and study, together with recommendations, not later than three years after the date of enactment of this title. . . ."

from Sec. 315. of the Water Pollution Control Act Amendments of 1972 (Public Law 92-500)

**** The 1983 goal calls for a quality of water nationally that "provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water." By July 1, 1983 municipalities nationally must be employing "best practicable" waste water treatment technology and industry must be using "best available technology" economically achievable.**

**National Commission
on
Water Quality**

From the Senate:

Jennings Randolph, West Virginia
Edmund S. Muskie, Maine
Lloyd Bentsen, Texas
Howard H. Baker, Jr., Tennessee
James L. Buckley, New York

From the House of Representatives:

John A. Blatnik, Eighth District, Minnesota
Robert E. Jones, Fifth District, Alabama
James C. Wright, Jr., Twelfth District, Texas
William H. Harsha, Sixth District, Ohio
James R. Grover, Jr., Second District, New York

From the Public:

Edwin A. Gee, Senior Vice-President,
E.I. du Pont de Nemours & Co.,
Wilmington, Delaware
William R. Gianelli, Consulting Engineer,
Pebble Beach, California
Raymond Kudukis, Director,
Department of Public Utilities,
Cleveland, Ohio
Nelson A. Rockefeller, former Governor,
State of New York
Carl E. Wright, Member, Arkansas
Commission on Pollution Control
and Ecology, 1954-1974*

* Deceased

Executive Director:
Frederick J. Clarke

1111 18th Street N.W.
P.O. Box 19266
Washington, D.C. 20036



Postage and Fees Paid
National Commission
on Water Quality

NATIONAL COMMISSION ON WATER QUALITY

1111 18TH STREET, N.W.
P.O. BOX 19266
WASHINGTON, D.C. 20036

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, \$300

T.I.E. Advisory Committee

July, 1974



**NATIONAL
COMMISSION
ON WATER
QUALITY**

Chairman

Hon. Nelson A. Rockefeller

Vice-chairmen

Hon. Edmund S. Muskie

Hon. Robert E. Jones

A committee of 13 environmental scientists will help guide the National Commission on Water Quality in its studies of the environmental impacts of the Federal Water Pollution Control Act Amendments of 1972.

The committee has been formed under a Commission contract by The Institute of Ecology (T.I.E.), an organization of scientists from some 75 universities and research institutions. Membership in the Institute covers all branches of the ecological sciences; the committee which has been formed to work with the Commission is composed primarily of experts in aquatic ecosystems and water effects.

The National Commission on Water Quality was created by Section 315 of the 1972 Act. It will make its report in October, 1975, in time for the Congress to make any mid-course correction in the law it feels may be necessary.

Following is a list of the T.I.E. Committee members.

John Neuhold, *Chairman*, Logan, Utah.
Director of the Ecology Center,
Utah State University.

John Cairns, Jr., Blacksburg, Va.
Director of the Center
for Environmental Studies,
Virginia Polytechnic Institute.

Kenneth Cummins, Hickory Corners, Mich.
Professor of Ecology,
Kellogg Biological Station,
Michigan State University.

Jared Davis, Washington, D.C.
Assistant Director for
Site and Health Standards,
Directorate of Regulatory Standards,
U.S. Atomic Energy Commission.

W. R. Gardner, Seattle, Wash.
Professor of Soil Physics,
University of Washington.

Arthur D. Hasler, Madison, Wis.
Director, Laboratory of Limnology,
University of Wisconsin.

Galen Jones, Durham, N.H.
Professor of Microbiology,
University of New Hampshire.

Joseph F. Koonce, Cleveland, Ohio.
Assistant Professor,
Case Western Reserve University.

Gene Likens, Ithaca, N. Y.
Professor of Ecology and Systematics,
Cornell University.

Richard A. Parker, Pullman, Wash.
Chairman of the Environmental
Science Program,
Washington State University.

J. Herbert Snyder, Davis, Calif.
Director of the Water Resources Center,
University of California.

Donald Wohlschlag, Port Aransas, Texas.
Professor of Zoology,
Texas Marine Station, University of Texas.

John Wright, Bozeman, Mont.
Professor of Biology,
Montana State University.

Contract WQ 4 AC005

Joe G. Moore, Jr.,
Contracting Officer

Harold L. Allen,
Project Manager

"There is established a National Study Commission," now known as the National Commission on Water Quality, "which shall make a full and complete investigation and study of all the technological aspects of achieving, and all aspects of the total economic, social, and environmental effects of achieving or not achieving, the effluent limitations and goals set forth for 1983 in section 301(b)(2) of this Act. **

"Such Commission shall be composed of fifteen members, including five members of

the Senate, who are members of the Public Works Committee, appointed by the President of the Senate, five members of the House, who are members of the Public Works Committee, appointed by the Speaker of the House, and five members of the public appointed by the President. . . .

"A report shall be submitted to the Congress of the results of such investigations and study, together with recommendations, not later than three years after the date of enactment of this title. . . ."

from Sec. 315. of the Water Pollution Control Act Amendments of 1972 (Public Law 92-500)

** *The 1983 goal calls for a quality of water nationally that "provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water." By July 1, 1983 municipalities nationally must be employing "best practicable" waste water treatment technology and industry must be using "best available technology" economically achievable.*

Industry Studies

NATIONAL COMMISSION ON WATER QUALITY

Chairman

Hon. Nelson A. Rockefeller

Vice-chairmen

Hon. Edmund S. Muskie

Hon. Robert E. Jones



**National Commission
on
Water Quality**

From the Senate:

Jennings Randolph, West Virginia
Edmund S. Muskie, Maine
Lloyd Bentsen, Texas
Howard H. Baker, Jr., Tennessee
James L. Buckley, New York

From the House of Representatives.

John A. Blatnik, Eighth District, Minnesota **
Robert E. Jones, Fifth District, Alabama
James C. Wright, Jr., Twelfth District, Texas
William H. Harsha, Sixth District, Ohio
James R. Grover, Jr., Second District, New York **

**Retiring Jan., 1975

From the Public:

Edwin A. Gee, Senior Vice-President,
E.I. du Pont de Nemours & Co.,
Wilmington, Delaware
William R. Gianelli, Consulting Engineer,
Pebble Beach, California
Raymond Kudukis, Director,
Department of Public Utilities,
Cleveland, Ohio
Nelson A. Rockefeller, former Governor,
State of New York
Carl E. Wright, Member, Arkansas
Commission on Pollution Control
and Ecology, 1954-1974*

*Deceased

Executive Director:

Frederick J. Clarke

1111 18th Street N.W.
P.O. Box 19266
Washington, D.C. 20036

The Federal Water Pollution Control Act Amendments of 1972 created the National Commission on Water Quality to assess the technological, economic, environmental and social impacts of this law in the years to come.

An important part of its effort is studying how the law will affect industry. Industry produces more wastes than municipalities. There are 100,000 plants which discharge directly into streams and other waters and 250,000 establishments which use city sewers. All of them are subject to regulation under Federal law.

To carry out its industry studies, the Commission has awarded 15 contracts to engineering and economic study organizations. These contractors are now in the field gathering information and will begin reporting early in 1975.

In addition to its industry studies, the Commission is investigating the law's impacts on publicly owned wastewater treatment systems and agriculture and is undertaking environmental, institutional and regional studies. It is to issue a report in October, 1975 for Congress as it considers whether there should be mid-course correction in the law and if so, what form amendments should take.

The Law's Effects on Industry

At the heart of the Federal law is the requirement that no industry or other point source may discharge wastes into a receiving water without a Federal or state permit, or into a city sewer without regulatory arrangement with local authorities. The purpose is to establish minimum levels of pollution abatement for all sources everywhere in the country.

The permits are issued by the Federal or state government and are based on

uniform national limitations which are specific to each industry and its sub-categories. The permits limit the character and quantity of wastes which can be discharged; if a discharger cannot meet the limitations immediately, the permits establish a timetable for compliance. Stricter limits are imposed where local waters are polluted because of large concentrations of population or industries.

The law requires the U.S. Environmental Protection Agency to establish the national effluent discharge limitations; it has done this by first proposing and then promulgating a series of "effluent limitations guidelines." These have been issued, in whole or in part, for some 30 industries. The guidelines are based on technological and economic studies and before promulgation are subjected to review and comment from the public and from industry.

Each set of limitations establishes the following requirements:

- For all plants discharging directly into a river or other body of water, limitations are set to achieve the law's requirements for 1977, an effluent obtained by "best practicable control technology currently available"—in short, BPT.
- Other more stringent limitations are required for 1983, an effluent obtainable from "best available technology economically achievable"—in short, BAT.
- For new sources which are just coming into production, limitations are established to achieve what the law defines as "best available demonstrated control technology." A permit for a new point source remains in effect for ten years, as compared to other permits which are issued for no longer than five years.

- For plants discharging into a municipal sewer, pretreatment standards are established for residuals which are not compatible with the municipal works systems.

Each effluent limitation prescribes the pollutants to be controlled and the maximum quantity which can be discharged.

The law requires E.P.A. to set limitations for thermal discharges and for the discharge of toxic pollutants. Limitations are also required beyond BPT or BAT where a receiving water is "water quality limited," i.e., is exposed to particularly heavy pollution.

The 1972 Act established goals as well as requirements. For 1983, the goal is water of sufficient quality to provide for the protection and propagation of fish, shellfish and wildlife and for recreation in and on the water.

The 1985 goal is the elimination of the discharge of pollutants. When the Environmental Protection Agency believes this can be achieved earlier than 1985, it is reflected in effluent limitations.

The Industry Studies

The Commission's industry studies are seeking answers, among others, to three questions: What are the most efficient (the "least cost") ways to comply with the law? What will the final cost be? What will be the impact of this cost on an individual industry, a particular area of the country, and the nation's economy?

The Commission has chosen ten industries with their many individual subcategories for in-depth studies and has contracted for an eleventh study to consider all other industries. The ten industries selected for detailed study are:

- Pulp and Paper
- Canned and Preserved Fruits & Vegetables
- Electroplating
- Organic Chemicals
- Inorganic Chemicals
- Plastics and Synthetics
- Petroleum Refining
- Iron and Steel
- Textiles
- Steam Electric Power

Each of the studies has a technological and economic component. In all, 15 contracts have been awarded with a total cost of approximately \$3 million. The technological assessments are examining the technologies and costs associated with achieving the requirements and goals of the Act and the economic assessments are analyzing long term costs and the resulting economic impact.

The Technological Assessments

In choosing contractors for its technological studies, the Commission sought those who have a special expertise in the technologies of the particular industry they will be studying. In many cases, the least-cost method of meeting the requirements of the Federal law may not be "end of pipe" treatment, but changing manufacturing processes to reduce or eliminate wastes.

The technological studies will examine different levels of pollution abatement. These include BPT and BAT as set forth in the effluent limitations and other levels as well, including a level approaching or achieving the elimination of the discharge of pollutants where this is economically and technologically possible, now or in the foreseeable future. Generally, five levels are being investigated for each industry; the emphasis in all cases is on BAT.

The studies must next establish the available technological options to achieve these levels and determine the nature of the final discharge. Some options may involve the removal of substances from wastewater by various physical, chemical and biological means and others may involve changes in production processes, such as using different raw materials or product mixes, changing product specifications, recirculating the water, or adopting new housekeeping methods.

The next task is to determine what economic and other resources each of these options will require. Design, construction, operation and maintenance costs will be determined, with their associated demands for manpower, materials, energy and land. Some options such as recovery of wastes or the utilization of by-products may involve savings to the manufacturer.

The problem of what to do with the residual wastes will be considered for each option simultaneously. It may be possible to reuse some of the residuals while others must be disposed of by burning, application to the land, or in such other ways as deep well disposal. Each option carries with it different costs and different environmental impacts. In this section of the studies, attention will be given to the relationship between the Federal Water Pollution Control Act, and the Clean Air Act, and to the requirements for solid waste management.

A final section of the technological studies will be a review of how industry uses water and how much it spends to obtain and treat it. This information will be used in assessing the benefits of cleaner water and the economic costs of polluted water.

The Economic Assessments

In its technological studies, the Commission is examining the options available to industries for achieving various levels of pollution abatement and estimating what these options will cost. The economic studies will identify which options are likely to be the least costly over a period of time and what economic impacts will result if they are adopted.

The general definition of impact being used in the industry studies is "the difference between (1) the projections of the effects on the stream of goods and services which would result from an industry's compliance with a given effluent discharge limitation and (2) projections of industrial activity and changes which would have occurred in the absence of the Act."

In assessing these impacts, the studies will address a large number of economic variables, including prices, wages, profits, levels of output, levels of employment, levels of productivity and financial stability. Potentially, all of these may be affected by changes in production costs when industries adopt a new technical process or a new system for treating wastes.

An important component of all the economic as well as the engineering studies is an assessment of needs for energy, materials and manpower which will be required to meet the requirements and goals of the law. The availability and costs of capital and the effects of inflation are also being considered, as well as the impact of water pollution abatement efforts in this country on the flow of goods and capital in international trade.

The industrial studies are to be completed in mid-1975. The results will be studied for each industry and will be aggregated and

in part analyzed through the use of a macro-economic model to yield an overall national economic assessment. With the Commission's other studies of technological, environmental, social and institutional impacts this will constitute a final report.

Contracting Officer:

Joe G. Moore, Jr.
Program Director

Economic and Social Impact Staff:

A. A. Sokoloski
Director

Robert Burt
William Corcoran
Ray Ericson
Douglas Korty
Dale Whittington

Technological Assessment Staff:

Charles W. Carry
Director

J. Charles Baummer, Jr.
Robert G. Kissell, Jr.
David B. Large
Robert L. Wilcox

The Commission's Industry Studies

Field of Study	Engineering Contractors	Economic Contractors
Iron & Steel	Arthur G. McKee, Cleveland, Ohio	National Bureau of Economic Research,
Textiles	Lockwood Greene, Spartanburg, S. C.	Cambridge, Mass.
Electroplating	Lancy Laboratories, Zelenople, Pa.	(Also, non-ferrous metals)
Pulp & Paper	Hazen and Sawyer, New York, N.Y.	
Petroleum Refining	Engineering Science, Austin, Texas	
Organic Chemicals	Catalytic, Philadelphia, Pa.	International Research & Technology,
Inorganic Chemicals	Procon, Des Plaines, Ill.	Arlington, Va.
Plastics & Synthetics	Environmental Associates,	(Also, Paints & Drugs)
Canned Fruits & Vegetables	Corvallis, Oreg.	Development Planning & Research,
		Manhattan, Kansas (Also, feed-
		lots, leather tanning, meat
		and dairy processing, grain
		mills, fertilizers)
Steam Electric Power	Teknekron, Berkeley, Cal.	Teknekron, Berkeley, Cal.
Other Industries	Battelle, Columbus, Ohio	National Planning Association
		Washington, D.C.
International Trade		Public Research Institute
		Arlington, Va.

"There is established a National Study Commission," now known as the National Commission on Water Quality, "which shall make a full and complete investigation and study of all the technological aspects of achieving, and all aspects of the total economic, social, and environmental effects of achieving or not achieving, the effluent limitations and goals set forth for 1983 in section 301(b)(2) of this Act.**

"Such Commission shall be composed of fifteen members, including five members of the Senate, who are members of the Public Works Committee, appointed by the President of the Senate, five members of the House, who are members of the Public Works Committee, appointed by the Speaker of the House, and five members of the public appointed by the President. . . .

"A report shall be submitted to the Congress of the results of such investigations and study, together with recommendations, not later than three years after the date of enactment of this title. . . ."

from Sec. 315. of the Water Pollution Control Act Amendments of 1972 (Public Law 92-500)

**** The 1983 goal calls for a quality of water nationally that "provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water." By July 1, 1983 municipalities nationally must be employing "best practicable" waste water treatment technology and industry must be using "best available technology" economically achievable.**

NATIONAL COMMISSION ON WATER QUALITY

1111 18TH STREET, N.W.

P. O. BOX 19266

WASHINGTON, D. C. 20036

OFFICIAL BUSINESS

Penalty for Private Use, \$300

POSTAGE & FEES PAID

NATIONAL COMMISSION

ON

WATER QUALITY



FOR IMMEDIATE RELEASE

MARCH 15, 1973

Office of the White House Press Secretary

THE WHITE HOUSE

The President today announced the appointment of five persons as members of the National Study Commission created by the Federal Water Pollution Control Amendments of 1972 (PL 92-500). They are:

Dr. Edwin A. Gee, of Greenville, Delaware; Senior Vice President, DuPont Company, Wilmington, Delaware.

William R. Gianelli, of Sacramento, California; Director, California State Department of Water Resources, Sacramento, California.

Raymond Kudukis, of Cleveland, Ohio; Director, Department of Public Utilities, City of Cleveland.

Nelson A. Rockefeller, of North Tarrytown, New York; Governor of New York, Albany, New York.

Sladd Davis
Carl E. Wright, of Little Rock, Arkansas; Chairman, Arkansas Department of Pollution Control and Ecology, Little Rock, Arkansas.

The National Study Commission includes five members appointed by the President, five members of the Senate Public Works Committee appointed by the President of the Senate and five members of the House Public Works Committee appointed by the Speaker. The Commission elects its own Chairman from among its members.

The Commission was created to conduct a full investigation and study of all the technological aspects and the total economic, social and environmental effects of achieving or not achieving the effluent limitations and goals set forth, in the Act, for 1983.

#

#

#



GOVERNOR NELSON A. ROCKEFELLER
CHAIRMAN

SENATOR EDMUND S. MUSKIE
REPRESENTATIVE ROBERT E. JONES
VICE CHAIRMEN

PUBLIC MEMBERS

EDWIN A. GEE
WILLIAM R. GIANELLI
RAYMOND KUDUKIS
CARL E. WRIGHT

U. S. SENATORS

JENNINGS RANDOLPH
LLOYD M. BENTSEN
HOWARD H. BAKER, JR.
JAMES L. BUCKLEY

U. S. REPRESENTATIVES

JOHN A. BLATNIK
JAMES C. WRIGHT, JR.
WILLIAM H. HARSHA
JAMES R. GROVER, JR.

FREDERICK J. CLARKE
EXECUTIVE DIRECTOR

TELEPHONE
202 254-7806

National Commission on Water Quality

P. O. Box 19266
WASHINGTON, D. C. 20036

December 13, 1974

MEMORANDUM TO: THE AMERICAN INDUSTRIAL COMMUNITY

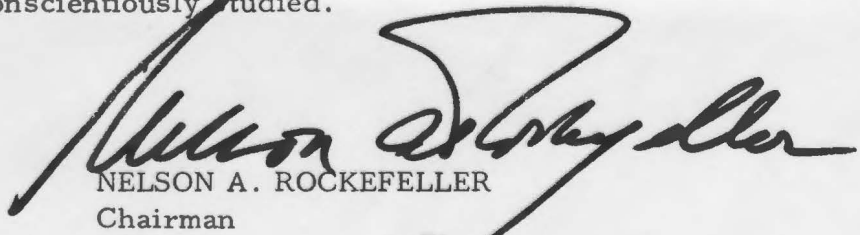
SUBJECT: The National Commission on Water
Quality's Industry Studies

My fellow Commissioners and I are grateful to the industrial community for the help we are receiving in our investigations into the impacts of the Federal Water Pollution Control Act Amendments of 1972.

As you know, Congress has asked us to make a comprehensive report on the economic, social and environmental effects of this legislation. Our professional contractors are now gathering information and data. Everywhere they are receiving your help and cooperation.

The enclosed leaflet explains our industry studies and how their results will feed into our final report next year.

Now, may we ask a favor? Because we recognize that some questions cannot be answered by statistics and engineering reports, we would value your thoughts regarding our study. We would like to know your views on the best ways to reach our goal of better water quality and to learn of the problems you may be encountering. I assure you that all letters received will be conscientiously studied.



NELSON A. ROCKEFELLER
Chairman

Enclosure



This clipping from "Clearwaters," a publication of the New York State Water Pollution Control Association (January, 1975). Since publication, three new members have been appointed to the Commission to succeed former Representatives John A. Blatnik and James R. Grover, Jr., and Mr. Carl E. Wright. They are Representatives Harold T. (Bizz) Johnson of California, James C. Cleveland of New Hampshire, and Mr. S. Ladd Davies, Director of the Arkansas Department of Pollution Control and Ecology.

PROGRESS REPORT

National Commission on Water Quality

by Joe G. Moore, Jr.,

The Commission is now a year away from its report on the impacts of Public Law 92-500, with 70 studies underway across the country.



CLARKE, MOORE, SMITH (LEFT TO RIGHT)

STAFF LEADERS: Senior staff of the National Commission on Water Quality are (left to right) Lt. General Frederick J. Clarke, Retired Chief of the Army Engineers, Executive Director; Joe G. Moore, Jr., former head of the Federal Water Pollution Control Administration and author of this article, Program Director; and James N. Smith, formerly of the Conservation Foundation, Deputy Program Director. The Commission employs a total of some 50 professionals.

When Congress passed the Federal Water Pollution Control Act Amendments of 1972 it proclaimed a national goal for clean water suitable for swimming and fishing by 1983 and provided a system of effluent limitations to attain this goal.

Another section of the same Act established a commission to study how much implementation is going to cost and to find out what the technological, social and environmental effects will be and also, what the effects might be if the Act is not implemented.

The National Commission on Water Quality now has some 70 separate studies and investigations under way throughout the country. During the summer and early fall of 1975 it will bring the results of these studies together and analyze them. Its report will be ready when Congress considers the question during 1976 of whether there should be a "mid-course correction" and if so, what form amendments to the law should take.

Public Law 92-500 is extraordinary legislation in many respects and particularly in Section 315 which establishes the Commission. Like many significant provisions in the law its formation was a compromise reached during the summer of 1972 when the Senate and House conferees were struggling to reconcile the Senate-passed S. 2770 and the House-passed H.R. 11896.

