

Report to the Colorado General Assembly:

WATER POLLUTION IN COLORADO



COLORADO LEGISLATIVE COUNCIL

RESEARCH PUBLICATION NO. 105

NOVEMBER 1965

WATER POLLUTION
IN COLORADO

Legislative Council
Report To The
Colorado General Assembly

Research Publication No. 105
November, 1965

COLORADO GENERAL ASSEMBLY



LEGISLATIVE COUNCIL

ROOM 341, STATE CAPITOL
DENVER, COLORADO 80203
222-9911 - EXTENSION 2285

November 23, 1965

OFFICERS
Sen. Floyd Oliver
Chairman
Rep. C.P. (Doc) Lamb
Vice Chairman

STAFF
Lyle C. Kyle
Director
Phillip E. Jones
Senior Analyst
David F. Morrissey
Senior Analyst
Janet Wilson
Research Associate
Roger M. Weber
Research Assistant

MEMBERS
Lt. Gov. Robert L. Knous
Sen. Fay DeBerard
Sen. William O. Lennox
Sen. Vincent Massari
Sen. Ruth S. Stockton

Speaker Allen Dines
Rep. Forrest G. Burns
Rep. Richard G. Gebhardt
Rep. Harrie E. Hart
Rep. Mark A. Hogan
Rep. John R. P. Wheeler

To Members of the Forty-fifth Colorado General Assembly:

Under the directives of House Joint Resolution No. 1024, 1965 regular session, the Legislative Council appointed a committee to conduct a study of the pollution problems of surface and underground waters in this state, with drafts of recommended legislation to be prepared for consideration in the 1967 session. The preliminary report of this committee, including a draft of suggested legislation, is being submitted herewith.

The Legislative Council concurs with the committee's recommendation that the Governor includes water pollution control as a subject for legislative consideration in the 1966 regular session. To delay this consideration until the 1967 session merely increases the chance that the federal government and not the state will establish water quality criteria for the major water courses in Colorado.

The accompanying report and recommendations relating to water pollution were approved by the Legislative Council at its meeting on November 22, 1965, for transmittal to the members of the Forty-fifth General Assembly and to the Governor.

Respectfully submitted,

Senator Floyd Oliver
Chairman

FO/mp

COLORADO GENERAL ASSEMBLY

OFFICERS
Sen. Floyd Oliver
Chairman
Rep. C.P. (Doc) Lamb
Vice Chairman

STAFF
Lyle C. Kyle
Director
Phillip E. Jones
Senior Analyst
David F. Morrissey
Senior Analyst
Janet Wilson
Research Associate
Roger M. Weber
Research Assistant



LEGISLATIVE COUNCIL

ROOM 341, STATE CAPITOL
DENVER, COLORADO 80203
222-9911 - EXTENSION 2285

MEMBERS
Lt. Gov. Robert L. Knous
Sen. Foy DeBerard
Sen. William O. Lennox
Sen. Vincent Massari
Sen. Ruth S. Stockton

Speaker Allen Dines
Rep. Forrest G. Burns
Rep. Richard G. Gebhardt
Rep. Harrie E. Hart
Rep. Mark A. Hogan
Rep. John R. P. Wheeler

November 15, 1965

Senator Floyd Oliver, Chairman
Colorado Legislative Council
Room 341, State Capitol
Denver, Colorado

Dear Mr. Chairman:

Your committee appointed to study the pollution problems of the state's surface and underground waters submits the accompanying preliminary report, containing recommendations and a suggested act, for your consideration.

The committee's study of water pollution problems clearly demonstrates the need for corrective legislation, and the committee has therefore adopted the accompanying suggested water pollution control act to meet this need. Moreover, the enactment of the Federal Water Quality Act of 1965, which permits Colorado either (1) to adopt a plan for water pollution control by July, 1967, or (2) to forfeit this responsibility to the Secretary of Health, Education, and Welfare, has caused the committee to recommend that the Legislative Council request the Governor to place this subject before the members of the General Assembly for consideration during the 1966 regular session. The committee's suggested act complies with the requirements contained in this recently enacted federal law.