Good public works legislation embodies long-range planning and both the Senate and House acts prescribed programs and goals reaching into the 1980's. The House, however, wished these goals to become effective only after a study of their probable effects and costs. The Senate was willing to have a study made, but wanted the goals fixed immediately. The Senate view prevailed and the National Commission on Water Quality was created.

The membership of the Commission is another reflection of the Conference Committee. Ten of its fifteen members under the law are to come from the Senate and House Public Works Committees and five from the public. Without the public members the Commission would have been a joint Congressional Committee, in effect a continuation of the Conference. The decision to broaden the membership materially changed the scope of the Commission's work and brought a public member, Nelson Rockefeller, to the chairmanship. The vice-chairmen are Senator Edmund S. Muskie and Representative Robert E. Jones.

The 1983 goal is water of sufficient quality to provide for "the protection and propagation of fish, shellfish and wildlife and for recreation in and on the water" and the effluent limitations are "best practicable waste treatment technology over the life of the works" for municipalities and "best available technology economically achievable"

for industry and other point sources. The Commission's charge is to make a "full and complete investigation and study of all the technological aspects of achieving and all aspects of the total economic, social, and environmental effects of achieving or not achieving (these) limitations and goals."

The year 1983 is not the only target date in the law; there are effluent limitations set for attainment by 1977 and an ultimate goal for the elimination of the discharge of pollutants for 1985. The Commission members decided very early to examine the 1977 limitations as they might influence achievement of the 1983 requirements and goal and to look at what will remain to be done after 1983 to achieve the elimination of discharge of pollutants.

The Commission's final product, as the law requires, will consist of an assessment of the economic, social, and environmental impacts arising from the achievement or lack of achievement of the law's requirements and goals.

The Commission has divided its investigations into a number of study areas. These are being supervised within the Commission by five staff sections — technological assessments, economic and social impacts, environmental impacts, institutional capabilities, and regional studies.



PUBLICLY OWNED SYSTEMS

One Commission study is examining the impacts of Public Law 92-500 on publicly owned treatment systems. Major contracts for these studies have been let to - the engineering firm of Metcalf & Eddy, Boston; the economic analysts, Meta Systems, Cambridge; and the American Public Works Association with help from the Association of Metropolitan Sewerage Agencies. The APWA study is a review and assessment of EPA's 1973 and 1974 needs survey and is now completed; the others, of considerably broader scope, are continuing.

An early task of the Metcalf & Eddy study has been to identify and describe the various technologies which can be used to meet the requirements of the Act, or which are likely to become available in the foreseeable future to approach or achieve elimination of the discharge of pollutants. The technologies are not only for treatment but also for collection and for ultimate disposal, thus encompassing such problems as combined storm and sanitary sewers and sludge disposal.

After a technology is identified and described, it is assessed for efficiencies and costs. The costs include those for design and construction, debt service, operation and maintenance and include also requirements for manpower, chemicals, energy and land. The technologies are examined for their adaptability to cities of different sizes, different mixes of wastes and varied collection systems.

While Metcalf & Eddy is developing information on costs and capabilities of technologies, Meta Systems is analyzing the economic impacts. The questions which are being addressed are what are the "least cost" options for cities of various sizes and characteristics, how much these costs will be, and what the effects will be on the governments involved and the economy as a whole. The analyses will utilize available economic models and will be verified by in-depth studies of a number of actual cities.



INDUSTRY

The law's impacts on industry make up another Commission study area. The questions being asked here are very similar to those posed in the municipal studies: what are the most efficient, least cost options available to an industry, what will these costs be, and how will they impact the individual plant, the region, and the economy as a whole?

The Commission has chosen ten industries with their many individual subcategories for in-depth studies and has set up an eleventh project to consider all other industries. The ten are canned and preserved fruits and vegetables, electroplating, inorganic and organic chemicals, iron and steel, plastics and synthetics, petroleum refining, pulp and paper, steam electric power, and textiles. Each of the studies has an engineering and economic component; the former will develop the costs and capabilities of pollution abatement technology and the latter will assess the economic impacts.

In choosing contractors for its technological studies, the Commission sought those with special expertise in the technologies of the particular industry they would analyze. This process was followed because in many cases the least cost method for meeting the requirements of the law may not be treating wastes but changing manufacturing processes.

The technological studies postulate a number of different levels of pollution abatement and identify the technologies which are capable of achieving them. Some of the options involve the removal or recovery of wastes through various physical, chemical and biological means and others involve different raw materials or product mixes, new product specifications, new housekeeping methods and more efficient water recirculation systems. The economic costs of each option are determined, considering design, construction, operation and maintenance and their associated demands for manpower, materials, energy, and land. Some options such as waste recovery may result in savings to the manufacturer rather than additional costs.

The problem of what to do with residuals is being considered for each option. Attention is given to the relationship between the Federal Water Pollution Control Act, the Federal Clean Air Act, and the local and State requirements for solid waste management.

The Commission is arraying the technological options and costs in its technological studies; in its economic studies it is seeking to identify which options will be the least cost over a period of time and what the individual industry and combined economic impacts will be when they are adopted.

In assessing impacts, the studies are addressing a large number of economic variables including prices, wages, profits, levels of output, levels of employment, levels of productivity and financial markets. Potentially all of these will be affected when manufacturing costs are increased or decreased as a result of the Act.

In addition to its municipal and industry studies, the Commission is undertaking technological assessments for control of pollution from urban runoff, irrigated and non-irrigated agriculture, feedlots, silviculture and mining, and economic assessments of effects on international trade and the incidence of abatement costs.

Two environmental studies are being conducted by the Commission to examine the intermedia transfers of waste residuals to and from the land and to and from the air.



ENVIRONMENT

The Commission is at least as much concerned with the benefits of pollution abatement as with the costs. The object of Public Law 92-500 is stated in its very first sentence: to restore and maintain the chemical, physical and biological integrity of the nation's waters.

Two of the first contracts let by the Commission were with the National

Resources Council of the National Academy of Sciences-National Academy of Engineering and The Institute of Ecology, both of which have set up committees of scientists to advise the Commission. The National Resources Council is periodically reviewing the Commission's entire study plan, while a principal task of the T.I.E. committee has been to help develop the study design now being followed to assess the law's environmental impacts.

Some 12 public and private research agencies are reviewing water quality and other data from more than 25 reaches of rivers, located across the United States, in Hawaii, Alaska and Puerto Rico.

Typical of these studies are two which are being conducted by Lawler, Matusky & Skelly Engineers of Tappan, New York. This firm will study two reaches, the Housatonic within the State of Massachusetts for approximately 70 river miles and the Susquehanna from a point south of Binghamton where it enters New York State to a point approximately 40 river miles to the west where it reenters Pennsylvania south of Elmira.

The first part of these studies, now being finished, is to prepare a description of the present water quality, water quantity and the flow character of the two reaches together with an inventory of the quantity and character of discharges reaching the rivers from both point and non-point sources. In describing water quality, the study is using as wide a range of parameters as the available data permit, with special attention given to the benthic, zooplankton and fish populations. The data will provide enough information to show month-to-month variations during years of dry, normal and wet hydrology.

With this information as a base, the contractor will use existing models which allow forecasts of what will happen as the requirements of the Act are met — what changes will occur in the condition of the water, and what changes in the aquatic and terrestrial life in and along the river. The models will permit these assessments for a wide variety of different conditions — flow, seasons, levels of pollution abatement, levels of recreational use of the water, etc.

While Lawler, Matusky & Skelly Engineers are studying data from the Housatonic and the Susquehanna; other contractors are working in other parts of the country. The sites have been chosen in such a way as to be illustrative of the nation's total water system under different degrees of population, industrial, agricultural and other influences. The studies of river reaches are being supplemented by studies of standing water — lakes, impoundments and reservoirs — and of coastal waters.



BENEFITS

Additional information characterizing benefits of pollution abatement will come from other Commission studies. One of these is a study of the social impacts of the law, examining the changes in individual life styles and cultural patterns which the law may foster. Changes may arise directly from water quality changes, as in opening new recreation opportunities to those who do not presently have them or indirectly from economic changes brought about as a result of the Act. Adverse social impact may occur because of changes in job requirements, closing of marginal plants and new product specifications.

One section of the Commission's studies is looking at the purely economic benefits which can be anticipated from the Act. Among these are increased land values, more opportunities for swimming, boating and fishing, increased productivity for commercial fisheries, and expansion of those industries and service establishments that supply such activities.

Benefits will also be a major component of the Commission's regional assessments. These are in-depth studies of some ten selected river basins evaluating the technological, economic, environmental and social effects of the law as they will be felt in actual geographical regions. The studies consist of two phases — the preparation of a basic profile description of the region and a list of the important water quality issues encountered there, and an analysis of the effects of pollution abatement resulting from implementation of P.L. 92-500. The effects of not achieving the requirements and goals will also be examined in terms of these issues. Most, if not all, of the regional issues are also being addressed in the national studies.

FINAL TASKS

Two other Commission tasks remain. One consists of a series of studies addressing institutional questions, relating to the capabilities of industry and Federal, State and local governments and other public and private entities to implement the Act. These evaluate the progress currently being made in carrying out the provisions of the law and are identifying those things which impede or help the effort. The significant subjects for study include construction grants and financing, planning, permits, enforcement, manpower, public involvement, and attitudes. Lesser attention will be given to interstate authorities, methods for developing effluent limitations, compliance monitoring and legal issues.

The institutional studies will gather information from all 50 States but will do intensive data collection in eight —

California, Utah, Texas, Iowa, Maine, Ohio, Maryland and Georgia.

The last major task for the Commission will be that of aggregating and analyzing the results of the studies done under contract. This work is already beginning and will continue through the summer and early fall of 1975. One of the mechanisms being used for macro-economic analysis is the SEAS model, a national input/output model structured so as to assist the Commission evaluate the relationship between economic activities in general and the pollution abatement effort. Use of this model will allow the Commission to examine a variety of economic questions including that of the law's effects on such economic factors as inflation, interest rates, employment and the GNP.



The present plan is to subject the Commission's initial report to public review and comment before it is adopted. It is therefore important that the public and particularly professionals in the wastewater field understand what they are likely to find in the report and more important, what will probably not be there.

The Commission was not, first of all, given the assignment — nor the funds, nor the time which would be required — to study all of the issues anyone can raise in P.L. 92-500. A number are indeed being addressed, but the emphasis from the beginning has been on what Section 315 requires us to do, i.e., to assess the impacts of the 1983 interim goal and associated effluent limitations.

The Commission, further, was not set up to emasculate the Federal law. In the Senate conference report on the Act there is a reference to a possible need for a "mid-point correction" but a mid-course correction is not a U-turn. Those who expect studies of the National Commission on Water Quality to completely reverse the thrust of P.L. 92-500, such as from the philosophical base of technological capability to one of water quality standards, are, in my opinion, entertaining a false expectation.

On the other hand, assuming the Commission, its staff and its contractors can produce facts and conclusions to suggest alternatives for implementing the purposes of P.L. 92-500, I believe these facts and conclusions will receive serious consideration by the Congress as it considers possible legislation in 1976.

TO LEARN MORE

Some questions cannot be answered by statistics or engineering plans. The Commission is anxious to learn the views and opinions of professionals concerned with water pollution control, as well as those of industrialists, environmentalists and the general public. To submit your views and to learn more about the Commission, write the Office of Public Affairs, National Commission on Water Quality, Box 19266, Washington, D.C. 20036. The Commission maintains a public affairs office with staff liaison with state and local governments, public interest and conservation groups and industry.



J. C. WRIGHT, JR.

There is established a National Study Commission, now known as the National Commission on Water Quality, which shall make a full and complete investigation and study of all the technological aspects of achieving, and all aspects of the total economic, social, and environmental effects of achieving or not achieving, the effluent limitations and goals set forth for 1983 in section 301 (b) (2) of this Act.

Such Commission shall be composed of fifteen members, including five members of the Senate, who are members of the Public Works Committee, appointed by the President of the Senate, five members of the House, who are members of the Public Works Committee, appointed by the Speaker of the House, and five members of the public appointed by the President.

A report shall be submitted to the Congress of the results of the such investigations and study, together with recommendations, not later than three years after the date of enactment of this title.

FROM SEC. 315, OF THE WATER POLLUTION CONTROL ACT AMENDMENTS OF 1972 (PUBLIC LAW 92-500)

THE ORIGINAL COMMISSIONERS

NATIONAL COMMISSION ON WATER QUALITY

FROM THE SENATE

Jennings Randolph, West Virginia
Edmund S. Muskie, Maine
Lloyd Bentsen, Texas
Howard H. Baker, Jr., Tennessee
James L. Buckley, New York

FROM THE HOUSE

OF REPRESENTATIVES

John A. Blatnik, Eighth District, Minnesota *
Robert E. Jones, Fifth District, Alabama
James C. Wright, Jr., Twelfth District, Texas
William H. Harsha, Sixth District, Ohio
James R. Grover, Jr., Second District, New York * *

FROM THE PUBLIC

Edwin A. Gee, Senior Vice President, E.I. duPont de Nemours & Co., Wilmington, Delaware
William R. Gianelli, Consulting Engineer, Pebble Beach, California
Raymond Kudukis, Director, Department of Public Utilities, Cleveland, Ohio
Nelson A. Rockefeller, former Governor, State of New York
Carl E. Wright, Member, Arkansas Commission on Pollution Control and Ecology, 1954-1974 *

* Deceased

* * Retired from the Commission



READING FROM WEST TO EAST:

Puget Sound-Lake Washington *
Columbia River
San Francisco Bay - Central Valley *

South California Bight; Snake River;
Colorado River *
Upper Rio Grande; Yellowstone River
Basin *
S. Platte River; San Antonio & Guadalupe River Basins
Trinity River; Houston Ship Channel-
Galveston Bay *
Minnesota-Missouri-St. Croix Confluence
Iowa-Cedar; Lower Missouri
Escambia Bay; Ohio River Basin *
Chatahoochee-Flint-Apalachicola
River *
Lake Erie *; Sante River Basin

Yadkin-Peedee; Kanawha *
St. Johns; Biscayne Bay-Atlantic
Susquehanna
Chesapeake Bay; Potomac River
Delaware River Basin *
Housatonic; Connecticut River
Merrimack-Nashua *
St. John's
Boston Harbor-Charles River



FOR IMMEDIATE RELEASE

JANUARY 29, 1975

Office of the White House Press Secretary

THE WHITE HOUSE

The President today announced the appointment of S. Ladd Davies, of Little Rock, Arkansas, as a member of the National Commission on Water Quality. He succeeds Carl E. Wright who died on April 4, 1974.

Mr. Davies is currently the Director of the Arkansas Department of Pollution Control and Ecology in Little Rock, Arkansas.

The Commission was created by the Federal Water Pollution Control Amendments of 1972 (Public Law 92-500) of October 18, 1972, to conduct a full investigation and study of all the technological aspects and the total economic, social, and environmental effects of achieving or not achieving the effluent limitations and goals set forth, in the act, for 1983.

The National Commission on Water Quality includes five members appointed by the President, five members of the Senate Public Works Committee appointed by the President of the Senate, five members of the House Public Works Committee appointed by the Speaker. The Commission elects its own Chairman from among its members.

###



FOR IMMEDIATE RELEASE

JANUARY 29, 1975

Office of the White House Press Secretary

THE WHITE HOUSE

The President today announced the appointment of S. Ladd Davies, of Little Rock, Arkansas, as a member of the National Commission on Water Quality. He succeeds Carl E. Wright who died on April 4, 1974.

Mr. Davies is currently the Director of the Arkansas Department of Pollution Control and Ecology in Little Rock, Arkansas.

The Commission was created by the Federal Water Pollution Control Amendments of 1972 (Public Law 92-500) of October 18, 1972, to conduct a full investigation and study of all the technological aspects and the total economic, social, and environmental effects of achieving or not achieving the effluent limitations and goals set forth, in the act, for 1983.

The National Commission on Water Quality includes five members appointed by the President, five members of the Senate Public Works Committee appointed by the President of the Senate, five members of the House Public Works Committee appointed by the Speaker. The Commission elects its own Chairman from among its members.

#



CONTRACTOR STATUS FEBRUARY 20, 1975

CATEGORY & CONTRACT AREA	CONTRACTOR	DOLLAR LIMIT	DUE DATES	
			DRAFT	FINAL
TECHNOLOGY — INDUSTRY				
Iron and Steel	Arthur G. McKee	\$ 220, 000	Feb 14	Mar 28
Organic Chemicals } Inorganic Chemicals }	Catalytic	308, 130	Feb 14	Mar 28
Petroleum Refining	Engineering Science-Tex	168, 000	Jan 6	Feb 17
Pulp and Paper	Hazen and Sawyer	173, 000	Jan 6	Feb 17
Electroplating	Lancy Labs.	170, 000	Jan 20	Feb 17
Fruits & Vegetables	Environmental Assoc.	167, 000	Feb 21	Mar 28
Plastics & Synthetics	Procon, Inc.	170, 000	Feb 21	Mar 28
Textiles	Lockwood Greene Engrs.	167, 500	Feb 3	Mar 10
Steam Electric Power	Teknekron, Inc.	167, 300 (joint)	May 1	June 14
General Industry	Battelle, Columbus Labs	377, 000	Feb 3	Mar 17
TECHNOLOGY — MUNICIPAL				
Wastewater Treatment	Metcalf & Eddy	425, 000	Jan 31	Mar 7
Municipal Costs	American Public Works Assoc. (APWA)	77, 000	Nov 15	Dec 15
Local Agency Needs	Assoc. of Metropolitan Sewerage Agencies (AMSA)	2, 115	Completed	
TECHNOLOGY — URBAN RUN OFF		75, 000		
TECHNOLOGY — INNOVATIVE		50, 000		



CONTRACTOR STATUS (CONT.) FEBRUARY 20, 1975

CATEGORY & CONTRACT AREA	CONTRACTOR	DOLLAR LIMIT	KEY INPUT DATE	DUE DATES	
				DRAFT	FINAL
TECHNOLOGY — AGRICULTURE					
Point & Non Point		\$200, 000			
Feedlots	Development Planning Res.	50, 000			
TECHNOLOGY — NON POINT SOURCES					
Treatment and/or Policies		150, 000			
ECONOMIC (MICRO) — INDUSTRY					
General Industries	The Conference Board	69, 300		Completed	
Chemicals, Plastics, Drugs, Paints	Nat. Planning Assoc.	89, 000		May 1	June 2
Iron & St., Textiles, Petrol- eum Refining, Pulp & Paper, Electroplating, Non Ferrous	Intl. Research & Technol.	175, 000	Feb 3	Apr 1	June 2
Fruits & Veg., Feedlots, Meat & Dairy, Grain, Leather, Fertilizers	Nat. Bur. Economic Research	349, 000	Feb 3	Jan 15	June 1
Steam Electric Power	Development Planning & Research	175, 000	Feb 3	May 1	June 1
	Teknekrón, Inc.	70, 900 (joint)		May 1	June 14
ECON (MICRO) — MUNICIPAL					
	Meta Systems	120, 000	Feb 15	Apr 1	May 1
ECON (MICRO) — INTERNATL TRADE					
	Center for Naval Analyses	115, 000		May 1	June 1
ECON (MACRO) — ECONOMIC SECTOR ACTIVITY					
SEAS Modelling	Internatl. Research & Tech	65, 000	Feb. 3	May 1	June 2
SEAS Modelling	CONSAD	115, 000	Feb. 3	May 1	June 2
SEAS Modelling	Control Data Corp.	95, 000	Feb. 3	May 15	June 15
SEAS Modelling	Inter Industry Research Fund	25, 000	Feb. 3	On Request	
SEAS Modelling	University of Virginia	10, 000			
SEAS Modelling	Boeing Computer Serv., Inc.	15, 000			
ECON (MACRO) — INCIDENCE					
	Urban Systems	76, 000		May 1	June 2
ECON (MACRO) — MISCELLANEOUS					
Forecasting Local	ACIR (Advisory Commission Intergovt. Relations)	16, 500		Continuing	
Study Design	PIE-C (Pub. Int. Econ. Ctr.)	23, 700		Completed	
Long Range Task Schedule	Control Data Corporation	10, 000		Completed	



CONTRACTOR STATUS (CONT.) FEBRUARY 20, 1975

CATEGORY & CONTRACT AREA	CONTRACTOR	DOLLAR LIMIT	KEY INPUT DATE	DUE DATES	
				DRAFT	FINAL
ECON — SPECIAL ISSUES					
Supply Constraints		\$100, 000			
Financial Markets		50, 000			
State & Local Financing		60, 000			
Inflation		50, 000			
ECON — BENEFITS					
National Recreation	Nat. Planning Assoc.	175, 000	Jan 3	May 1	June 2
Beach Closings & Reopenings	Battelle Memorial Instit.	90, 000	Jan 3	May 1	June 2
Property Value	D. Dornbusch & Co.	140, 000	Jan 3	May 1	June 2
Commercial Fisheries	Florida State Univ.	(joint) 78, 250	Jan 3	May 1	June 1
SOCIAL Social Impacts	Abt Associates	190, 000		Apr 1	May 1
ENVIRONMENTAL — RIVER-REACH					
Site 1	Meta Systems	46, 600		Apr 15	May 15
Site 2, (Boston H; Charles)	Process Research	56, 100		Apr 15	May 15
Site 3	Center for Env. & Man	49, 700		Apr 15	May 15
Sites 4, 5	Lawler & Matusky & Skelly	93, 000		Apr 15	May 15
Site 6 (Potomac)	GKY & Associates	15, 300	Jan 15	Feb 28	May 15
Sites 6, 8, 18	Acad. of Natural Sci.	112, 000		Apr 15	May 15
Site 7 (Yadkin-Peedee)	TRW	49, 400		Apr 15	May 15
Site 9 (Chesapeake Bay)	Va. Inst. Marine Science	59, 100		Apr 15	May 15
Site 10 (Lower Mississippi)	Coastal Ecosystems	65, 000		Jun 10	Jul 1
Sites 11, 29	Atlantis Scientific	99, 660		Apr 15	May 15
Sites 13, 15	North Star Research	80, 300		Apr 15	May 15
Sites 13, 15, 8	Water Resources Engineers	65, 700		Apr 15	May 15
Sites 12, 16, 28	Water Resources Engineers	170, 335		Apr 15	May 15