Respectfully submitted,

Senator David J. Hahn,
Chairman

DJH/mp

FOREWORD

Among other assignments, House Joint Resolution No. 1024, 1965 regular session, directed the Legislative Council to conduct a two-year study of the pollution problems of the surface and underground waters in this state and to prepare drafts of recommended legislation for consideration in the 1967 session. The membership of the committee appointed to carry out this assignment includes:

Senator David J. Hahn, Chairman	Representative Don Friedman
Representative George H. Fentress, Vice Chairman	Representative Joseph Gollob
Senator Donald E. Kelley	Representative George Jackson
Representative D. H. Arnold	Representative Louis Rinaldo
Representative Lowell B. Compton	Representative Thomas Wailes

Senator Floyd Oliver, chairman of the Legislative Council, also served as an ex officio member of the committee.

Following its creation, the committee held six meetings during 1965. Several of these meetings were devoted to a review of water pollution problems with representatives of various state and local governmental units affected by water pollution and with representatives of various industries concerned with this matter. In addition, the chief of the Enforcement Branch, Division of Water Supply and Pollution Control, U. S. Public Health Service, reviewed state water pollution control laws with the committee as well as discussing the provisions and requirements of the Federal Water Quality Act of 1965, which was enacted on October 2, 1965.

Under the provisions of this act, each state government is given until October 2, 1966, to file a letter of intent with the Secretary of Health, Education, and Welfare that it will adopt quality criteria applicable to interstate waters or portions thereof within the state and that it will adopt a plan for implementation and enforcement of these criteria before June 30, 1967. The Secretary of HEW is authorized to prepare the criteria for those states failing to meet these two deadlines.

The members of the Committee on Water Pollution increased their efforts during 1965 in order that a draft of recommended legislation would be available for consideration in the 1966 session since it seems impossible to meet the federal requirements if Colorado were to wait until 1967 before taking the initial steps of enacting a water pollution control act.

Phillip E. Jones, senior research analyst for the Legislative Council, had the primary responsibility for the staff work on this study, with the aid of Roger M. Weber, research assistant. Miss Clair Sippel, Secretary of the Legislative Reference Office, provided the committee with bill drafting services.

November 23, 1965

Lyle C. Kyle
Director

TABLE OF CONTENTS

	<u>Page</u>
LETTERS OF TRANSMITTAL	iii
FOREWORD	vii
COMMITTEE FINDINGS AND RECOMMENDATIONS	xi
Findings	xi
Recommendations	xii
Draft of A Bill for an Act to Prevent, Abate, and Control the Pollution of the Waters of the State	xvii
 WATER POLLUTION IN COLORADO	 1
Present Water Pollution Control Laws in Colorado	1
State and Local Health Departments	2
Game, Fish, and Parks Department	2
Oil and Gas Commission	3
Municipalities	3
Miscellaneous Provisions	4
Domestic Sewage Treatment Programs in Colorado	4
Industrial Waste Treatment Programs in Colorado	15
Areas of Water Pollution in Colorado	16
Water Pollution Problems in Colorado	21
Definition of Water Pollution	22
Inadequate State Laws or Administration	25
Costs of Sewage Treatment Programs	29
Lack of Detailed Information	31
Summary of Immediate Issues and Problems Confronting Colorado	32
 APPENDIX A	 35
Test of Federal Water Pollution Control Laws as Amended by the Water Quality Act of 1965	37

PRELIMINARY REPORT AND RECOMMENDATIONS OF COMMITTEE ON WATER POLLUTION

Under the provisions of House Joint Resolution No. 1024, 1965 regular session, the Legislative Council was directed to conduct a study of the pollution problems of both surface and underground waters in the state and to prepare drafts of recommended legislation for consideration in the 1967 session. The committee appointed by the Council to carry out this two-year assignment agreed to hold a series of monthly meetings in 1965 in order to develop general background information on water pollution in Colorado before attempting to block out drafts of proposed legislation.

In keeping with this study program, the committee met in June, July, August, and September to discuss water pollution control programs and problems with representatives of various governmental agencies, public and private associations, and other interested individuals and industries. Following the September committee meeting, however, Congress enacted the Federal Water Quality Act of 1965 which led the members to reevaluate their original target date of preparing legislation for reconsideration in the 1967 session, and the members agreed that the committee should prepare a draft of a general water pollution control act for possible consideration in the 1966 session. The committee is therefore submitting the following preliminary report and recommendations relating to water pollution control in Colorado at this time.

Committee Findings

By its very nature, water pollution will always be a source of public concern because of its adverse effects on a state's supply of water. This concern is magnified where only a limited supply of water is available to begin with as is the case in Colorado. Since wastes must be deposited somewhere and since streams are largely used for this purpose, a basic program to control water pollution seems essential if the quality of water in our streams is to be maintained and regulated.

Presently, water pollution control in Colorado either is spread among various state and local agencies or is non-existent. Limited control of water pollution has been assigned state and local health departments, including counties and cities, the Game, Fish, and Parks Department, and the Oil and Gas Commission, with a few statutes having been adopted of a prohibitory or penal nature for general enforcement purposes.

Despite this lack of a unified program of water pollution control, however, a survey of domestic sewage treatment programs in 1953 compared to those in 1965 in Colorado shows that substantial improvements were made in the intervening 12 years. Moreover, a report of the State Department of Public Health indicates that additional improvement will be or are planned to be made within the next few years so that domestic treatment programs in Colorado will be at a comparatively high level.

Similarly, so far as industry's treatment of its wastes is concerned, many industries have made substantial efforts toward providing proper treatment programs for their wastes but, as shown in Table IV in the accompanying research report, substantial improvements still need to be made. As examples of industry effort to improve their treatment programs, Colorado Fuel and Iron Works Corporation in Pueblo reported that it has spent more than \$1,700,000 since 1952 on its industrial and domestic sewage treatment program. At Golden, the Adolph Coors Company built its own treatment facility which is also used by the city for the treatment of domestic wastes, and Gates Rubber Company in Denver is working on the installation of an improved treatment system so that in no way will the company be contributing to the contamination of the South Platte River.

The expense involved in providing proper treatment facilities is a major problem both to municipalities and to industries, but this is not the only problem. Another significant problem results from the lack of technical knowledge in effectively treating some of the more unusual types of pollution. For example, between 1949 and 1964, the Great Western Sugar Company reported it reduced its organic pollution of the South Platte River by 66 per cent, but lack of technical knowledge is preventing the company from further developing part of its treatment program.

As may be noted from Map 1 in the accompanying report, there are sources of pollution in Colorado other than domestic and industrial such as natural acidity. More significantly, however, the map demonstrates that water pollution problems exist in all areas of the state.

Committee Recommendations

The members believe that the major problem of water pollution in Colorado results from the lack of a unified and comprehensive program of water pollution control. To correct this situation, the committee recommends that the General Assembly adopt legislation along the lines of that contained in the accompanying draft of a bill. Further, in view of the requirements contained in the Federal Water Quality Act of 1965 that states must adopt a plan for water pollution control by June 30, 1967, or the Secretary of Health, Education, and Welfare is authorized to do so, the committee recommends that the Governor place this matter before the members of the General Assembly for consideration in the 1966 regular session.

In brief, the committee's recommended bill would be enacted under the general police powers of the state in order to provide the broad, flexible standards necessary to meet changing stream conditions and sources and types of pollution.

A State Water Pollution Control Commission would be created whose duties include the adoption of standards of water quality and a comprehensive program for the prevention, control, and abatement of pollution of waters of the state. The membership of this nine-member commission would be representative of the various interests concerned with water pollution control, including a member of the State Board of Health; a member of the Game, Fish, and Parks Commission; a member of the Colorado Water Conservation Board; the State Natural Resources

Coordinator; and five citizens appointed by the Governor to represent industry, farms or ranches, municipalities, counties, and the general public.