CONTRACTOR STATUS (CONT.) FEBRUARY 20, 1975

CATEGORY & CONTRACT AREA	CONTRACTOR	DOLLAR LIMIT	KEY INPUT DATES	DUE DATES	
				DRAFT	FINAL
ENVIRONMENTAL — RIVER-REACH (CONT.)					
Site 14	Midwest Research Inst.	72,500		Apr 15	May 15
Sites 17, 19, 20, 21, 22, 23, 24	Tetra Tech, Inc.	299,435		Apr 15	May 15
Sites 19, 20	Parametrix	69,130		Apr 15	May 15
Site 26 (Illinois)	Environmental Analysts, Inc.	50,000			
Site 27 (Utah Lake)	Environmental Dynamics	50,000			
Site 30		50,000			
Additional sites		40,000			
ENVIRONMENTAL — SPECIAL STUDIES					
Residual Disposal		300,000			
Lakes & Impoundments		50,000			
Commercial Fisheries	Fla. State University	25,000 (joint)		May 1	June 1
Water Quality Modeling	Hydroscience	56,000			
ENVIRONMENTAL — MISCELLANEOUS					
TIE Phase I	Institute of Ecology	45,000		Completed	
TIE Phase II, III	Institute of Ecology	86,000		Continuing	
INSTITUTIONAL — CONSTRUCTION GRANTS					
Grants & Financing	Touche Ross & Co.	148,000		Apr 30	May 30
INSTITUTIONAL — PLANNING					
Interstate Authorities	Harold F. Wise	95,700		Apr 30	May 31
Draft Study Design	Elizabeth Haskell	10,000			
		2,000		Completed	
INSTITUTIONAL — REGULATION & ENFORCEMENT					
Permit System	Energy & Envir. Analysis	125,000		Apr 30	May 31
Effluent Limitations		20,000			
Compliance Monitoring	Energy Resources	69,850			
Enforcement	Enviro. Law Institute	125,000		Apr 30	May 31

(Continued)



CONTRACTOR STATUS (CONT.) FEBRUARY 20, 1975

CATEGORY & CONTRACT AREA	CONTRACTOR	DOLLAR LIMIT	DUE DATES	
			DRAFT	FINAL
INSTITUTIONAL — RESOURCES & CONSTRAINTS				
Public Participation	James Ragan & Assoc.	78,100	May 30	June 30
Attitudes		118,300	Jul 15	Aug 15
Legal Issues (Statutory Authority).....		25,000		
Problems of Doers		50,000		
REGIONAL ASSESSMENT	Study Design		Completed	
Merrimack - Nashua	A. D. Little	2,000	June 1	Aug 15
	Abt Associates, Inc. et al	182,700		
Hudson	Lawler Matusky, & Skelley	69,700	Study of Limited "Scope"	
Delaware & Delaware Bay	Betz Envir. Engrs. et al	225,000	June 1	Aug 15
Ohio	Dames & Moore et al	211,000	June 1	Aug 15
Kanawha	Dames & Moore et al	225,000	June 1	Aug 15
Lake Erie	Dalton-Dalton-Little-Newport, et al	285,000	June 1	Aug 15
Chattah-Flint-Apalachicola	Hammer, Siler & George et al	200,000	June 1	Aug 15
Houston S. C. & Galv. Bay	Bernard Johnson Inc., et al	260,000	June 1	Aug 15
Yellowstone	Stevens, Thompson & Runyan et al	195,000	June 1	Aug 15
Colorado	Utah State University et al	225,000	June 15	Sep 1
SF Bay - Central Valley	Arthur D. Little et al	275,000	June 1	Aug 15
Puget Sound & Lake Washing- ton	Stevens, Thompson & Runyan et al	215,000	June 1	Aug 15



KEY:



REGIONAL ASSESSMENT STUDIES

A	Merrimack - Nashua R.	N.H., Mass.
B	Delaware Bay	Del., Pa.
C	Kanawha R.	W. Va.
D	Ohio R.	Pa., W.Va., Ohio, Ind., Ill., Ky.
E	Lake Erie	Ohio, Pa., N.Y.
F	Chattahoochee - Flint - Apalachicola	Ga., Ala., Fla.
G	Houston Ship Channel - Galveston Bay	Texas
H	Colorado R.	Ariz., Utah, Nev. Col., Wyo., Calif.
I	S. F. Bay - Central V.	Calif.
J	Yellowstone R.	Mont., Wyo., N.Dak.
K	Puget S. - Lake Wash.	Washington
L	Hudson R.	N.Y.



ENVIRONMENTAL IMPACT & WATER QUALITY STUDIES

1	St. Johns R.	Maine
2	Boston Harbor & Charles R.	Mass.
3	Connecticut R.	Mass., Conn.
4	Housatonic R.	Mass.
5	Susquehanna R.	N.Y.
6	Potomac R.	Va., Md.
7	Yadkin - Pee Dee R.	N.Car., S.Car.
8	Santee R.	S.Car.
9	Chesapeake Bay	Md., Del., Va.
10	Lower Mississippi R.	Miss., La.
11	Escambia Bay	Fla.
12	Trinity R.	Texas
13	Minn. - Miss. - St. Croix Conflux	Minn., Wis.
14	Lower Missouri R.	Kansas, Mo.
15	Iowa - Cedar R.	Iowa
16	S. Antonio R. & Guadalupe R. Basins	Texas
17	S. Platte R.	Col., Neb.
18	Upper Rio Grande R.	N.Mex., Texas
19	Columbia R.	Ore., Wash.
20	Snake R.	Idaho, Ore.
21	Gulf Alaska	Alaska
22	Hawaii Islands	Hawaii
23	Puerto Rico	Puerto Rico
24	So. Calif. Bight	Calif.
26	Illinois R.	Ill.
27	Utah Lake - Jordan R.	Utah
28	Biscayne Bay, Atlantic	Fla.
29	St. John's R.	Fla.

WATER SITES & REGIONS

UNDER STUDY BY THE NATIONAL COMMISSION ON WATER QUALITY



"FEDERAL FACILITIES POLLUTION CONTROL

"SEC. 313. Each department, agency, or instrumentality of the executive, legislative, and judicial branches of the Federal Government (1) having jurisdiction over any property or facility, or (2) engaged in any activity resulting, or which may result, in the discharge or runoff of pollutants shall comply with Federal, State, interstate, and local requirements respecting control and abatement of pollution to the same extent that any person is subject to such requirements, including the payment of reasonable service charges. The President may exempt any effluent source of any department, agency, or instrumentality in the executive branch from compliance with any such requirement if he determines it to be in the paramount interest of the United States to do so; except that no exemption may be granted from the requirements of section 306 or 307 of this Act. No such exemptions shall be granted due to lack of appropriation unless the President shall have specifically requested such appropriation as a part of the budgetary process and the Congress shall have failed to make available such requested appropriation. Any exemption shall be for a period not in excess of one year, but additional exemptions may be granted for periods of not to exceed one year upon the President's making a new determination. The President shall report each January to the Congress all exemptions from the requirements of this section granted during the preceding calendar year, together with his reason for granting such exemption.

Exemption.

Report to Congress.

"CLEAN LAKES

"SEC. 314. (a) Each State shall prepare or establish, and submit to the Administrator for his approval—

"(1) an identification and classification according to eutrophic condition of all publicly owned fresh water lakes in such State;

"(2) procedures, processes, and methods (including land use requirements), to control sources of pollution of such lakes; and

"(3) methods and procedures, in conjunction with appropriate Federal agencies, to restore the quality of such lakes.

"(b) The Administrator shall provide financial assistance to States in order to carry out methods and procedures approved by him under this section.

"(c) (1) The amount granted to any State for any fiscal year under this section shall not exceed 70 per centum of the funds expended by such State in such year for carrying out approved methods and procedures under this section.

"(2) There is authorized to be appropriated \$50,000,000 for the fiscal year ending June 30, 1973; \$100,000,000 for the fiscal year 1974; and \$150,000,000 for the fiscal year 1975 for grants to States under this section which such sums shall remain available until expended. The Administrator shall provide for an equitable distribution of such sums to the States with approved methods and procedures under this section.

Appropriations.

"NATIONAL STUDY COMMISSION

"SEC. 315. (a) There is established a National Study Commission, which shall make a full and complete investigation and study of all of the technological aspects of achieving, and all aspects of the total economic, social, and environmental effects of achieving or not achieving, the effluent limitations and goals set forth for 1983 in section 301(b) (2) of this Act.

"(b) Such Commission shall be composed of fifteen members, including five members of the Senate, who are members of the Public Works committee, appointed by the President of the Senate, five mem-

Membership.

Name changed to
Nat. Comm. on Water Quality -
Establishment.
10/24/73

livery of a vessel
the ultimate pur-
ative any certified
n of such device

rmit access to or
or provide infor-

nd regulations to
d States, if such
sanitation device

have jurisdictions
ction and subsec-
restrain such vio-
United States. In
upon any person
ed States for any
ransacts business,
ice to such person,
g such person to
e documents, and
punished by such

of this section or
hall be liable to a
tion. Any person
tion or any regu-
to a civil penalty
olation shall be a
in which the Coast
such penalty. No
shall have been
such charge. In
nt agreed upon in
emonstrated good
rapid compliance,
by said Secretary.
orced by the Sec-
l is operating and
imbursement, law
s of the Adminis-
out the provisions

re department in
provisions of this
l and inspect any
s and (2) execute
ourt of competent

ory of the Pacific
rought in the dis-
lands such actions
lands. In the case
e Pacific Islands,
the United States
ve jurisdiction of
ns may be brought
al Zone.

bers of the House, who are members of the Public Works committee, appointed by the Speaker of the House, and five members of the public appointed by the President. The Chairman of such Commission shall be elected from among its members.

Contract
authority.

"(c) In the conduct of such study, the Commission is authorized to contract with the National Academy of Sciences and the National Academy of Engineering (acting through the National Research Council), the National Institute of Ecology, Brookings Institution, and other nongovernmental entities, for the investigation of matters within their competence.

"(d) The heads of the departments, agencies and instrumentalities of the executive branch of the Federal Government shall cooperate with the Commission in carrying out the requirements of this section, and shall furnish to the Commission such information as the Commission deems necessary to carry out this section.

Report to Con-
gress.

"(e) A report shall be submitted to the Congress of the results of such investigation and study, together with recommendations, not later than three years after the date of enactment of this title.

"(f) The members of the Commission who are not officers or employees of the United States, while attending conferences or meetings of the Commission or while otherwise serving at the request of the Chairman shall be entitled to receive compensation at a rate not in excess of the maximum rate of pay for grade GS-18, as provided in the General Schedule under section 5332 of title V of the United States Code, including traveltime and while away from their homes or regular places of business they may be allowed travel expenses, including per diem in lieu of subsistence as authorized by law (5 U.S.C. 73b-2) for persons in the Government service employed intermittently.

5 USC 5332
note.

80 Stat. 499;
83 Stat. 190.
5 USC 5703,
5707 and notes.
Appropriation.

"(g) There is authorized to be appropriated, for use in carrying out this section, not to exceed \$15,000,000.

"THERMAL DISCHARGES

"SEC. 316. (a) With respect to any point source otherwise subject to the provisions of section 301 or section 306 of this Act, whenever the owner or operator of any such source, after opportunity for public hearing, can demonstrate to the satisfaction of the Administrator (or, if appropriate, the State) that any effluent limitation proposed for the control of the thermal component of any discharge from such source will require effluent limitations more stringent than necessary to assure the protection and propagation of a balanced, indigenous population of shellfish, fish, and wildlife in and on the body of water into which the discharge is to be made, the Administrator (or, if appropriate, the State) may impose an effluent limitation under such sections for such plant, with respect to the thermal component of such discharge (taking into account the interaction of such thermal component with other pollutants), that will assure the protection and propagation of a balanced, indigenous population of shellfish, fish, and wildlife in and on that body of water.

"(b) Any standard established pursuant to section 301 or section 306 of this Act and applicable to a point source shall require that the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact.

"(c) Notwithstanding any other provision of this Act, any point source of a discharge having a thermal component, the modification of which point source is commenced after the date of enactment of the Federal Water Pollution Control Act Amendments of 1972 and which, as modified, meets effluent limitations established under section 301 or, if more stringent, effluent limitations established under

Ante, p. 816.

section 303 and propagation of and wildlife in not be subject to the thermal beginning on the period of purpose of section of 1954, which

"SEC. 317. (a) study the feasibility of preventing, controlling, and improving the quality of the environment but not limited to trust fund. The report to the title, together with the financing the portion for the fiscal necessary legislation.

"(b) There is this section, not

"SEC. 318. (a) ings, to permit controlled under Federal Act. (b) The Administrator, January 1, 1974, estimate necessary to carry out

"TIT

"SEC. 401. (a) conduct any act operation of navigable water certification from originate, or, if control agency having where the discharge will comply with sections 306, and 307 of there is not an a sections 301(b) sections 306 and certification shall Act. Such State public notice in to the extent it connection with interstate agency certification shall

NATIONAL COMMISSION ON WATER QUALITY

P.O. Box 19266, Washington, D.C. 20036

(202) 254-7806

FACT SHEET

The National Commission on Water Quality is an independent national study commission created by Congress. It was established by the Federal Water Pollution Control Act Amendments of 1972, the most far reaching and important water quality law in history. The Commission is directed by the Act to study the impact of the new law on the economy, on the environment, and on people. It will pinpoint the benefits the public can expect from cleaner water and estimate the cost of meeting or not meeting the mandates of the law.

The Commission's job, spelled out in Section 315 of the law, is to "make a full and complete investigation and study of all the technological aspects of achieving and all aspects of the total economic, social and environmental effects of achieving or not achieving" the July 1, 1983 effluent limitations and goals in the Act. Those goals call for a quality of water nationally that "provides for the protection and propagation of fish, shellfish, and wildlife, and provides for recreation in and on the water." The law requires that by 1983 municipalities nationally must be employing "best practicable wastewater treatment technology currently available" and industry must be using "best available technology" economically achievable.

The Commission also will study the impacts of reaching the 1977 requirements of the law. The law calls for a minimum of secondary wastewater treatment for all municipalities and "best practicable treatment" for all industry nationally by July 1, 1977. The Commission believes a comprehensive study of the 1983 requirements is not possible without considering the 1977 requirements.

Since the ultimate national goal is elimination of the discharge of pollutants into the nation's navigable waters by 1985, that will also receive Commission attention.

Some Congressmen look to the Commission to point the way to a possible "mid-course correction" in the law. Its report, to be completed about a year from now, will be a tool Congress can use to evaluate, assess and change the law, if the study indicates changes are necessary.

There are 15 members: five from the Senate, all members of the Public Works Committee and appointed by the President of the Senate; five from the House, all members of the Public Works Committee and appointed by the House Speaker; and five public members, appointed by the President.

Commission Chairman is Vice-President Nelson A. Rockefeller, a public member. Vice Chairmen are Senator Edmund S. Muskie of Maine and Alabama Representative Robert E. Jones, Chairman of the House Public Works Committee. Other Senate

members are: Jennings Randolph of West Virginia, chairman of the Senate Public Works Committee; Lloyd M. Bentsen of Texas, Howard H. Baker, Jr. of Tennessee and James L. Buckley of New York.

Other House members are: Harold T. (Bizz) Johnson of California James C. Wright, Jr. of Texas; William H. Harsha of Ohio; James C. Cleveland of New Hampshire.

The other Public members are: Edwin A. Gee, senior vice president of DuPont; William R. Gianelli, former director of the California Department of Water Resources; Raymond Kudukis, director of the Cleveland Department of Public Utilities; and S. Ladd Davies, Director of the Arkansas Department of Pollution Control and Ecology.

The Commission staff numbers about 65 including specialists in ecology, economics, wastewater treatment and technology, and public administration. The Commission also is working closely with the National Academy of Sciences, the Institute of Ecology and others. It is contracting with a number of consulting firms to work on various segments of the study. The Commission's Executive Director is Lt. General Frederick J. Clarke, (Ret.), former Chief of Engineers, U.S. Army. Program Director is Joe G. Moore, Jr., former head of the Federal Water Pollution Control Administration.

The Commission is following a 9 part study plan. This blueprint includes:

- A description of present water quality and quantity. This will be a baseline against which improvements in water quality will be measured as the law is implemented.
- An analysis of the capabilities and costs of technology necessary to fulfill the requirements of the law.
- An assessment of the nation's economic ability to carry out the best practicable and ultimately best available technology called for in the law.
- An analysis of the impact of carrying out the law or not carrying it out on the nation's economy, environment, and social structure.
- An assessment of what the Act will demand of our institutions.
- Close-up studies of several river basins, estuaries, and lakes to pinpoint economic, environmental, and social impacts regionally as well as nationally.

The staff is divided into five major departments under the program director and assistant program director. They are: a technology section headed by a wastewater engineer; an economics section headed by a water-economist; an institutional assessment section headed by a political scientist; an environmental section headed by a limnologist; and a regional studies section headed by a policy analyst. These department heads oversee and coordinate the work of the contractors enlisted by the Commission.



The Commission expects to award a total of about 75 contracts of its investigations in technology, economics-social, environmental, institutional study areas, as well as special detailed studies of 11 regions.

Technology contractors will review the various technologies and processes that industries and municipalities may use to meet the goals and requirements of the law. These investigations will include estimates of the expected costs and the effectiveness of technologies and processes. The cost information will be used by economics contractors as part of the assessment of the total economic impacts of meeting or not meeting the law. Information on the effectiveness of the technology will be used by environmental contractors in determining what the water quality will be like in stretches of streams across the country, if various technologies are applied.

Other economics studies will include projections of the Gross National Product and government income expenditures, financial markets, international trade, state and local finance, and a study of who will pay the direct and indirect costs of cleanup. Economic studies will look into the benefits of water cleanup as well. This will include studies of recreation, beach closings, property values and commercial fisheries. Another study will determine the social impacts --including shifts in employment, leisure and recreational opportunities and general quality of life-- resulting from achieving or not achieving the law.

In the environmental area, contractors will study portions of about 30 bodies of water around the nation to determine the present water quality and predict the environmental impacts if the cleanup requirements are met -- and if they are not met.

In the institutional area, contractors will examine various federal, state, regional and local agencies, as well as private groups and industries, to determine their capabilities of accomplishing the legislative requirements and goals. Studies will include an examination of the permit system, enforcement of the law, the construction grants program, public involvement and the attitudes of people who must carry out the law.

Regional studies will examine the overriding or unique local issues and problems of the 11 areas to complement the Commission's broad national studies. Regional studies will be conducted in the Delaware River Basin, Merrimack-Nashua Rivers, Lake Erie, Ohio River, Kanawha River, Chattahoochee-Flint-Appalachicola Rivers, Houston Ship Channel-Galveston Bay, Yellowstone River Basin, Puget Sound/Lake Washington, San Francisco Bay-Central Valley and the Colorado River.

The Commission is working closely with environmental, industrial, governmental, and public interest groups to keep them fully informed of the Commission's work. Washington-based representatives of environmental, industrial and governmental groups have regular access to the staff and Commission members. The Commission plans formal public hearings before issuing its final report to Congress.



GOVERNOR NELSON A. ROCKEFELLER
CHAIRMAN

SENATOR EDMUND S. MUSKIE
REPRESENTATIVE ROBERT E. JONES
VICE CHAIRMEN

PUBLIC MEMBERS

LDWIN A. GEE
WILLIAM R. GIANELLI
RAYMOND KUDUKIS
CARL E. WRIGHT

U. S. SENATORS

JENNINGS RANDOLPH
LLOYD M. BENTSEN
HOWARD H. BAKER, JR.
JAMES L. BUCKLEY

U. S. REPRESENTATIVES

JOHN A. BLATNIK
JAMES C. WRIGHT, JR.
WILLIAM H. MARSHA
JAMES R. GROVER, JR.

FREDERICK J. CLARKE

EXECUTIVE DIRECTOR

TELEPHONE

202 254-7806

National Commission on Water Quality

1111 18TH STREET, N.W.

P. O. Box 19266

WASHINGTON, D. C. 20036

Briefing

Phase I Regional Study Reports

and

Selected Technology and Cost Preliminary Reports

- - -

Thursday, March 6, 1975

8:30 a.m. to 5:30 p.m.

Main Conference Room, 8th Floor, 1111 18th Street, N.W.

Washington, D.C.

8:30 a.m.