The Division of Administration of the State Department of Public Health is assigned the administrative staff duties under this proposed bill. These duties include staff assistance in the development of a comprehensive program for the prevention, control, and abatement of water pollution; in administering loans and grants from the federal government; in examining for approval or disapproval plans and specifications for sewage treatment facilities; in collecting and disseminating information relating to water pollution; and in enforcing water pollution control standards and orders of the commission.

Before the commission may adopt any water quality standards, the proposed act provides that public hearings must be held. The committee's draft further provides that it is intended "the minimum level for such standards shall be acceptable under the criteria established by the Federal Water Pollution Control Act, as amended, including the Water Quality Act of 1965."

Other provisions in the committee's draft relate to compliance with orders of the commission; notification of disposal system changes; making water pollution unlawful, with violators subject to a maximum fine of \$500 and to a suit for damages to fish life by the Game, Fish, and Parks Department; and the issuance of injunctions or restraining order to prevent water pollution violations.

Generally speaking, the provisions contained in the committee's proposed draft have received the approval of those interested state departments, associations, and industries who assisted the members in the development of this bill. There is one major exception, however, and that concerns the organizational use of the staff of the State Department of Public Health by the State Water Pollution Control Commission.

As pointed out in the accompanying research report, "a few years ago water pollution was largely viewed as a public health matter. Today water pollution control not only involves public health but is also a subject of concern in as many areas as there are uses made of water."

This revised concept of water pollution concern is reflected in the Federal Water Quality Act of 1965 whereby Congress established a new Federal Water Pollution Control Administration in the Department of Health, Education, and Welfare to carry out the responsibilities for setting standards and policing pollution programs, transferring this responsibility from the Public Health Service where the pollution control program had previously been assigned. Further evidence of this broad-based concern with water pollution control in Colorado was provided by the number of interested state agencies, organizations, and industries attending the committee's meetings during 1965. To repeat, no existing group or body has a monopoly with respect to concern over water pollution control in this state.

Before arriving at its decisions to recommend the establishment of a water pollution control commission whose members would be

representative of the numerous areas vitally concerned with this program, the committee reviewed various alternative proposals on this point, as follows:

(1) Assign the proposed water pollution control program to the State Board of Health. The committee rejected this alternative on the ground that water pollution control is more than a public health matter and that the membership on the State Board of Health is not representative of the various interests concerned with this problem. Further, if this program were assigned to this board, even with the addition of a representative advisory commission on water pollution control, it is felt that public health might well be made the primary objective under the program to the detriment of the other purposes for which water may be used such as "for the propagation of wildlife, fish and other aquatic life, and for domestic, agricultural, industrial, recreational, and other legitimate beneficial uses." By the same token, for similar reasons, the committee agreed that this new program should not be assigned to any other existing policy-making body at the state level as, for example, the Game, Fish, and Parks Commission or the State Agricultural Commission.

(2) Assign the proposed water pollution control program to the State Board of Health and expand the membership thereon to provide greater representation. That is, add four new members to the board, bringing the total to 13, who would be representative of some of the other activities concerned with water pollution control, and, for example, assign to these additional members the primary responsibilities of preparing recommended standards for consideration and action by the board. This alternative was also rejected by the committee on the ground that it did not remove the major objections to the first alternative, including the fact that ultimate control would reside in the State Board of Health.

(3) Assign the proposed water pollution control program to a newly-created, separate state agency under a representative water pollution control commission. While considerable support was evidenced for this proposal, the committee also rejected this alternative, largely for three reasons. First, in the interests of proper organization structure, the members feel that this program should be integrated in an existing department conducting similar activities. Second, greater efficiency in beginning the proposed comprehensive water pollution control program is anticipated with the utilization of existing facilities and staff experienced with problems of water pollution. And third, if a new state agency were established, the General Assembly may be reluctant to staff it sufficiently to carry out its duties, especially when there is little likelihood that the existing staff would be reduced in other state agencies presently working on water pollution problems, at least until some experience has been had under the new program.

(4) Assign the proposed water pollution control program to a representative water pollution control commission with the staff functions assigned to the State Department of Public Health. The committee agreed that this alternative, while not necessarily perfect in every respect, was the best approach to achieving the objectives of the bill. This approach insures that the various interested parties, public as well as private, will have a voice in the conduct of the over-all

program but, except possibly for the state as a whole, no one group will dominate the actions of the commission and the administration of the program under the commission. This approach also provides the new commission with a staff experienced in and knowledgeable about one of the primary sources of pollution -- domestic and industrial sewage.

Before concluding this preliminary report, the committee would point out the presence of a fifth alternative available to the State of Colorado -- do nothing and let the federal government establish and enforce the water quality standards applicable to this state. The committee hopes, however, that unified agreement can be reached on the establishment of a water pollution control program in Colorado so that this fifth alternative does not become a reality.

In this connection, the adoption of a program for water pollution control in the 1966 session would merely be the first in a series of steps necessary to meet the requirements imposed by the Federal Water Quality Act of 1965. These requirements include the adoption of water quality criteria and a plan for implementation and enforcement of these criteria, for filing with the Secretary of Health, Education, and Welfare no later than June 30, 1967. Meeting these requirements will not be accomplished overnight, and if Colorado were to wait until 1967 before enacting a water pollution control law, the committee believes it would be extremely difficult, if not impossible, for any group to prepare acceptable water quality criteria and a plan for implementation and enforcement within a period of a few months. And, finally, the members of the committee would offer their services during 1966 to assist a water pollution control commission in meeting the requirements of the federal act.

A BILL FOR AN ACT

TO PREVENT, ABATE, AND CONTROL THE POLLUTION OF THE WATERS OF THE STATE.

Be It Enacted by the General Assembly of the State of Colorado:

SECTION 1. Legislative declaration. Whereas the pollution of the waters of this state constitutes a menace to public health and welfare, creates public nuisances, is harmful to wildlife, fish and other aquatic life, and impairs domestic, agricultural, industrial, recreational, and other legitimate beneficial uses of water; and whereas the problem of water pollution of this state is closely related to the problem of water pollution in adjoining states; and whereas it is the public policy of this state to conserve the waters of the state and to protect, maintain, and improve the quality thereof for public water supplies, for the propagation of wildlife, fish and other aquatic life, and for domestic, agricultural, industrial, recreational, and other legitimate beneficial uses, and to provide that no waste be discharged into any waters of the state without first being given the degree of treatment necessary to protect the legitimate beneficial uses of such water, it is hereby declared that the prevention, abatement, and control of the pollution of the waters of this state are affected with a public interest, and the provisions of this act are enacted in the exercise of the police powers of this state for the purpose of protecting the health, peace, and safety, and general welfare of the people of this state.

SECTION 2. Definitions. For the purposes of this act, the following words and phrases shall have the meanings ascribed to them in this section:

(1) "Pollution" means such contamination, or other alteration of the physical, chemical, or biological properties of any waters of

the state, including change in temperature, taste, color, turbidity, or odor of the waters, or such discharge of any liquid, gaseous, solid, radioactive, or other substance into any waters of the state as will or is likely to create a nuisance or render such waters harmful, detrimental, or injurious to public health, safety, or welfare, or to domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses, or to livestock, wild animals, birds, fish or other aquatic life.

(2) "Wastes" means sewage, industrial wastes, and all other liquid, gaseous, solid, radioactive, or other substances which may pollute or tend to pollute any waters of the state.

(3) "Sewerage system" means pipe lines or conduits, pumping stations, and force mains, and all other structures, devices, appurtenances and facilities used for collecting or conducting wastes to an ultimate point for treatment or disposal.