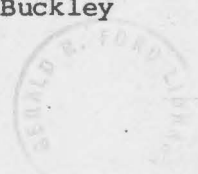
- I. Introductory Remarks, General F. J. Clarke,
Executive Director
- II. Overview of Commission Studies, Joe G. Moore, Jr.,
Program Director
- III. Regional Studies, Steven R. Reznick, Director,
Program Coordination
 - Part I) Introduction, Description and Methods
 - Part II) Review of 11 Regional Basins --
Study Topics and Status Review
 - 1) San Francisco/Central Valley
James L. Larocca, Project Manager
and Staff Assistant and Counsel to
Congressman Jones
 - 2) The Colorado River
James L. Larocca, Project Manager
and Staff Assistant and Counsel to
Congressman Jones
 - 3) Puget Sound/Lake Washington
William J. Chandler, Project Manager



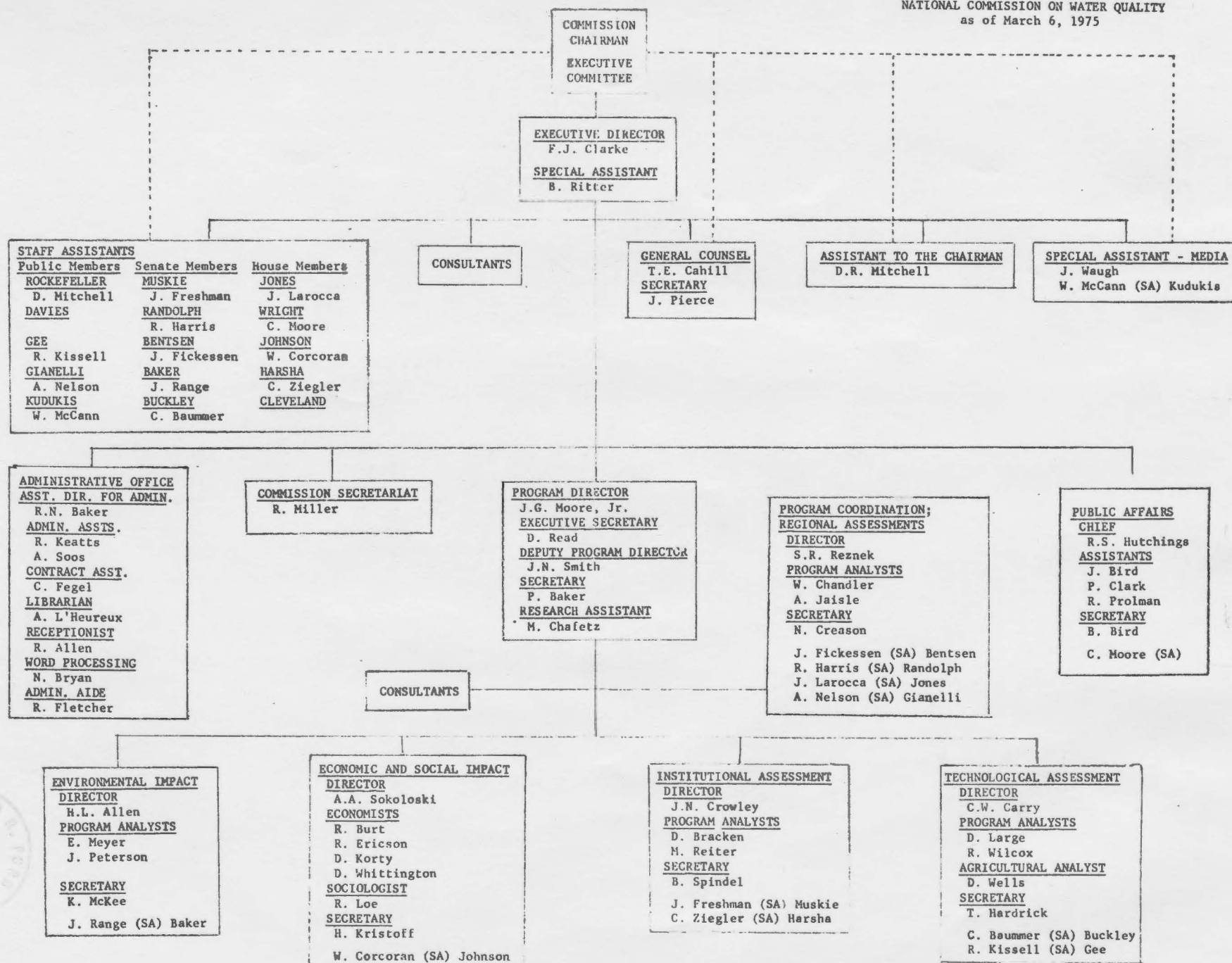
- 4) The Yellowstone River
William D. McCann, Project Manager
and Staff Assistant to
Commissioner Kudukis
- 5) Houston Ship Channel/Calveston Bay
Robert L. Harris, Project Manager
and Staff Assistant to
Senator Randolph
- 6) Chattahoochee/Flint/Apalachicola
Robert L. Harris, Project Manager
and Staff Assistant to
Senator Randolph
- 7) Lake Erie
Allen L. Jaisle, Project Manager
- 8) The Kanawha River
Allen L. Jaisle, Project Manager
- 9) The Ohio River
Allen L. Jaisle, Project Manager
- 10) The Delaware River
Jack R. Fickessen, Project Manager
and Staff Assistant to
Senator Bentsen
- 11) The Merrimack/Nashua Rivers
William J. Chandler, Project Manager

12:00 - 1:30 p.m. Lunch

- 1:30 p.m. IV. Introduction, Technology Reports, Charles W. Carry,
Director, Technological Assessment
- A. Pulp and Paper, David B. Large, Project Manager
 - B. Petroleum Refining, David B. Large, Project Manager
 - C. Organic Chemicals, Robert G. Kissell, Project Manager
and Staff Assistant to Dr. Gee
 - D. Electroplating, Robert L. Wilcox, Project Manager
 - E. General Industry Studies, Method of Selection,
Robert G. Kissell, Project Manager and Staff Assistant
to Dr. Gee
 - F. Municipal Waste Treatment, J. Charles Baummer, Jr.,
Project Manager and Staff Assistant to Senator Buckley



NATIONAL COMMISSION ON WATER QUALITY
as of March 6, 1975



VICE PRESIDENT NELSON A. ROCKFELLER
CHAIRMAN

SENATOR EDMUND S. MUSKIE
REPRESENTATIVE ROBERT E. JONES
VICE CHAIRMEN

PUBLIC MEMBERS

EDWIN A. GEE
WILLIAM R. GIANELLI
RAYMOND KUDUKIS
S. LADD DAVIES

U. S. SENATORS

JENNINGS RANDOLPH
LLOYD M. BENTSEN
HOWARD H. BAKER, JR.
JAMES L. BUCKLEY

U. S. REPRESENTATIVES

JAMES C. WRIGHT, JR.
HAROLD T. JOHNSON
WILLIAM H. HARSHA
JAMES C. CLEVELAND

National Commission on Water Quality

1111 18TH STREET, N.W.
P. O. Box 19266
WASHINGTON, D. C. 20036

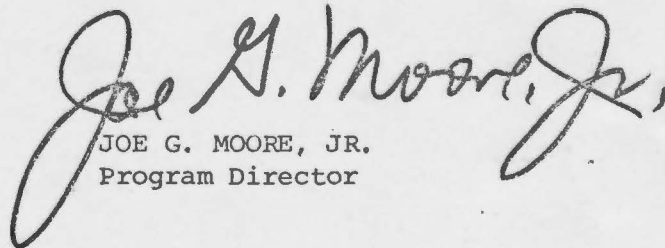
April 1, 1975

FREDERICK J. CLARKE
EXECUTIVE DIRECTOR

TELEPHONE
202 254-7806

At the Commission's briefing on March 6, 1975, we indicated copies of the charts used in the presentations would be sent to you. Copies are attached.

You recognize, I'm sure, that much of the data upon which these are based is preliminary and requires narrative explanation for the fullest understanding. Therefore, reproduction or use of this information should be considered with care. If we can answer any questions you may have, we will be happy to do so.


JOE G. MOORE, JR.
Program Director

Enclosures





STUDY DESCRIPTION & METHODS

REGIONAL ASSESSMENT STUDIES



GOALS

REGIONAL ASSESSMENT STUDIES

CHARACTERISTICS OF EACH WATER REGION

HYDROLOGY	
POLLUTANTS	
SOURCES	LOADS
DEMOGRAPHY / ECONOMIC BASE	
ENVIRONMENTAL SETTING	

RELATED
TO

IMPACTS IN EACH WATER REGION

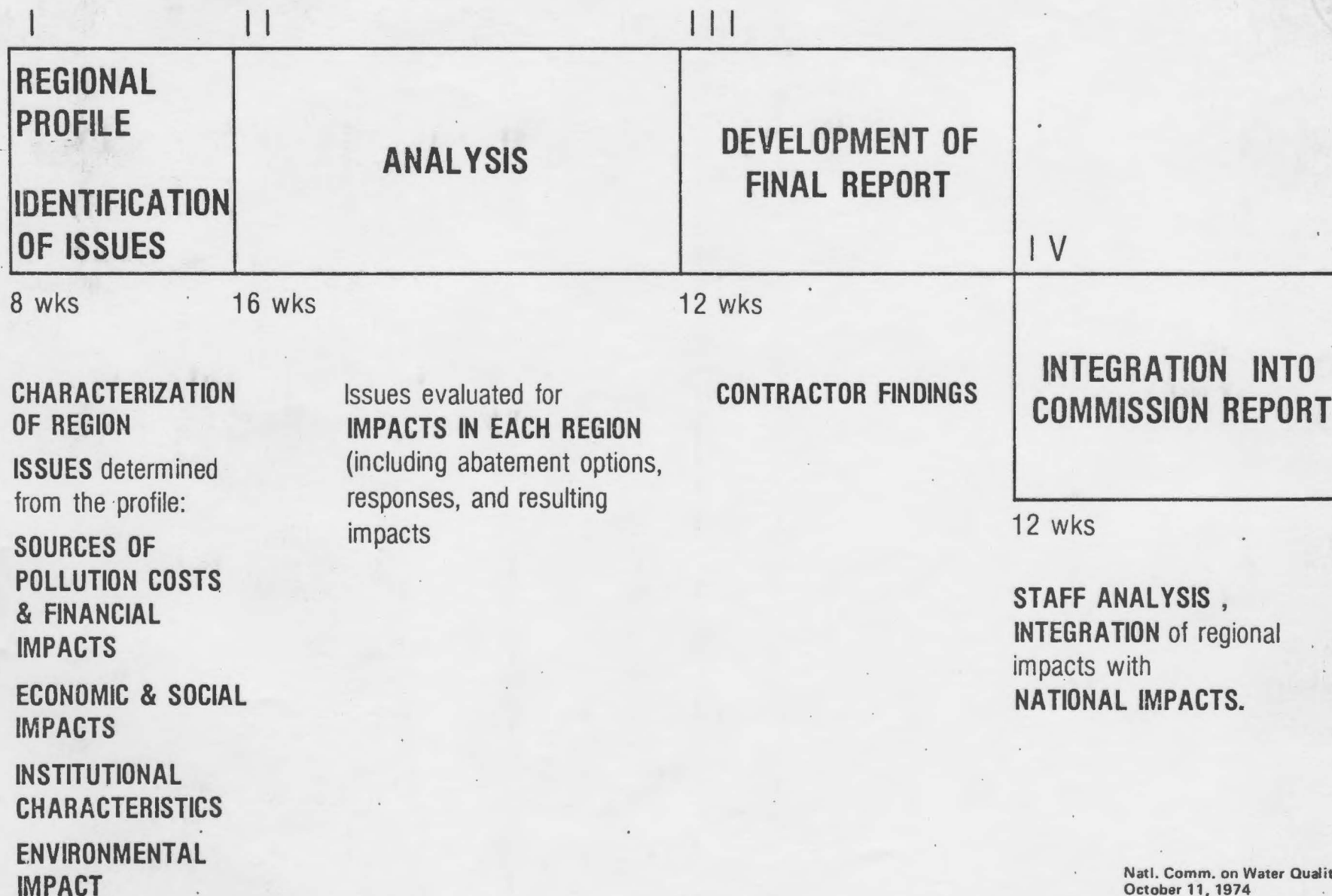
INSTITUTIONAL	
ECONOMIC	SOCIAL
ENVIRONMENTAL	

ISSUES

26

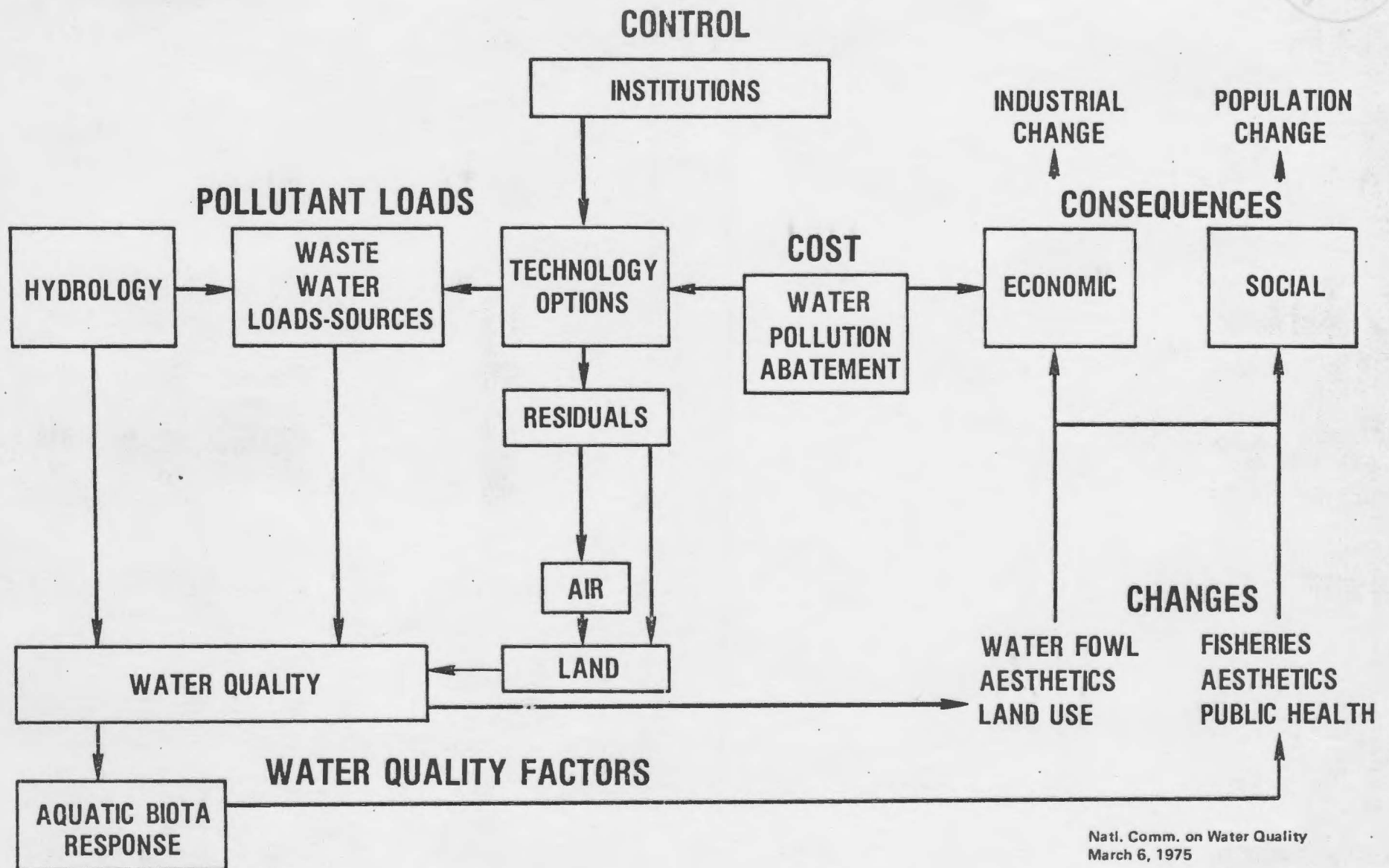
38

STUDY FORMAT — REGIONAL ASSESSMENT



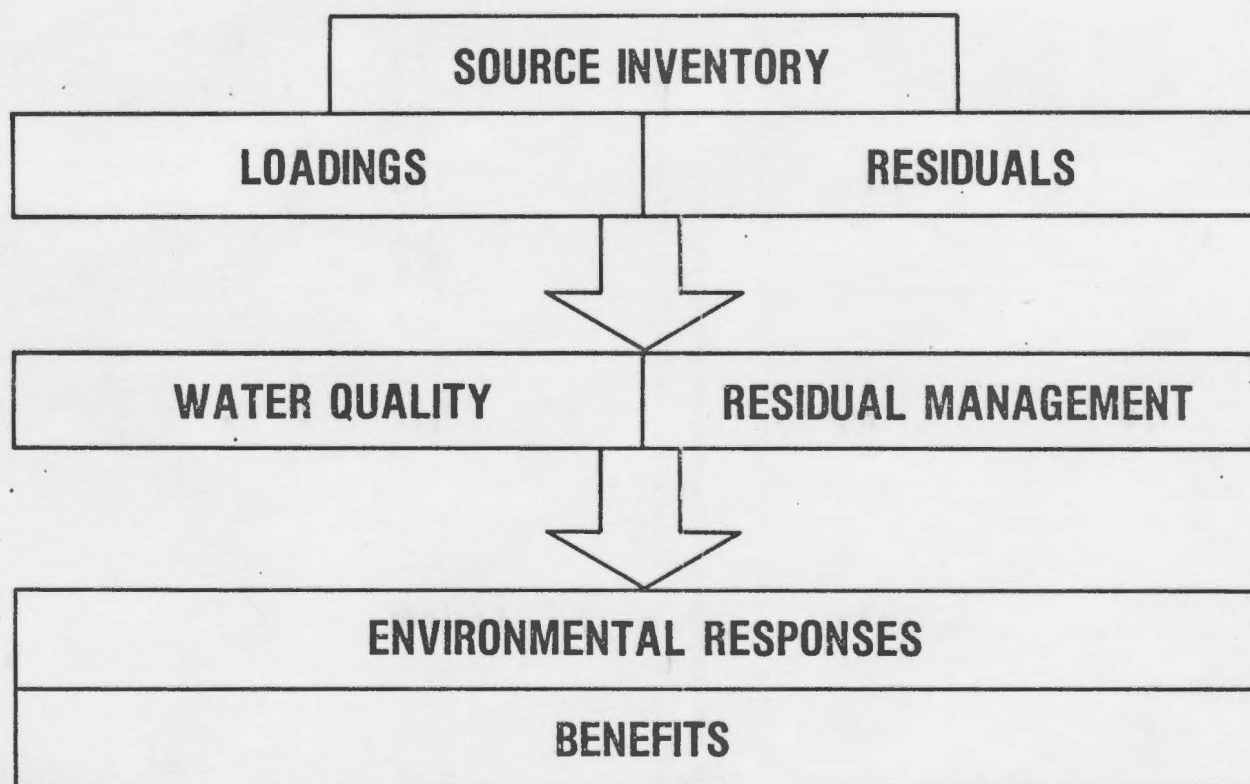
STUDY MODEL

REGIONAL ASSESSMENT OF WATER POLLUTION ABATEMENT



ENVIRONMENTAL ASSESSMENT

REGIONAL ASSESSMENT STUDIES



COST OF ABATEMENT

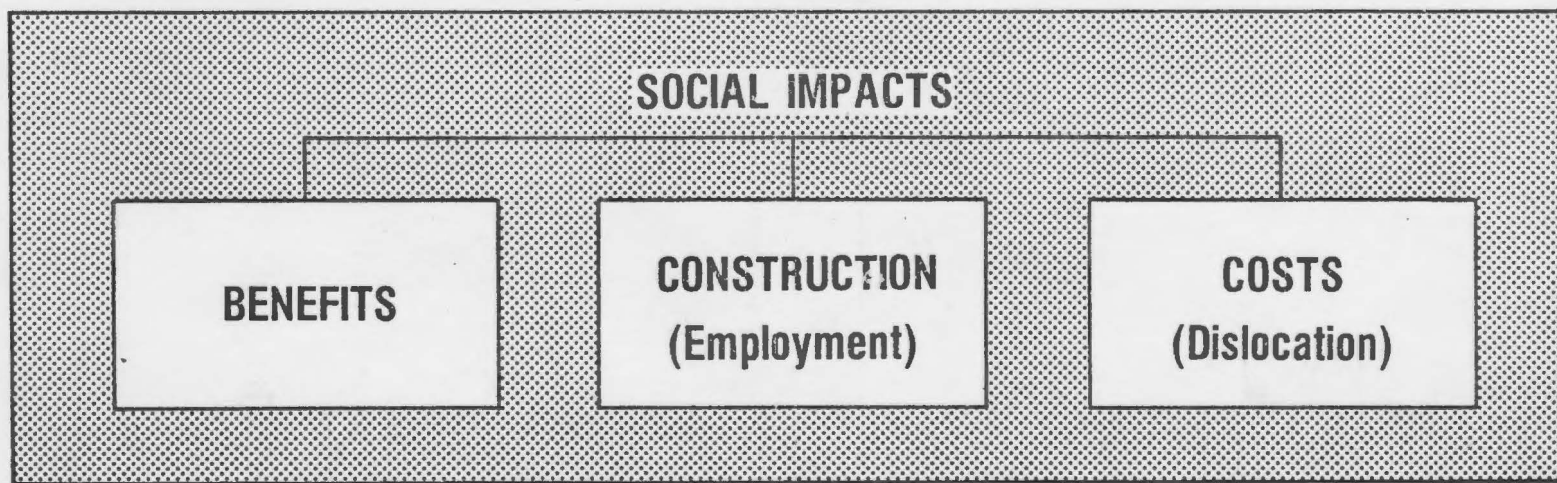
REGIONAL ASSESSMENT STUDIES



	INDUSTRIAL	MUNICIPAL	INDUSTRIAL/ MUNICIPAL	AGRICULTURAL
SOURCES OF POLLUTION (INVENTORY)				
ECONOMIC DESCRIPTION				
LIKELY PROJECTS/PROGRAMS				
COSTS & IMPACTS				