(4) "Treatment works" means any plant or other works used for the purpose of treating, stabilizing, or holding wastes.

(5) "Disposal system" means a system for disposing of wastes, either by surface or underground methods, and includes sewerage systems, treatment works, disposal wells, and other systems.

(6) "Waters of the state" means all waters within the jurisdiction of this state including all streams, lakes, ponds, impounding reservoirs, marshes, watercourses, waterways, wells, springs, irrigation systems, drainage systems, and all other bodies or accumulations of water, surface and underground, natural or artificial, public or private, situated wholly or partly within or bordering upon the state.

(7) "Person" means the state or any agency or institution thereof, any municipality, political subdivision, public or private corporation, individual, partnership, association, or other entity,

and includes any officer or governing or managing body of any municipality, political subdivision, or public or private corporation.

(8) "Commission" means the water pollution control commission created by this act.

(9) "Division of administration" means the division of administration of the state department of health; and "director of the division" means the director of said division of administration.

SECTION 3. State water pollution control commission created.

(1) There is hereby created, as a division of the state department of public health established by section 66-1-2, C.R.S. 1963, a state water pollution control commission, which shall consist of nine members as follows:

(a) A member of the state board of health, designated by said board, to represent said board in matters of water pollution in the interests of the public health of the people of the state, and to act as liaison between the commission and the board in effecting an efficient and correlated use of personnel and facilities of the division of administration in carrying out the policies of the commission in the administration of this act;

(b) A member of the game, fish, and parks commission, designated by said commission, to represent the wildlife, fish and other aquatic life, and recreational interests of the state;

(c) A member of the water conservation board, designated by said board, to represent the interests of water conservation in the state;

(d) The natural resources coordinator, to represent other natural resource agencies of the state not otherwise represented on the commission;

(e) Five citizens of the state who shall be appointed by the

governor, but no more than two of said five members shall be residents of the same congressional district. Of these five members, one shall represent industry; one shall be an owner-operator of a farm or ranch; one shall represent municipal government; one shall represent county government; and one shall represent the public at large. Said members shall be appointed for terms of six years, except that of the appointments first made, two shall be appointed for terms of four years to expire April 1, 1970, and three for terms of six years to expire April 1, 1972. Thereafter, the six-year terms of all such members shall commence on April 1 of the year of appointment. Any vacancy occurring during the term of office of any such member shall be filled by appointment by the governor of a qualified person for the unexpired portion of the regular term.

(2) Each ex officio member of the commission may, by statement filed with the commission, designate a representative of his department to attend any meetings of the commission in his absence, and any such designee shall have the powers and duties of the member so designating him.

(3) The governor may remove any member for malfeasance in office or for any cause that renders such member ineligible for membership or incapable or unfit to discharge the duties of his office, and such removal when so made shall be final.

(4) Each member of the commission not otherwise in full-time employment of the state shall receive the per diem allowed other members of non-paid commissions of the state for each day actually and necessarily spent in the discharge of official duties, and all members, ex officio and appointed by the governor, shall receive traveling and other necessary expenses actually incurred in the performance of official duties.

(5) The commission shall organize by the election of a chairman, vice chairman, and secretary, and shall keep a record of its proceedings. The commission shall hold regular quarterly meetings each calendar year and may hold special meetings on the call of the chairman or vice chairman at such other times as deemed necessary. Written notice of the time and place of all meetings shall be mailed at least five days in advance of any such meetings to each member by the secretary.

(6) All members, both ex officio and appointed by the governor, shall have a vote. A majority of the commission shall constitute a quorum and the concurrence of a majority in any matter within its powers and duties shall be required for any determination made by the commission.

(7) The commission is hereby designated as the state water pollution control agency for this state for all purposes of the Federal Water Pollution Control Act, as amended, including the Water Quality Act of 1965, and is hereby authorized to take all action necessary and appropriate to secure to this state the benefits of said acts and amendments thereto within the limits of appropriations made therefor and within the authority of the commission with respect thereto.

SECTION 4. Administration of act. The division of administration and the director of the division shall, under the supervision and direction of the commission, administer this act in accordance with the provisions of this act and in accordance with the rules, orders, and standards of water quality promulgated by the commission under authority of this act.

SECTION 5. Powers and duties of commission. The commission shall have the following powers and duties:

(1) To exercise general supervision of the administration and

enforcement of this act and of the rules, orders, and standards of water quality promulgated under authority of this act;

(2) To adopt, after development thereof by the division of administration, a comprehensive program for the prevention, control, and abatement of pollution of the waters of the state, and from time to time review and modify such program as necessary;

(3) To accept and to supervise the administration of loans and grants from the federal government and from other sources, public or private, which loans and grants shall not be expended for other than the purposes for which provided;

(4) To adopt, modify, and repeal, after notice and hearing as provided in section 8 of this act, and to enforce rules and orders implementing or effectuating its powers and duties as it may deem necessary to prevent, control, and abate existing or potential pollution;

(5) To hold such public hearings, to issue notices of hearings, subpoenas requiring the attendance of witnesses and the production of such evidence, to administer oaths, and to take such testimony as it deems necessary, all in conformity with article 16 of chapter 3, C.R.S. 1963, and of section 8 of this act; and any of the powers authorized by said article and this act may be exercised on behalf of the commission by any member thereof or by a hearing officer designated by the commission;

(6) To exercise all incidental powers necessary to carry out the purposes of this act.

SECTION 6. Powers and duties of division of administration. (1)
The division of administration shall have the following powers and duties:

(a) To develop a comprehensive program for the prevention,

control, and abatement of pollution of the waters of the state, and recommend modifications thereto from time to time as deemed necessary;

(b) To administer loans and grants from the federal government and from other sources which have been accepted by the commission;

(c) Upon the request from any person, to examine and approve or disapprove plans and specifications for the construction and operation of:

(i) New sewerage systems, disposal systems, and treatment works;

(ii) Extensions, modifications of, or additions to new or existing sewerage systems, disposal systems, or treatment works.

(d) To advise, consult, cooperate, and enter into agreements with other agencies of the state, the federal government, other states, and interstate agencies, and with groups, political subdivisions, and industries affected by the provisions of this act and the policies of the commission;

(e) To collect and disseminate information relating to water pollution and the prevention, abatement, and control thereof; and to encourage, participate in, or conduct studies, investigations, research, and demonstrations relating thereto;

(f) To take such action in accordance with rules and orders promulgated by the commission as may be necessary to prevent, abate, and control pollution;

(g) To take such samples of water as deemed necessary to determine the amount of pollution of any of the waters of the state and to use the most effective test methods in making such determinations.

(2) The division of administration, through its duly authorized representatives, shall have power to enter at reasonable times upon any private or public property for the purpose of inspecting, investigating, and determining conditions relating to the pollution of any

waters of the state.

(3) In order to develop the comprehensive program for the prevention, abatement, and control of the pollution of the waters of the state, the division of administration is authorized to recommend the grouping of such waters into classes in accordance with their present and future most beneficial uses in the interest of the public, and such classifications may from time to time be altered or modified. Before any such classification is made, or modifications made thereto, public hearing shall be held by the commission with regard thereto in accordance with the provisions of section 8 of this act.