SOCIAL IMPACTS

REGIONAL ASSESSMENT STUDIES



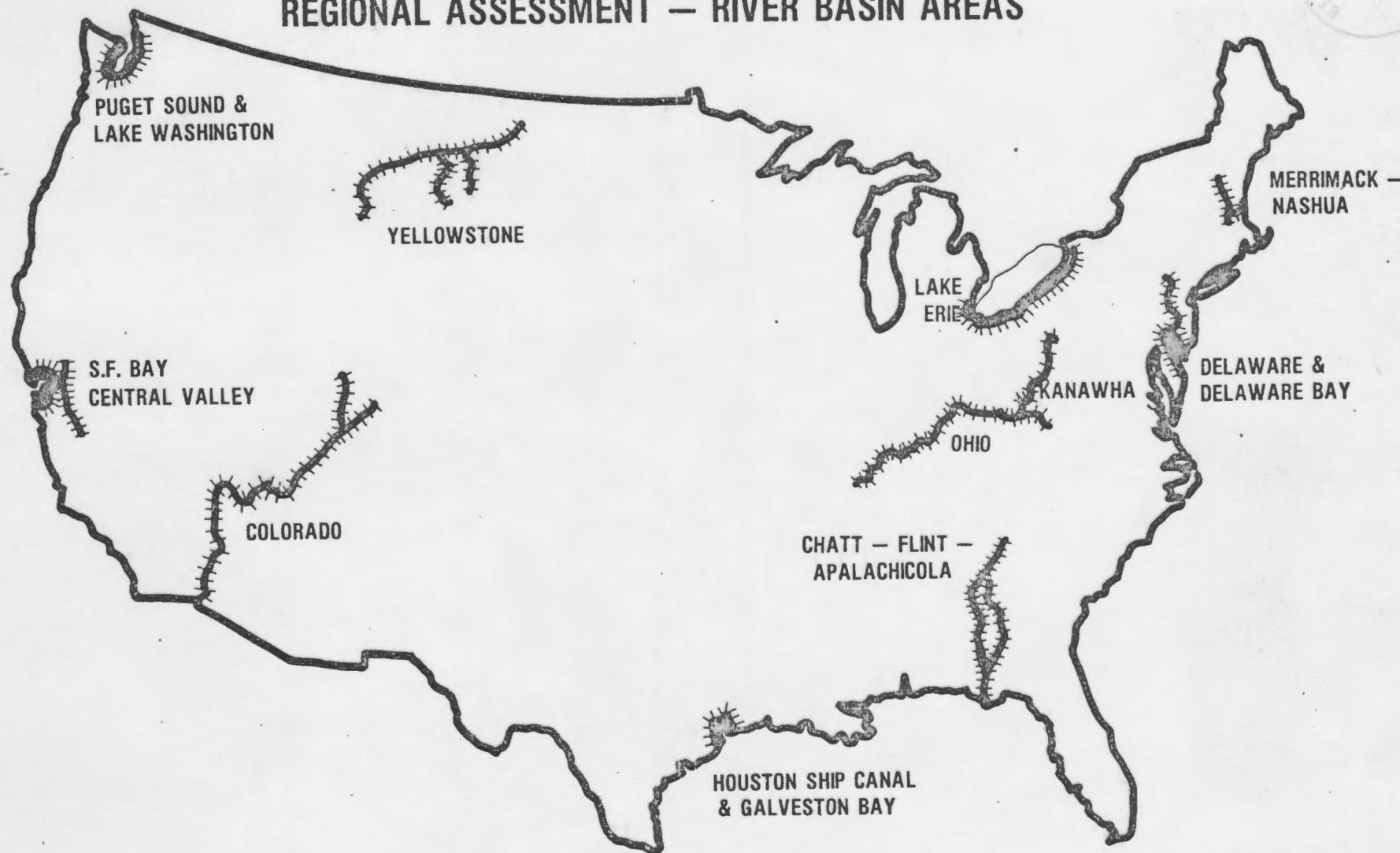
SOCIAL PROFILE: Age, Sex, Race, Income, & Education



REGIONAL WATER ISSUES



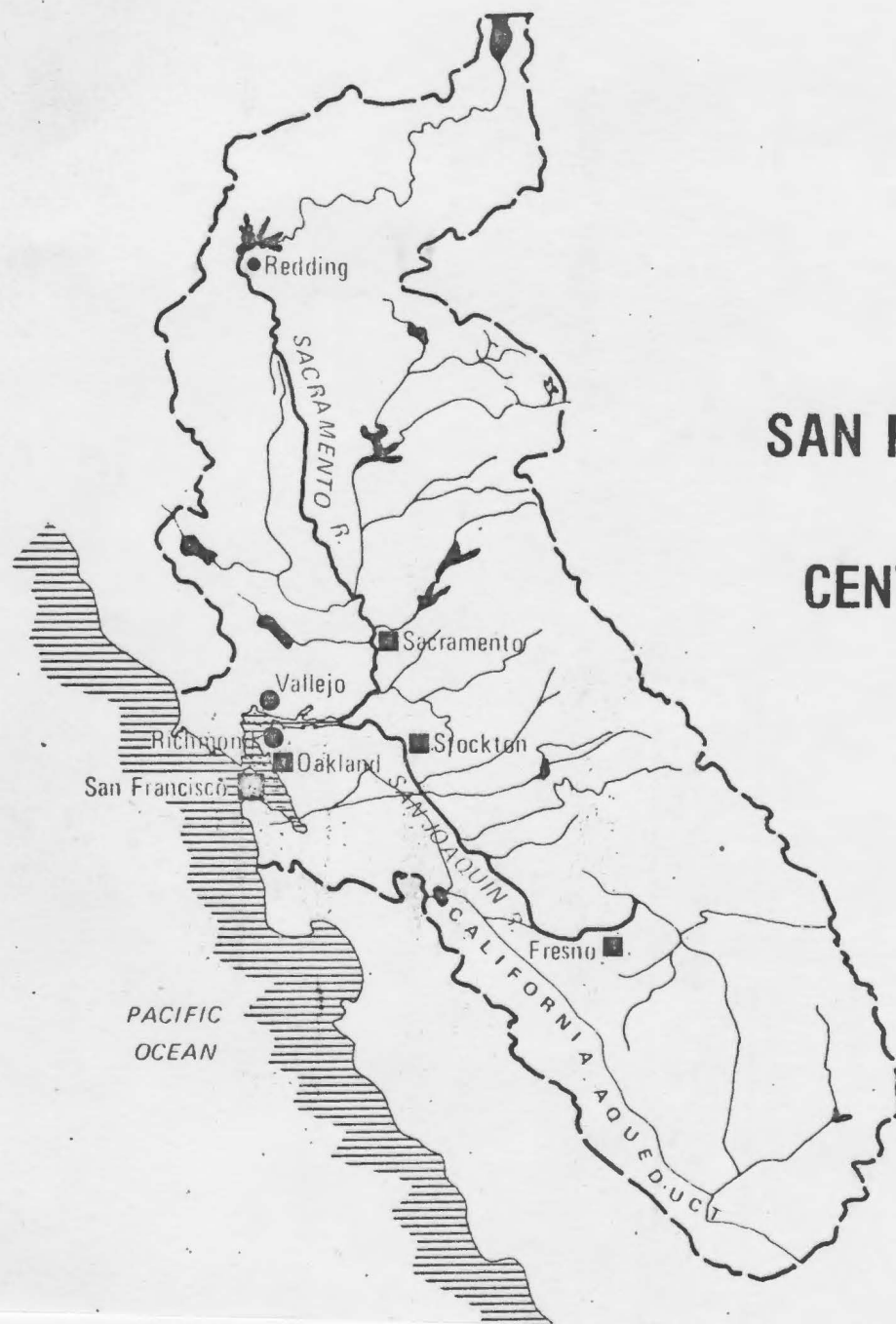
REGIONAL ASSESSMENT — RIVER BASIN AREAS







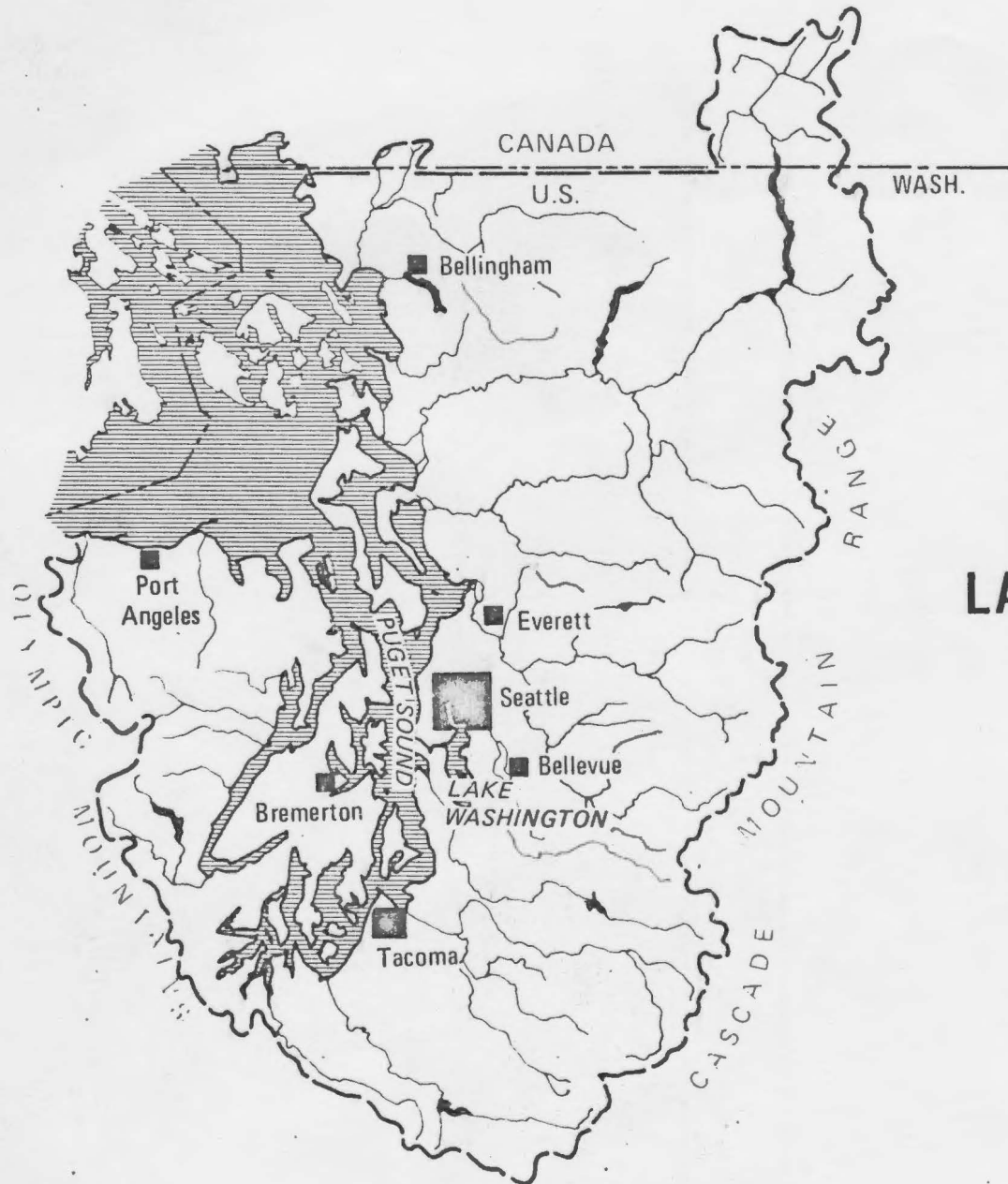
SAN FRANCISCO BAY & CENTRAL VALLEY



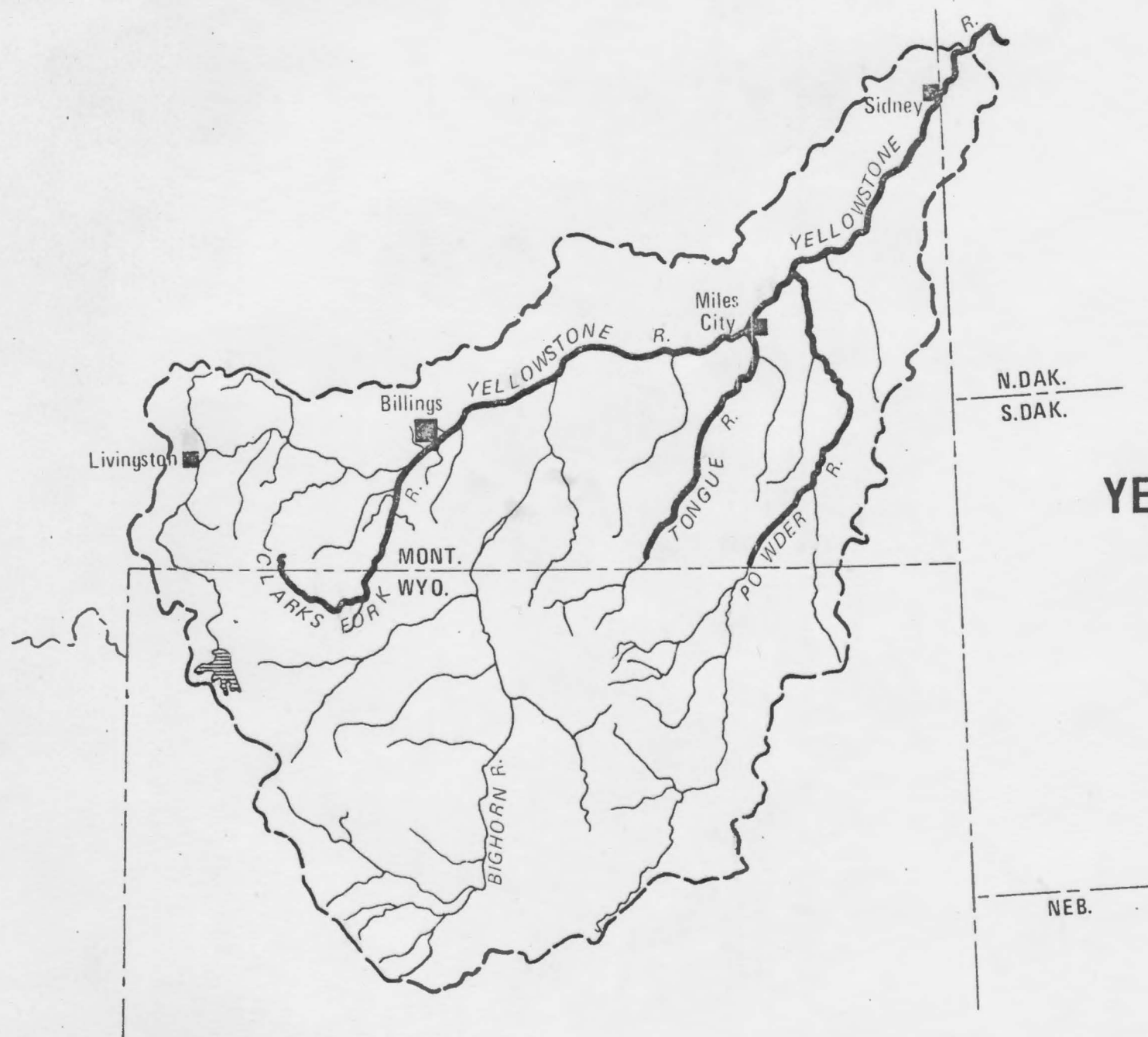


COLORADO RIVER BASIN

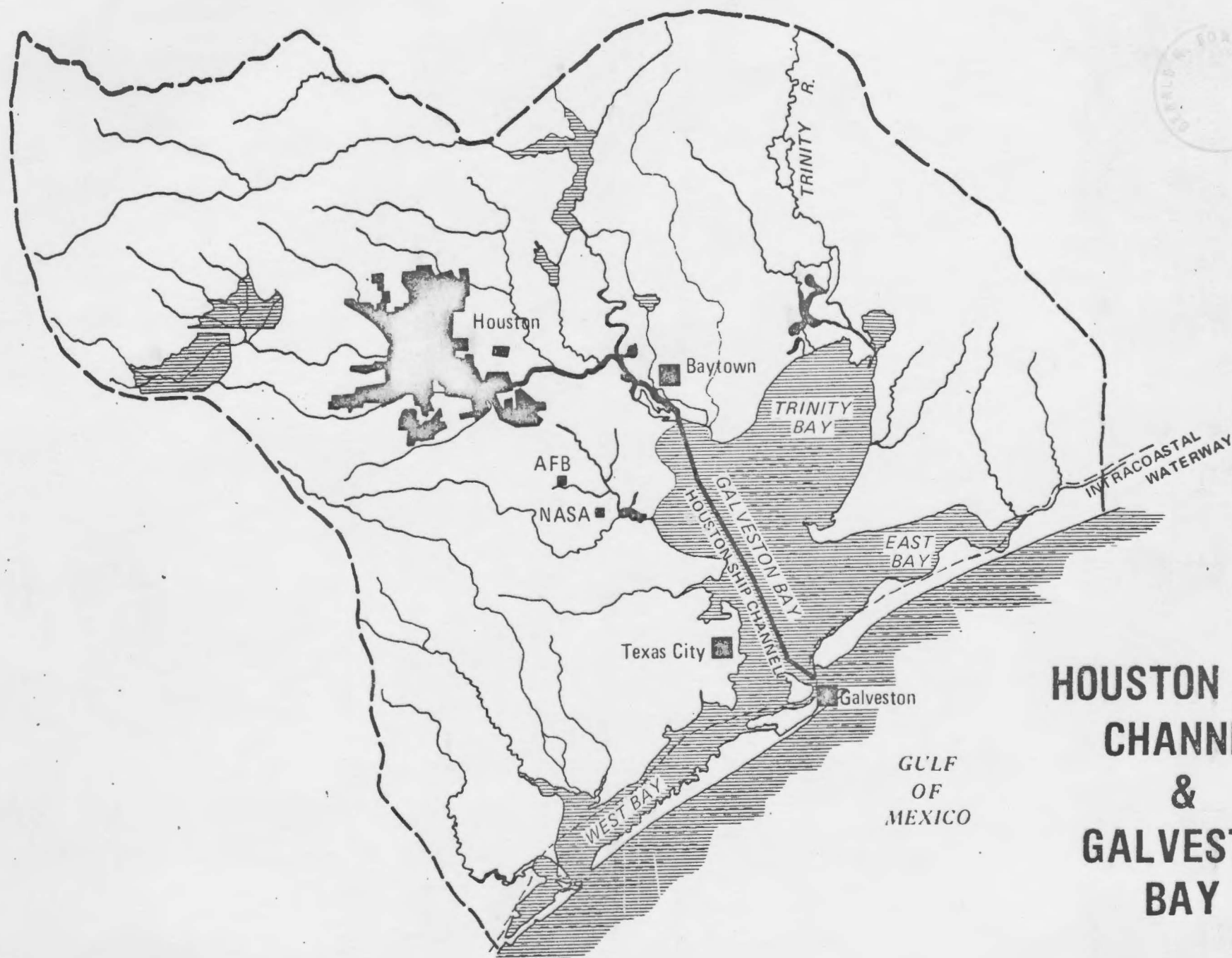
Natl. Comm. on Water Quality
March 6, 1975



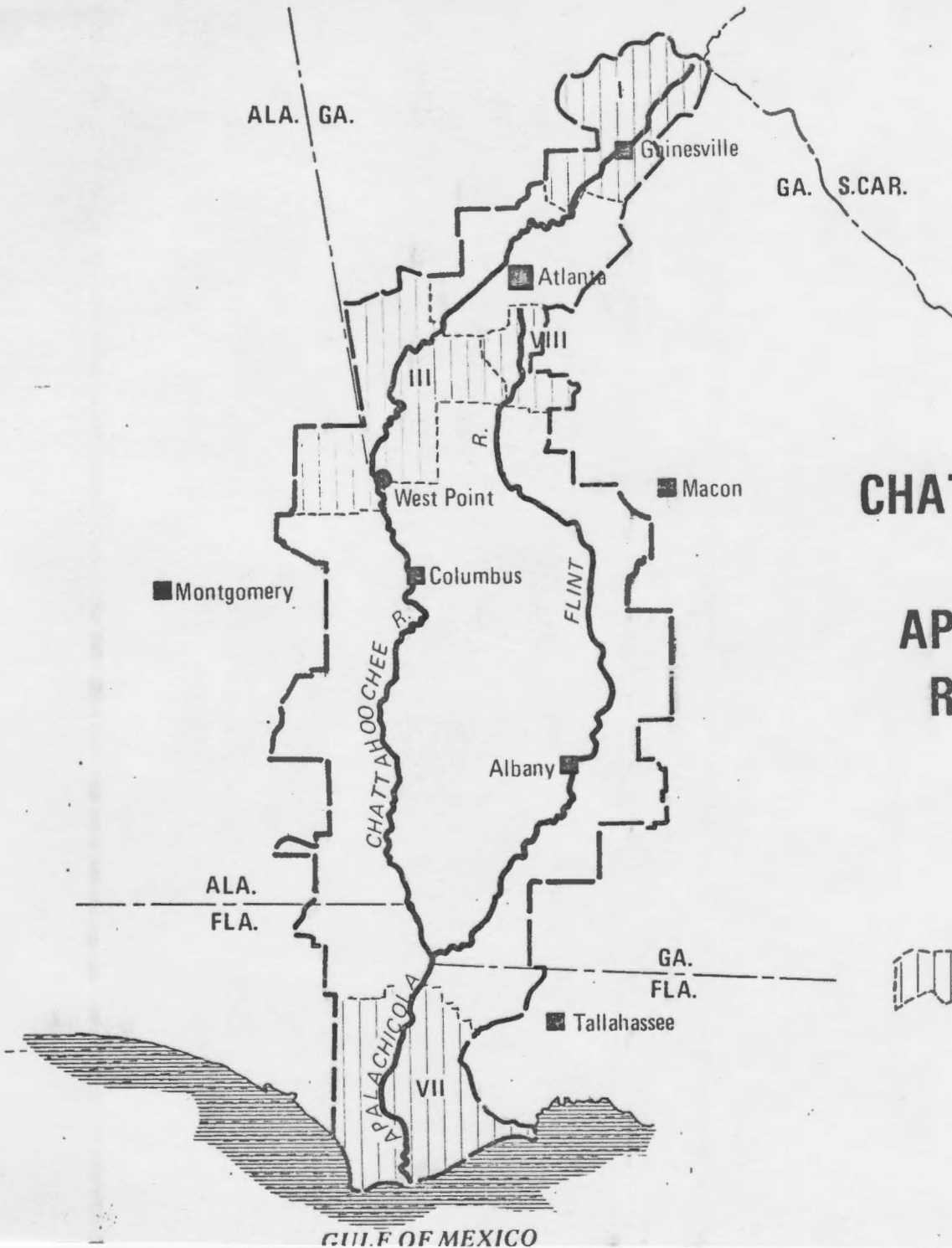
PUGET SOUND LAKE WASHINGTON REGION



YELLOWSTONE RIVER BASIN



HOUSTON SHIP CHANNEL & GALVESTON BAY

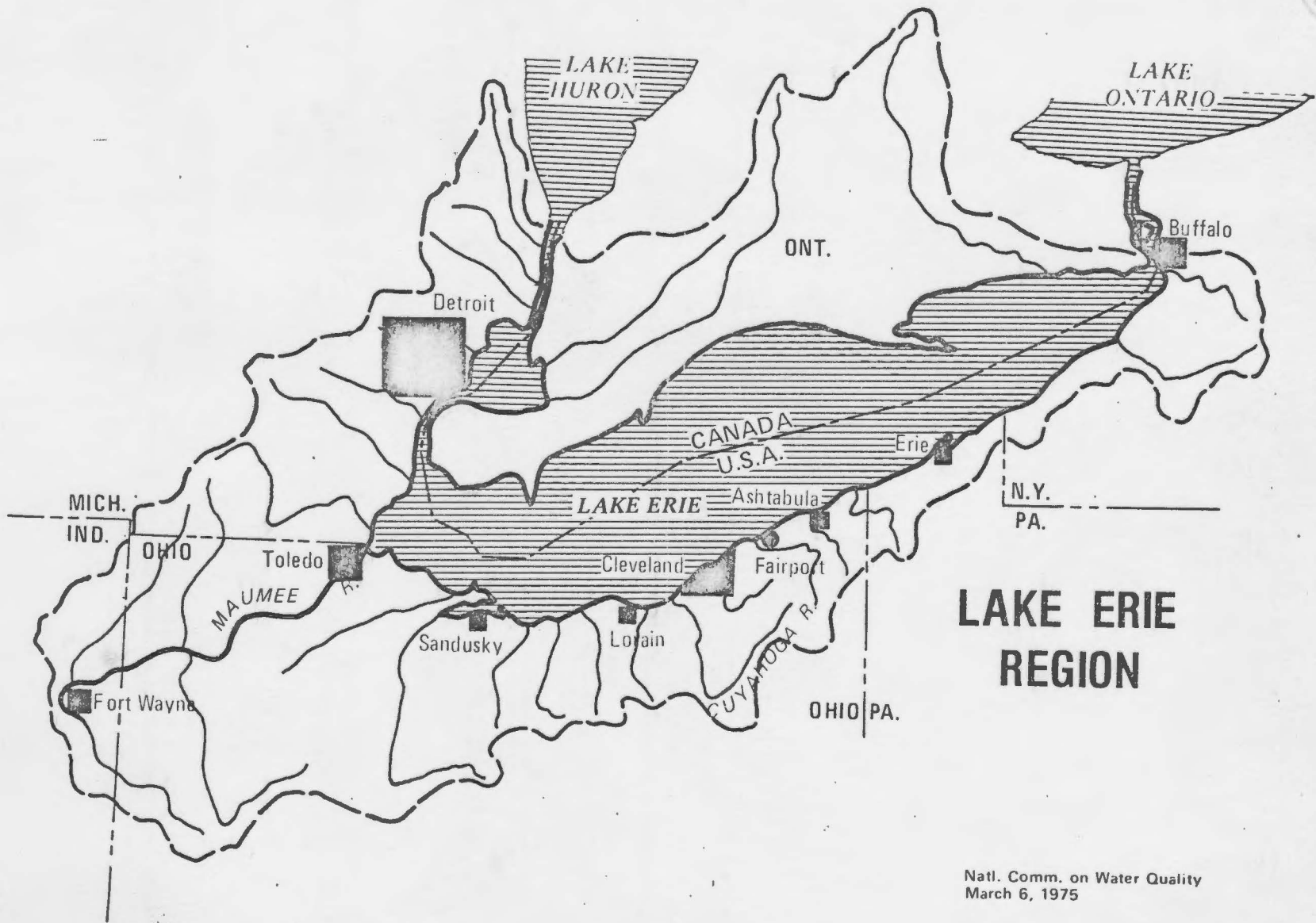


CHATTAHOOCHEE - FLINT - APALACHICOLA RIVER BASIN



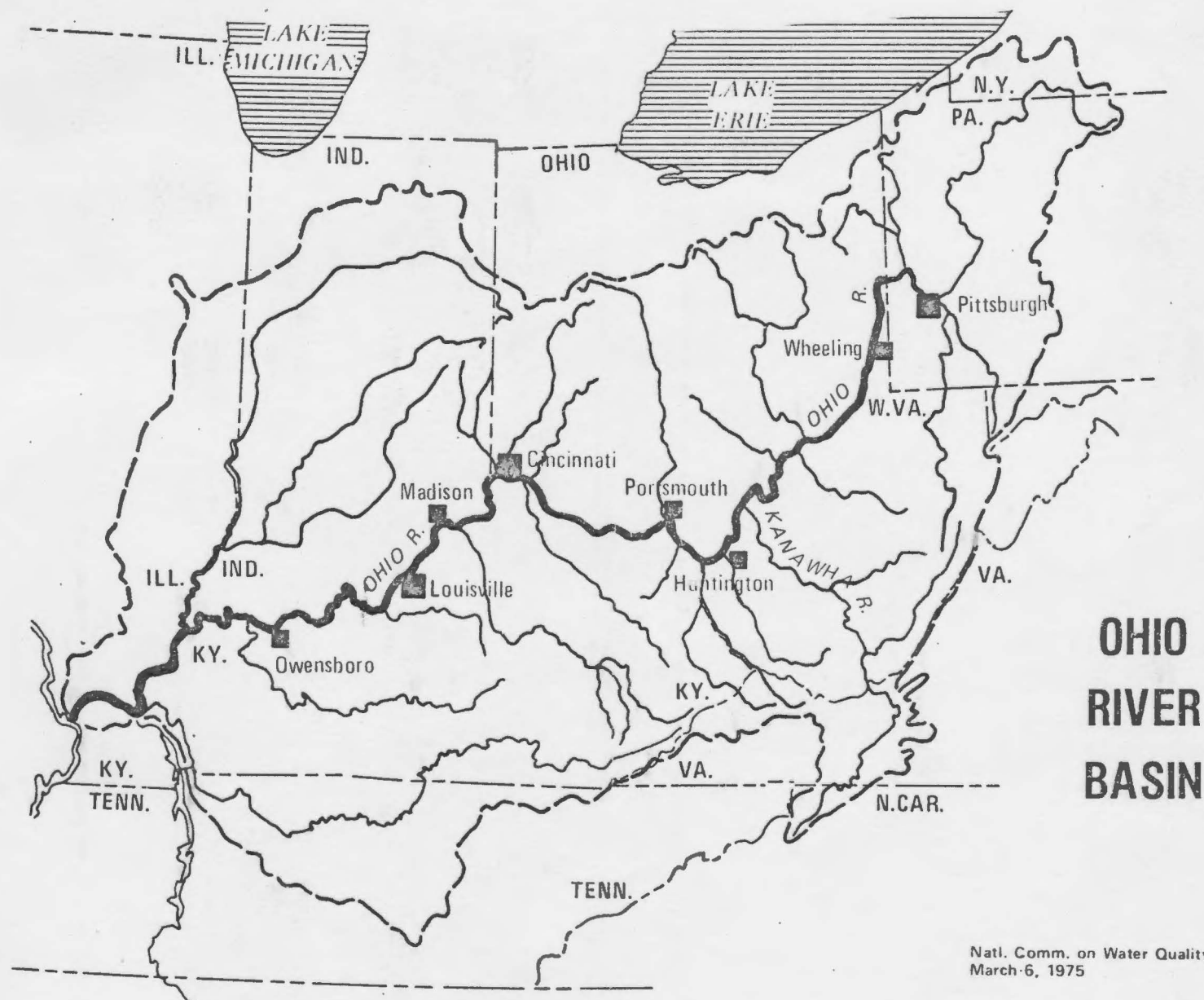
Sub Areas I, III, VII, VIII

Natl. Comm. on Water Quality
March 6, 1975





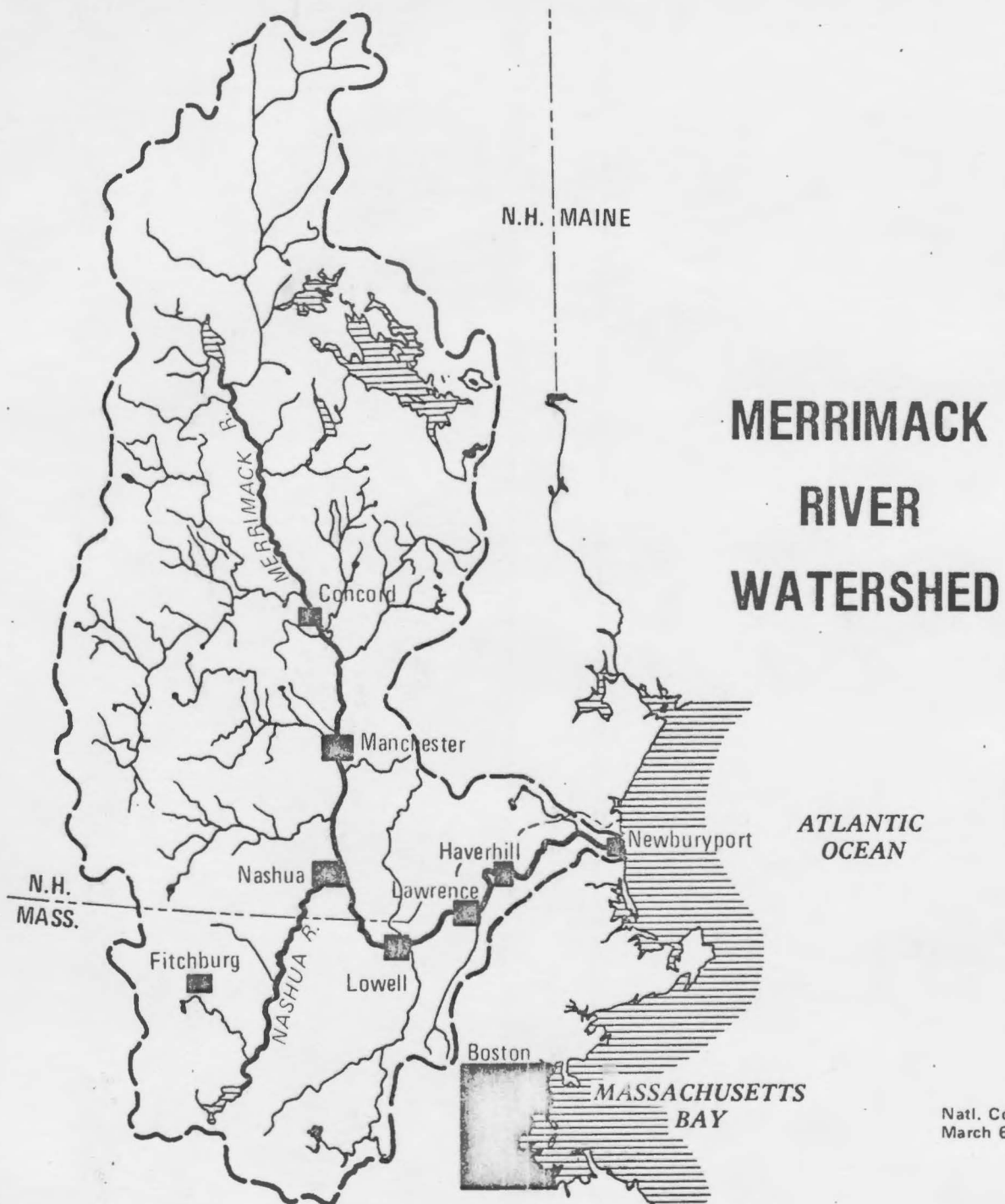
KANAWHA RIVER BASIN





DELAWARE RIVER BASIN

ATLANTIC
OCEAN



ATLANTIC
OCEAN

MASSACHUSETTS
BAY

Natl. Comm. on Water Quality
March 6, 1975



SUMMARY

REGIONAL ISSUES

Natl. Comm. on Water Quality
March 6, 1975



VARIETY OF ISSUES

COVERED BY 11 REGIONAL STUDIES

PART 1

MUNICIPAL TREATMENT

Large SMSA

Smaller Town

Municipal/Industrial

AGRICULTURE

Agriculture return flow

Water Quality vs.
Water Quantity

	PUGET S. & L. WASH.	S.F. BAY - CENTRAL V.	YELLOWSTONE	COLORADO	HOUSTON S.C.	CHATT-FLLINT	LAKE ERIE	OHIO	KANAWHA	DELAWARE B.	MERRIMACK-NASHUA
Large SMSA	■	■			■	■	■	■		■	
Smaller Town	■		■	■		■		■	■		■
Municipal/Industrial					■			■			■
Agriculture											
Agriculture return flow		■	■	■			■				
Water Quality vs. Water Quantity		■		■							

VARIETY OF ISSUES COVERED BY 11 REGIONAL STUDIES

PART 2

HEAVY INDUSTRY

Chemicals

Pulp & Paper

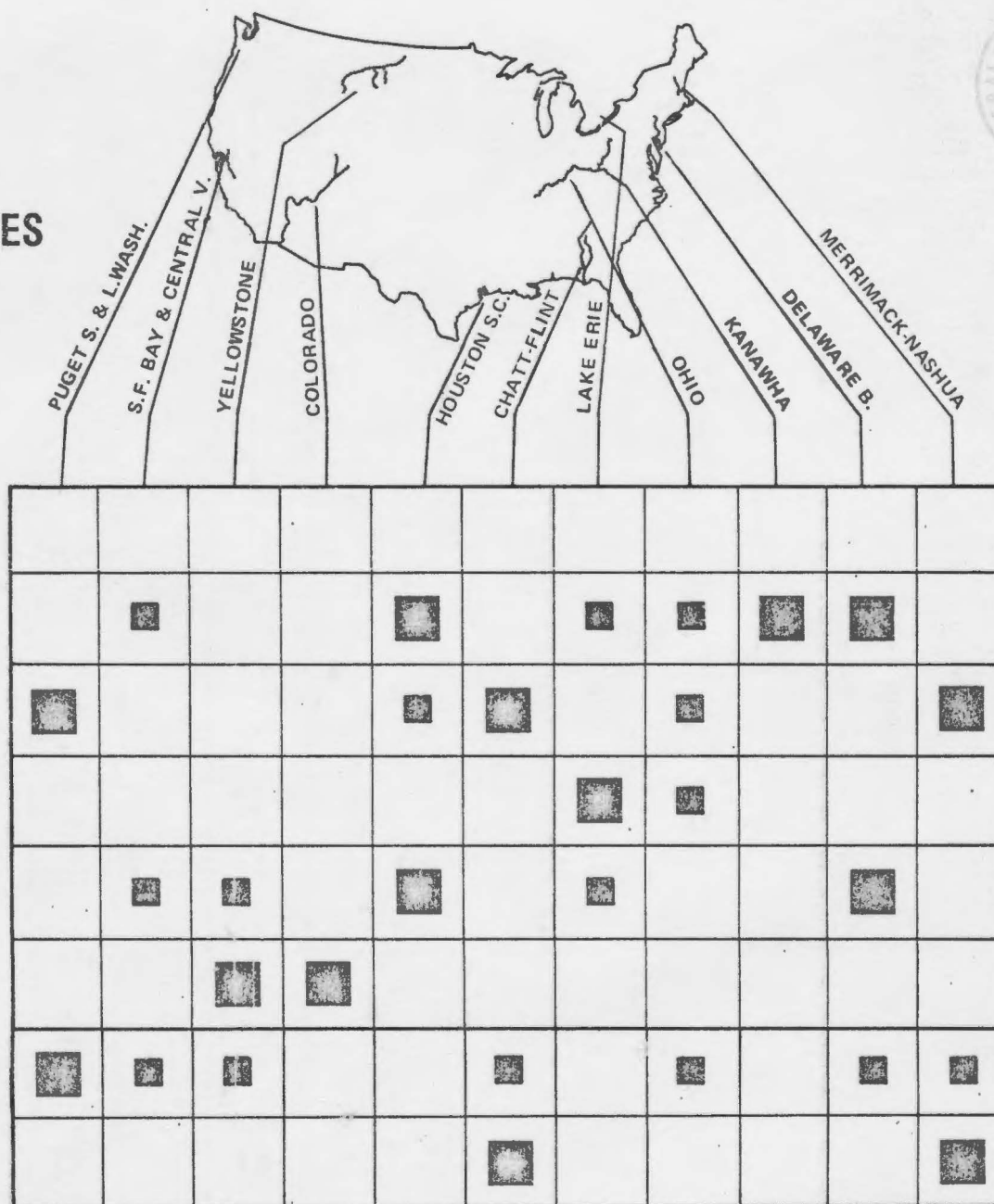
Iron & Steel

Petroleum Refining

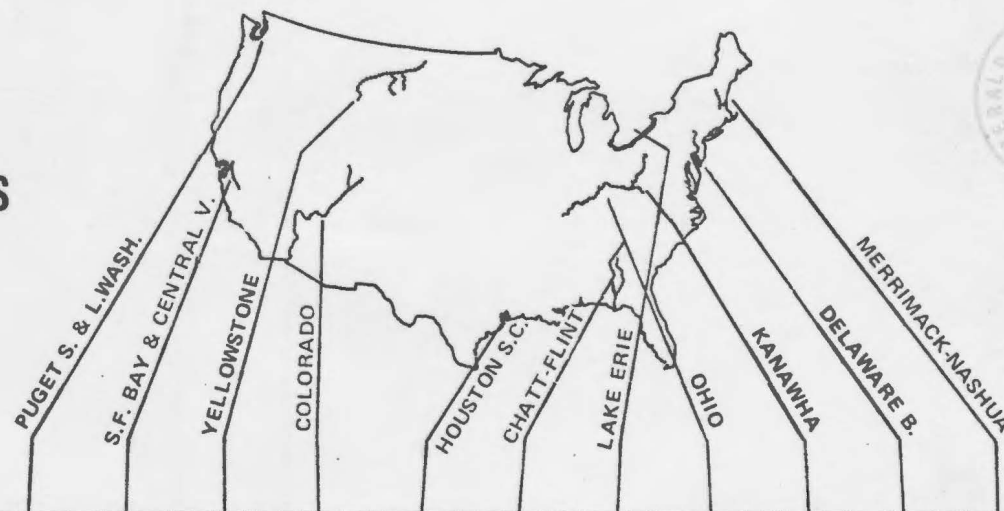
Energy Production

Food Processing

Textiles



VARIETY OF ISSUES COVERED BY 11 REGIONAL STUDIES PART 3



SPECIAL ISSUES/CONSTRAINTS

International Treaties

Interstate Relationships

Salinity Requirements

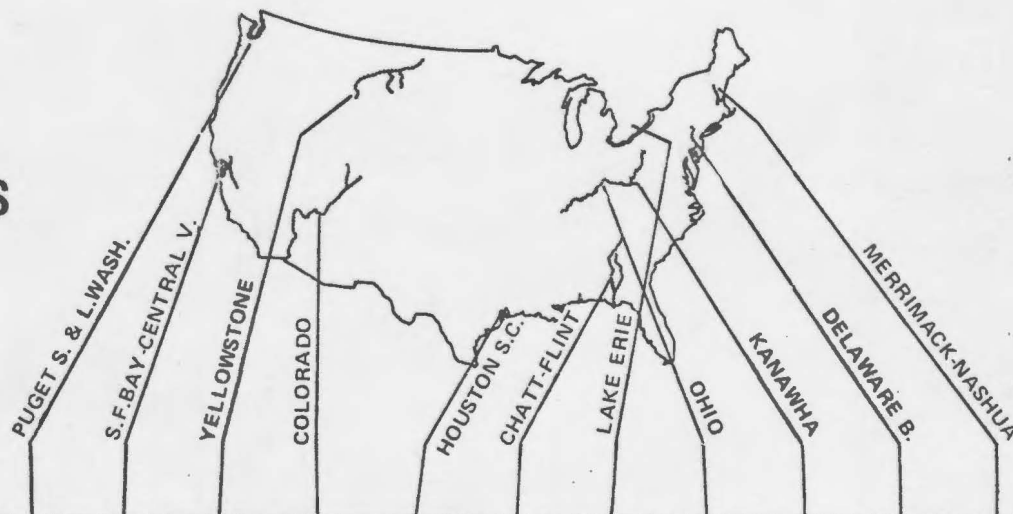
○ = Estuaries

Eutrophication

AREA WIDE PLANNING

			■			■				
		■	■			■	■		■	
	○		■	○					○	
■	■					■				
■	■	■	■	■	■	■	■	■	■	■

VARIETY OF ISSUES COVERED BY 11 REGIONAL STUDIES PART 4



WATER QUALITY

BOD/DO, TSS, TEMP. etc.

Toxics

Nutrients

Salinity

ENVIRONMENT

Trophic Structure

Fin-fish

Shellfish

	PUGET S. & L. WASH.	S.F. BAY-CENTRAL V.	YELLOWSTONE	COLORADO	HOUSTON S.C.	CHATT-FLENT	LAKE ERIE	OHIO	KANAWHA	DELAWARE B.	MERRIMACK-NASHUA
BOD/DO, TSS, TEMP. etc.	■	■	■		■	■	■	■	■	■	■
Toxics	■				■		■	■	■	■	■
Nutrients	■	■			■		■	■		■	
Salinity		■		■							
Trophic Structure	■						■			■	
Fin-fish	■	■	■	■	■	■	■	■	■	■	■
Shellfish	■	■			■	■				■	■

VARIETY OF ISSUES

COVERED BY 11 REGIONAL STUDIES

PART 5



FISHERIES

Sport

Commercial

BENEFITS

Recreation

Fishing

Other (Water supply)

	PUGET S. & L. WASH.	S.F. BAY-CENTRAL V.	YELLOWSTONE	COLORADO	HOUSTON S.C.	CHATT. FLINT	LAKE ERIE	OHIO	KANAWHA	DELAWARE B.	MERRIMACK-NASHUA
Sport	■	■	■	■	■	■	■	■	■	■	■
Commercial	■	■			■		■			■	■
Recreation	■	■	■			■	■	■	■	■	■
Fishing		■	■			■	■	■	■	■	■
Other (Water supply)				■	■	■					■



TECHNOLOGY

STUDY STRUCTURE — TECHNOLOGY

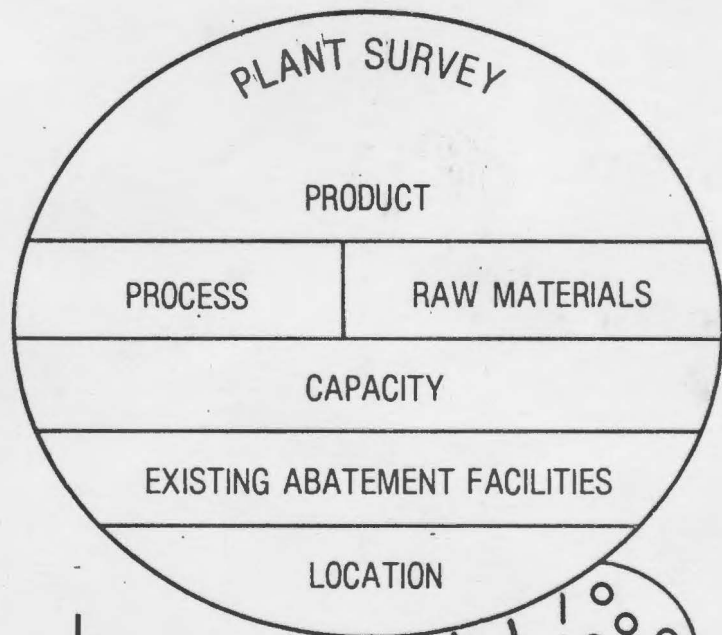
SUB AREAS	CATEGORIES	CONTRACTS
INDUSTRY	IN DEPTH	⊗ Textiles
		⊗ Iron and steel
		⊗ Organic chemicals
		⊗ Petroleum refining
		⊗ Pulp and paper
		⊗ Electroplating
		⊗ Canned fruits and vegetables
		⊗ Inorganic chemicals
		⊗ Plastics and synthetics
		⊗ Steam electric power
MUNICIPAL SYSTEMS	GENERAL	⊗ General industry
	INNOVATIVE TECHNOLOGY	○ Elimination of discharge
	TREATMENT	⊗ Waste water treatment
	NEEDS	⊗ State
		⊗ Local
AGRICULTURE	URBAN RUN-OFF	⊗ Urban run-off
	POINT & NON-POINT	⊗ Feedlots
		⊗ Irrigated return flows
		○ Nonirrigated return flows
NON-POINT SOURCES	TREATMENT AND/OR POLICIES	○ Silviculture, Hydraulic (dams), Salt water intrusion, Mining, Construction, Subsurface disposal

⊗	UNDERWAY
⊗	IN NEGOTIATION
○	NOT NEGOTIATED

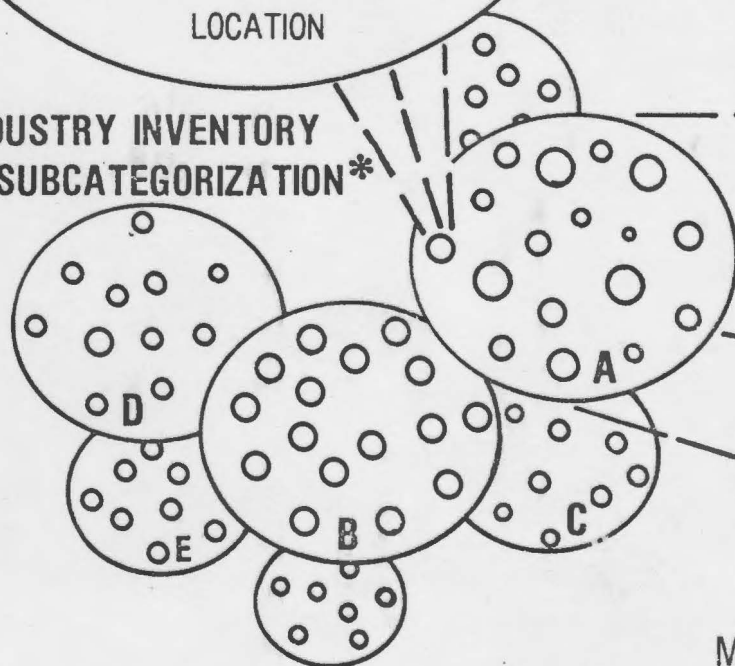
274 27
21



BASIC SCHEME INDUSTRIAL TECHNOLOGY STUDIES



I INDUSTRY INVENTORY & SUBCATEGORIZATION*



* By Process, Product, Location

II TECHNOLOGY	III RESIDUALS	IV	V
BPT	X	RESOURCES - COSTS	
BAT	X	RESOURCES - COSTS	
EOD	X	RESOURCES - COSTS	
Toxics		RESOURCES - COSTS	
Municipal Pretreatment		RESOURCES - COSTS	

II TECHNOLOGICAL OPTIONS & ABATEMENT LEVELS

INDUSTRIAL TECHNOLOGY STUDIES

		TECHNOLOGICAL OPTIONS			
ABATEMENT LEVELS		IN-PLANT	END OF PIPE	EFFLUENT LIMITATIONS	
	I 1977 BPT			BOD, SS, pH	A
	II 1977 BPT (EPA)			BOD, SS, pH	B
	III 1983 BAT (EPA)			BOD, SS, pH, NH ₃ , COLOR	C
	IV 1983 BAT			BOD, SS, pH, NH ₃ , COLOR	D
	V EOD			ALL POLLUTANTS	E
	TOXICS			CADMIUM, MERCURY, PESTICIDES, CYANIDE	
	MUNICIPAL PRETREATMENT				
					SUBCATEGORY
					NEW PLANTS

(PRELIMINARY)

PETROLEUM REFINING INDUSTRY

COSTS FOR EFFLUENT REQUIREMENTS

ABATEMENT LEVEL	CAPITAL COSTS	ANNUAL O & M* COSTS
II 1977 BPT (EPA)	\$845 million	\$147 million
IV 1983 BAT (EPA)	1753 million	414 million

* OPERATION & MAINTENANCE COSTS.

DATA OUTPUTS

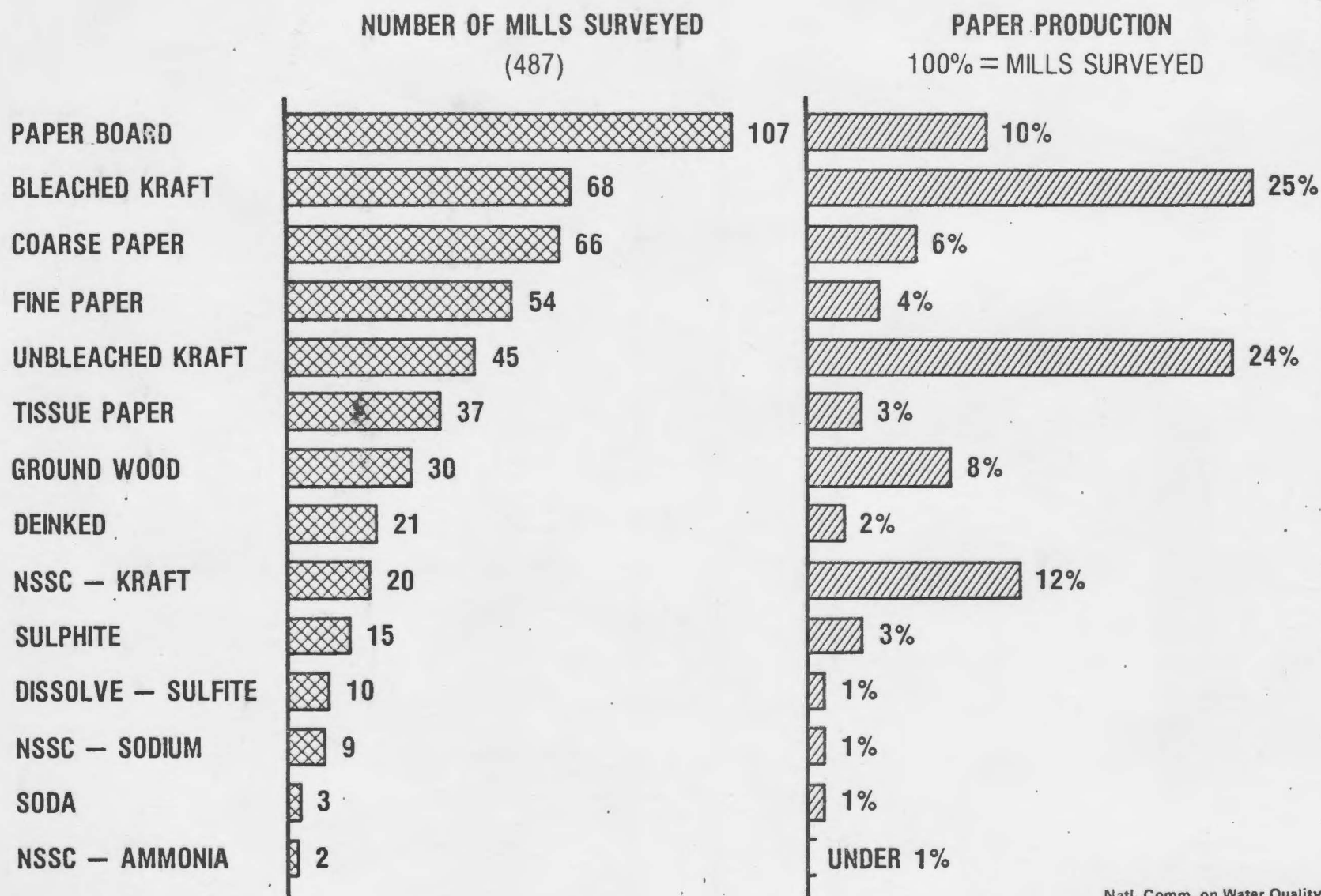
INDUSTRIAL TECHNOLOGY STUDIES

		III RESIDUALS				IV RESOURCES					V COSTS				
		EFFLUENT	AIR	LAND	WATER	ENERGY	MANPOWER	LAND	CHEMICALS	OTHER	CAPITAL IN-PLANT END OF PIPE	O and M LABOR ENERGY CHEMICALS OTHER			
SUBCATEGORIES	A														
	B														
	C														
	D														
	E														
	NEW PLANTS														
															I
															ABATEMENT LEVEL II
															III
															IV
															V
															VI
															TOXICS
															MUNICIPAL PRETREATMENT



PULP & PAPER TECHNOLOGY STUDIES

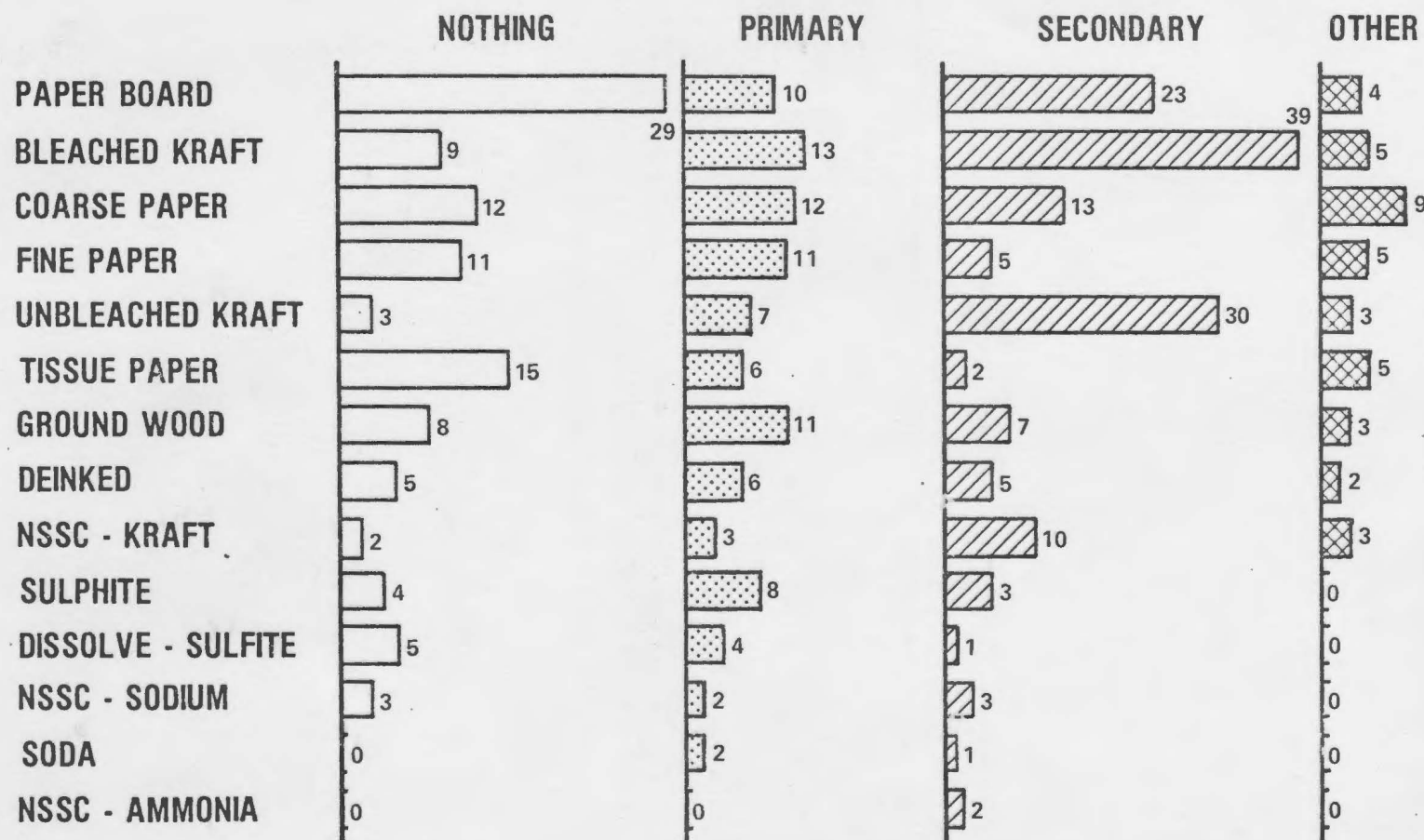
SUBCATEGORIES OF THE PULP & PAPER INDUSTRY



*PRELIMINARY***PULP & PAPER****EXTERNAL TREATMENT TECHNOLOGIES**

LEVEL		DESCRIPTION
I	BPT	Conventional secondary biological
II		Level I plus mixed-media filtration
III		(Internal only)
IV	BAT	Color removal (lime)
V		Advanced treatment (reverse osmosis)

PRELIMINARY
PULP & PAPER INDUSTRY
WASTE TREATMENT IN PLACE JAN. 1973



487 PLANTS



NOTHING - 106 PRIMARY - 95 SECONDARY - 144 OTHER - 39

PLANT TREATMENT

103 INTO MUNICIPAL
SEWERS

*Equivalent or less than secondary

Natl. Comm. on Water Quality
March 6, 1975

M216

PRELIMINARY
PULP & PAPER INDUSTRY
COSTS[†] FOR MEETING EFFLUENT LIMITATIONS

ABATEMENT LEVEL		CAPITAL COSTS	O & M COSTS
Jan. 1973 to Level I (1977)		\$1,949 million	\$101 million/yr.
Jan. 1973 to Level II (1977-EPA)		2,117 million	108 million/yr.
Level II to Level III (1983)	Option 1*	400 million	56 million/yr. DECREASE
	Option 2**	504 million	146 million/yr. DECREASE
Level II to Level IV (1983-EPA)	Option 1	1,300 million	36 million/yr.
	Option 2	1,400 million	54 million/yr. DECREASE

[†] In June 1973 dollars for existing 1973 capacity only; does not include interest, amortization, and depreciation.

* OPT. 1 = EXTERNAL TREATMENT

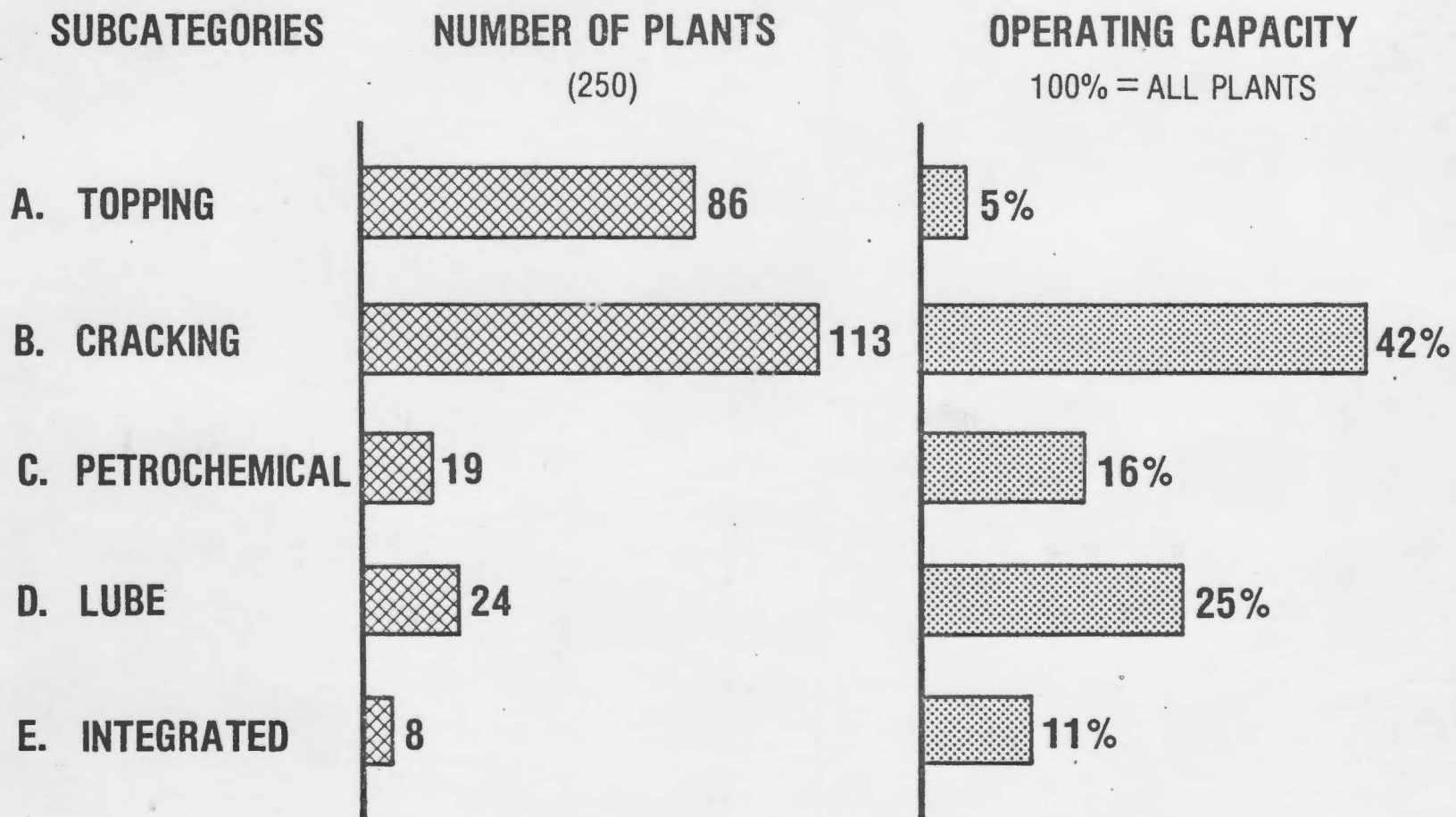
** OPT. 2 = INPLANT CHANGES PLUS EXTERNAL TREATMENT

Natl. Comm. on Water Quality
 January 30, 1975
 Revised March 6, 1975



PETROLEUM REFINING TECHNOLOGY STUDIES

SUBCATEGORIES OF THE PETROLEUM REFINING INDUSTRY



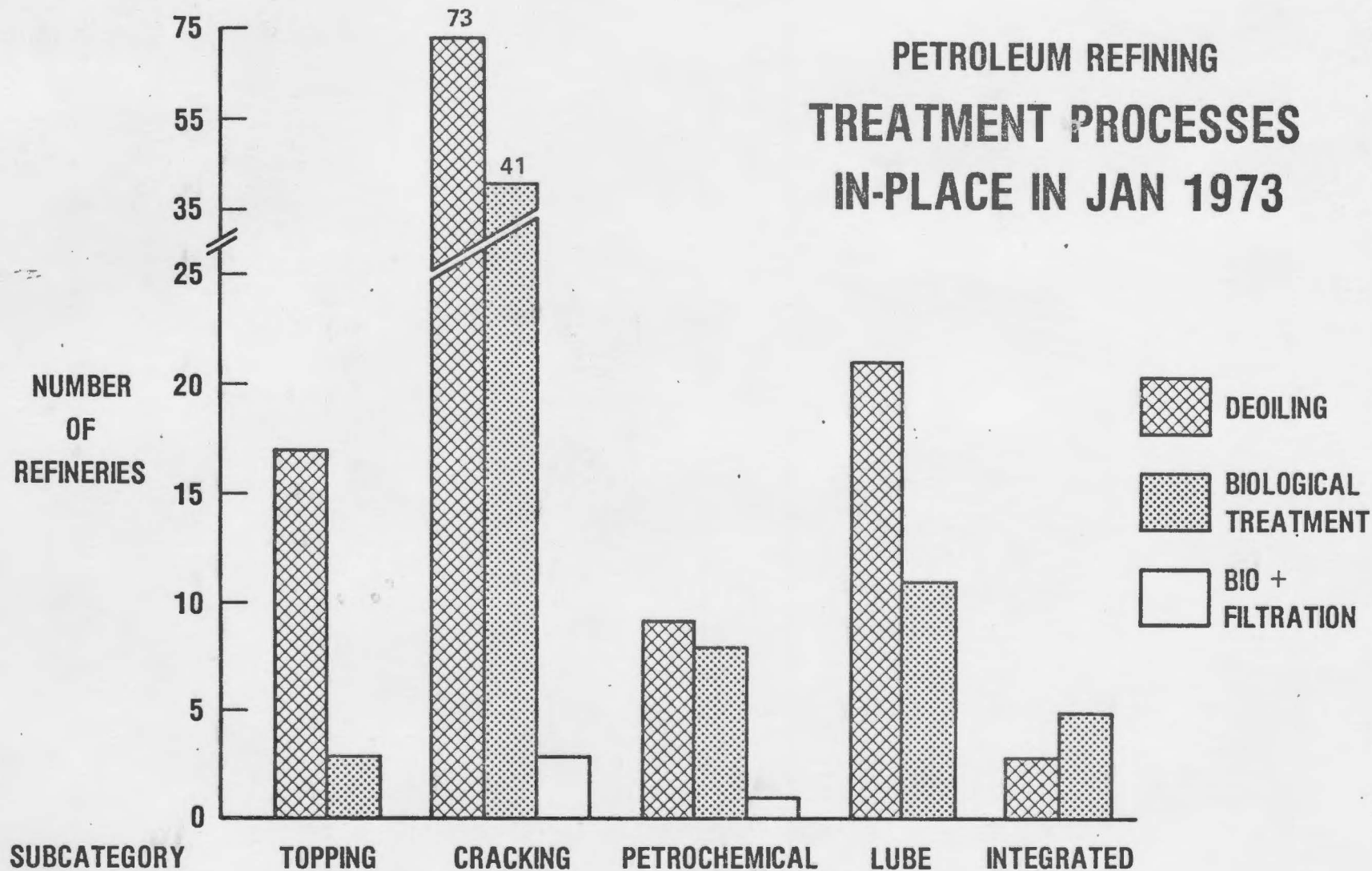
PRELIMINARY

PETROLEUM REFINING

EXTERNAL TREATMENT TECHNOLOGIES

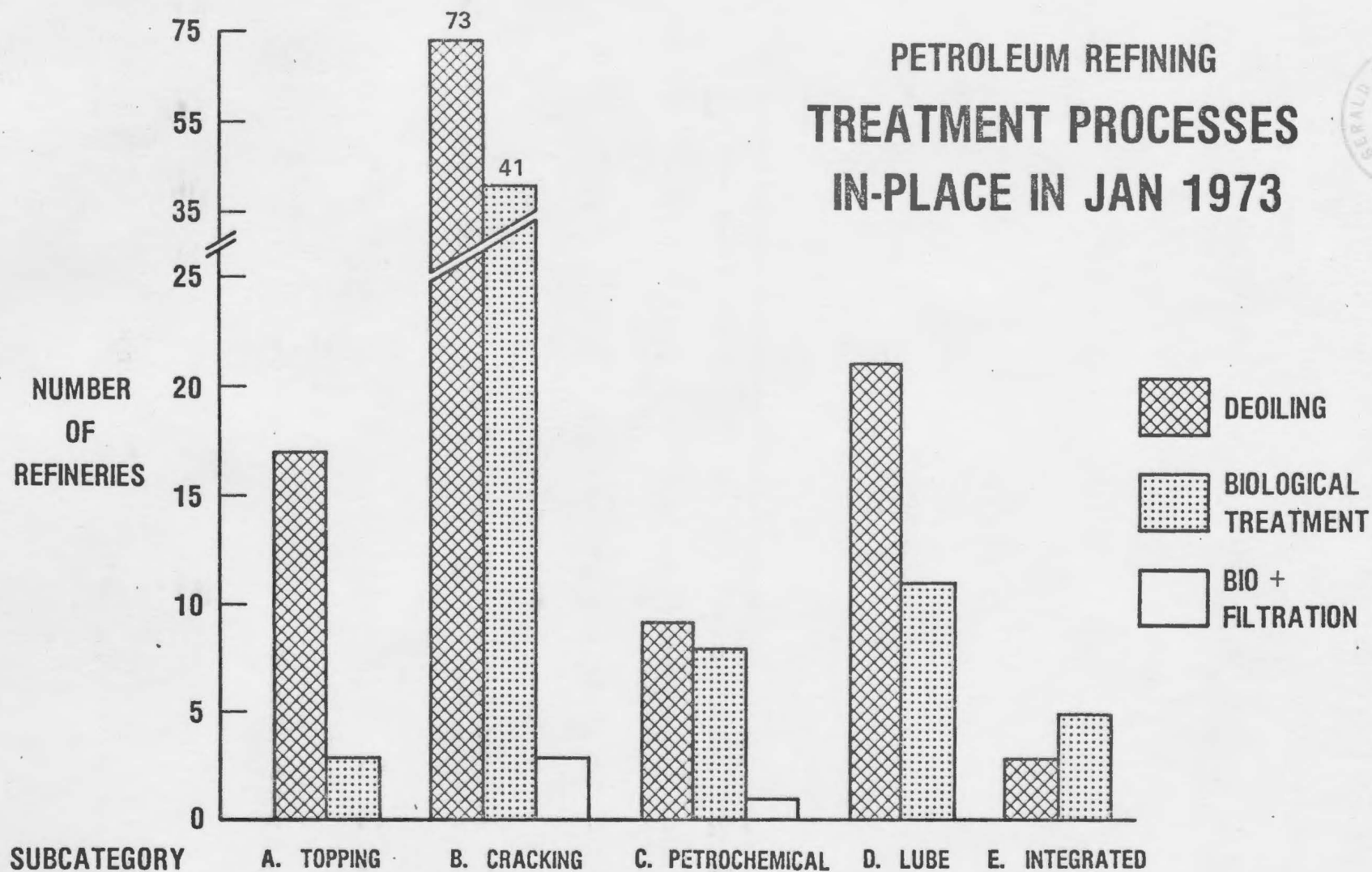
LEVEL	DESCRIPTION
I	Conventional secondary biological
II BPT	Level I plus mixed-media filtration
III	Level II plus organics polishing
IV BAT	Level II plus carbon adsorption
V EOD	Level IV plus desalting & recycling

PETROLEUM REFINING TREATMENT PROCESSES IN-PLACE IN JAN 1973



TOTAL REFINERIES
IN EACH SUBCATEGORY 86 113 19 24 8 = 250 PLANTS*

PETROLEUM REFINING TREATMENT PROCESSES IN-PLACE IN JAN 1973



TOTAL REFINERIES
IN EACH SUBCATEGORY

86

113

19

24

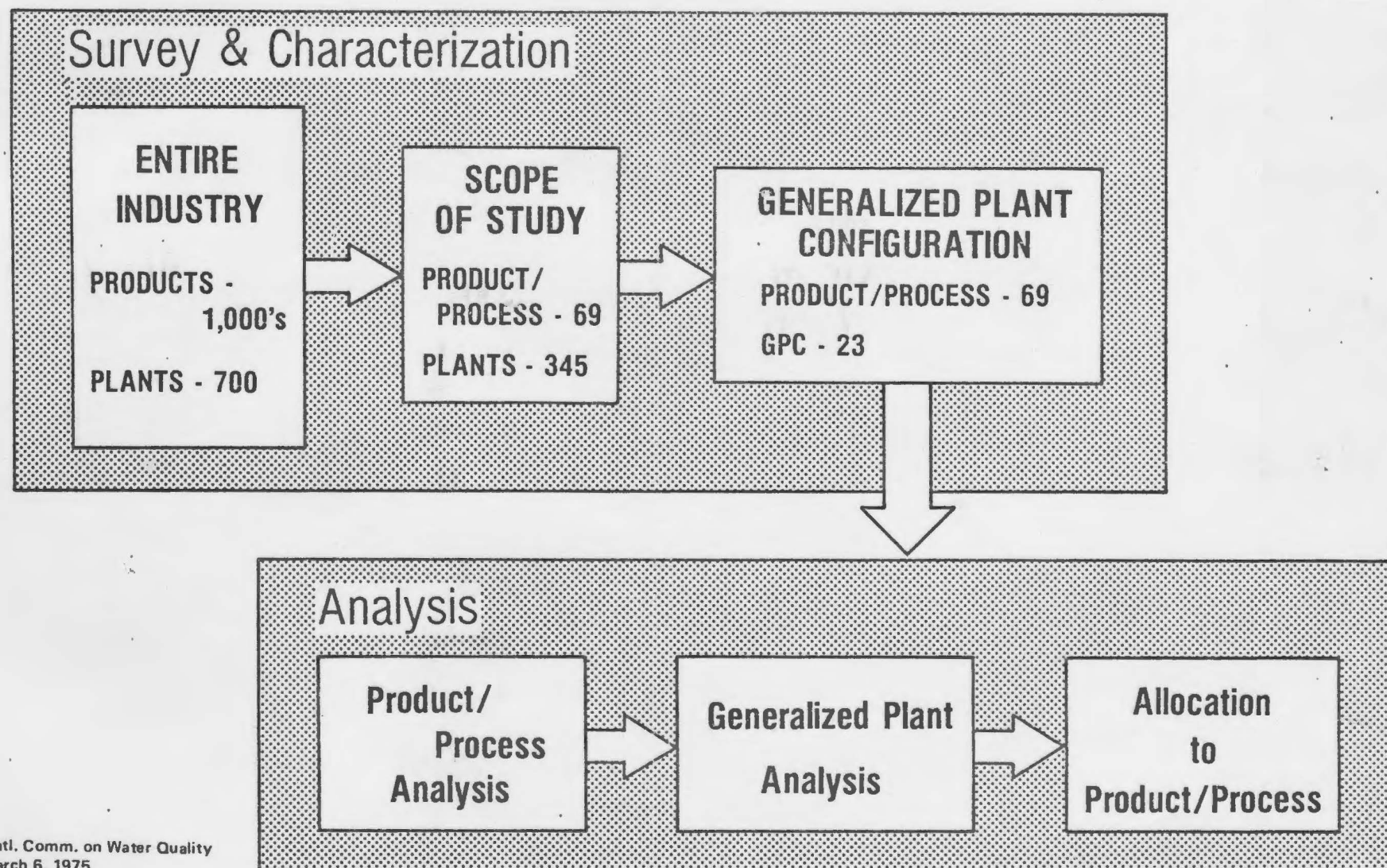
8

= 250 PLANTS *

* 36 DISCHARGE INTO MUNICIPAL SYSTEM

ORGANIC CHEMICALS TECHNOLOGY STUDIES

ORGANIC CHEMICALS DESCRIPTION AND STUDY METHODOLOGY



PRELIMINARY
ORGANIC CHEMICALS
GENERALIZED PLANT # 5

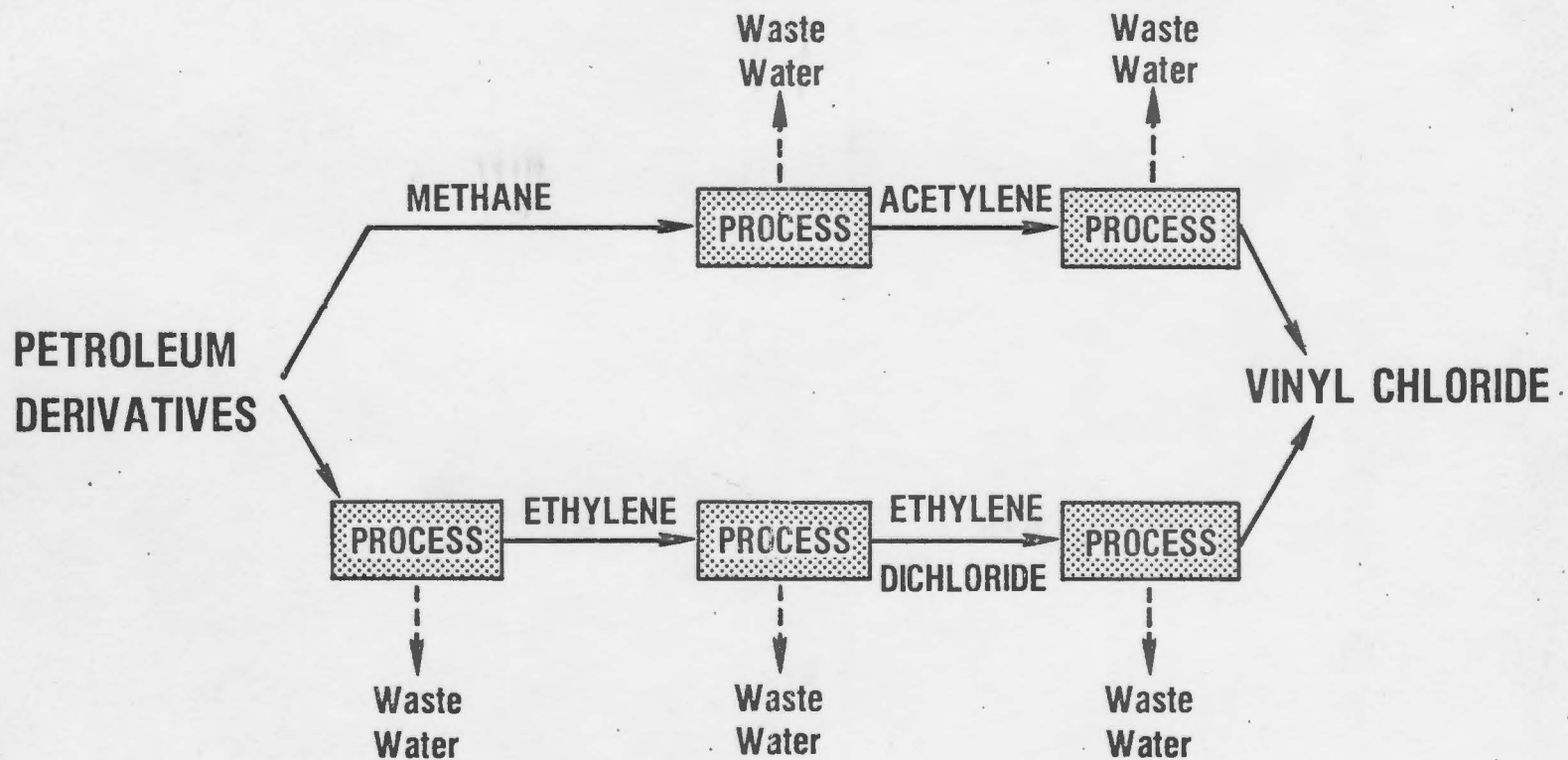
PHASE I	PRODUCT - PROCESSES	ANNUAL PRODUCTION
Acetone	- Dehydrogenation of isopropanol	100 Millions Lbs.
Ethylene & Propylene	- Pyrolysis of naptha or liquid petroleum gas	550
Ethylene Dichloride	- Direct chlorination of ethylene	1200
Vinyl Chloride	- Cracking of ethylene dichloride	700

PHASE II		
Methyl Ethyl Ketone	- Dehydrogenation of sec-butyl alcohol	50
Sec.Butyl Alcohol	- Sulfonation and hydrolysis of mixed butylenes	65
Isobutylene	- Extraction from a mixture of C4 hydrocarbons	0.6

ORGANIC CHEMICALS

CHEMICAL PROCESS SEQUENCE

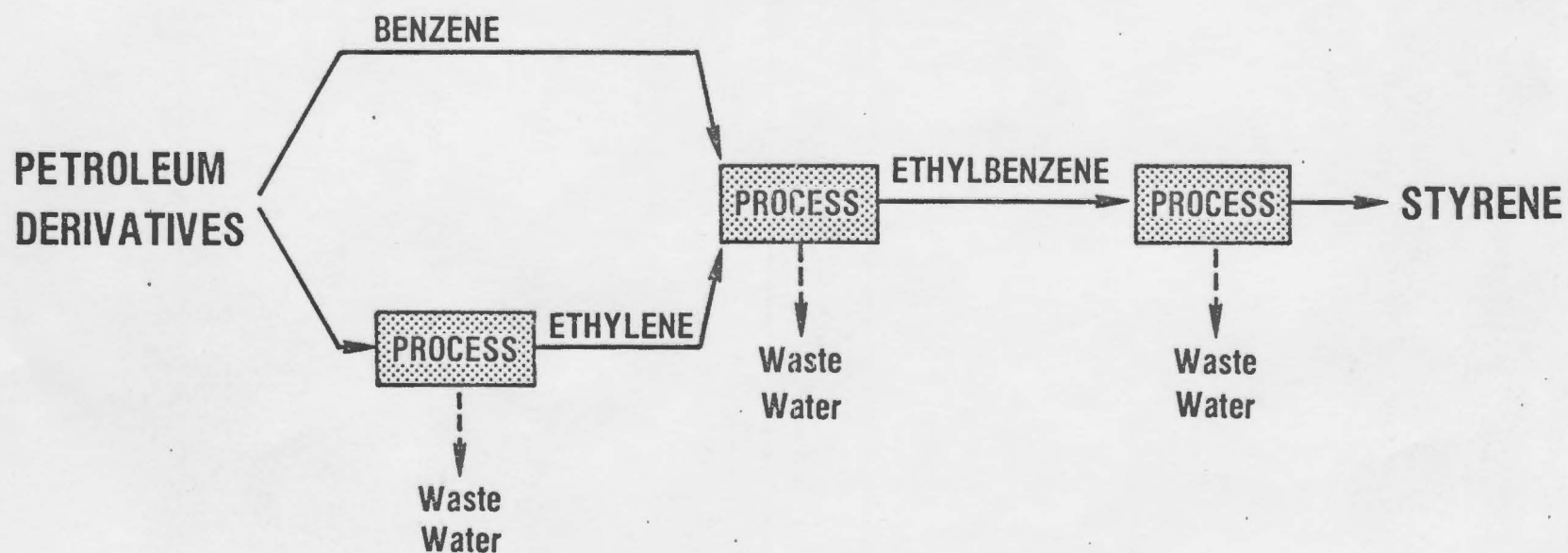
VINYL CHLORIDE MANUFACTURE



ORGANIC CHEMICALS

CHEMICAL PROCESS SEQUENCE

STYRENE MANUFACTURE



PRELIMINARY
ORGANIC CHEMICALS
UNIT ABATEMENT COSTS *

(IN DOLLARS / ANNUAL 1000 LB PRODUCTION)

PRODUCT	CAPITAL COSTS		O & M COSTS	
	BPT (EL) **	BAT (EL)	At BPT (EL)	At BAT (EL)
Ethylene and Propylene (6 GPC's) [†]	\$1.70 to \$3.00	\$0.60 to \$4.00	\$0.20 to \$0.61	\$0.06 to \$0.61
Ethyl-Benzene (5 GPC's)	0 to \$1.00	\$0.07 to \$2.00	0 to \$0.27	\$0.01 to \$1.70
Styrene (4 GPC's)	\$5.80 to \$13.30	\$1.70 to \$3.50	\$0.67 to \$1.85	\$0.15 to \$3.10

* Starting from no abatement. In June 1973 dollars for existing 1973 capacity only; does not include interest, amortization, and depreciation.

** EL = Effluent Limitations.

† GPC = General Plant Configuration.

Natl. Comm. on Water Quality
March 6, 1975

M226

PRELIMINARY
ORGANIC CHEMICALS
TOTAL ABATEMENT COSTS *

(IN MILLIONS OF DOLLARS FOR TOTAL INDUSTRY)

PRODUCT	ANNUAL PRODUCTION		CAPITAL COSTS		O & M COSTS	
	NUMBER PLANTS	GPC [†] Million Pounds	BPT (EL) **	BAT (EL)	BPT (EL)	BAT (EL)
Ethylene and Propylene	63	6 35,000	\$49.2	\$31.5	\$12.4	\$18.9
Ethyl-Benzene	14	5 6,900	1.5	4.6	0.68	5.8
Styrene	13	4 6,900	31.2	16.5	6.0	8.1

* Incremental from existing. In June 1973 dollars for existing 1973 capacity only; does not include interest, amortization, and depreciation.

** EL = Effluent Limitations.

† GPC = General Plant Configuration.

Natl. Comm. on Water Quality
March 6, 1975

N227

**POLLUTION LAW
HELPS DEFICIENT**

**Report Finds Many Delays
in Water Cleanup Drive**

By GLADWIN HILL
Special to The New York Times

[REDACTED]

Train Is Critical

[REDACTED]

*Not a Water
Quality
Bill -
Cancer.*