SECTION 7. Water quality standards - public hearings. (1) The commission, in addition to other powers and duties enumerated in section 5 of this act, shall adopt and promulgate reasonable standards of quality of the waters of the state for the prevention, control, and abatement of pollution, which may from time to time be changed or modified, it being recognized that due to variable factors, no single standard of quality or the amount of pollutants that is permitted to be discharged into the waters of the state is applicable to all streams or to different segments of the same waters; provided, that in the fixing of such standards the commission shall give consideration to, but not be limited to, the following, the intent being that the minimum level for such standards shall be the standards acceptable under the criteria established by the Federal Water Pollution Control Act, as amended, including the Water Quality Act of 1965:

(a) The protection of the public health;

(b) The size, depth, surface area covered, volume, direction, and rate of flow, stream gradient, and temperature of water;

(c) The character and uses of the land area bordering said waters;

- (d) The uses which have been made, are being made, or may be made of said waters for every public or private purpose;
- (e) The disposal of sewage and wastes;
- (f) The extent of pollution resulting from natural causes, including mineral and chemical characteristics;
- (g) The extent to which suspended solids, colloids, or a combination of solids with other suspended substances may be permitted;
- (h) The extent to which bacteria and other biological organisms may be permitted;
- (i) The amount of dissolved oxygen that is to be present and the extent of the oxygen demanding substances which may be permitted;
- (j) The extent to which toxic substances, chemicals, or deleterious conditions may be permitted;
- (k) The need for standards for effluents from disposal systems.

SECTION 8. Public hearings - notice - judicial review. Prior to adopting water quality standards as authorized by this act, fixing new standards, or modifying or repealing existing standards, the commission shall conduct public hearings thereon as provided in section 3-16-4, C.R.S. 1963. Notice of any such hearing shall conform to the requirements of section 3-16-2, C.R.S. 1963, and shall specify the waters concerning which water quality standards are sought to be adopted, and in addition, such notice shall be published at least once in a newspaper of general circulation in the area for which standards are sought to be adopted at least twenty days before such hearing, and shall be mailed at least twenty days before such hearing to each interested person, as the word "person" is defined in section 2 (7) of this act, including all such persons whom the division of administration has reason to believe may be affected by such standards. The final fixing of standards of water quality shall be by order of

the commission.

(2) All orders of the commission, which shall include the method by which water quality standards shall be finally fixed, and all rules of the commission, shall, except as otherwise provided in this act, be promulgated only in conformity with the provisions of article 16 of chapter 3, C.R.S. 1963, and with the provisions of this act, and shall become effective and be subject to judicial review as provided in said article 16.

SECTION 9. Compliance with orders of commission. All orders of the commission or of the division of administration which require action to comply with standards adopted pursuant to section 7 of this act, or to comply with any other provisions of this act shall specify a reasonable time for such compliance.

SECTION 10. Notification of construction of disposal system, industrial or commercial establishment, or new outlet, for discharge of wastes. The division of administration shall be notified, on forms to be prescribed by the commission, by any person planning to construct, install, modify, or operate any disposal system which is not in operation on the effective date of this act; by any person planning to construct, install, or operate any industrial or commercial establishment not in existence on the effective date of this act, including any modification thereof, the operation of which either would cause an increase in the discharge of wastes into the waters of the state or would otherwise alter the physical, chemical, or biological properties of any waters of the state in any manner prohibited by this act; or by any person planning to construct or use any new outlet for the discharge of any wastes into the waters of the state.

SECTION 11. Pollution of waters of state unlawful. It shall be unlawful for any person to cause the pollution of any waters of this

state in violation of any rule or order of the commission, or standards of water quality adopted pursuant to section 7 of this act.

SECTION 12. Misdemeanor - penalty - damages. (1) Any person who shall violate any of the provisions of section 10 of this act, or who shall violate or fail to comply with any rule or order of the commission, or with any standard of water quality adopted pursuant to section 7 of this act, shall be guilty of a misdemeanor, and, upon conviction, shall be subject to a fine of not to exceed five hundred dollars. Each day upon which such violation or failure to comply occurs shall constitute a separate offense.

(2) In addition to the penalty prescribed by subsection (1) of this section, or if any person is enjoined under the provisions of section 13, such person so convicted or enjoined shall be liable for damages due to any loss of fish or loss in fish propagation in any of the waters of the state where such violation or failure to comply occurs.

SECTION 13. Injunction. Whenever in the opinion of the commission, any person is engaging, continues to engage, or threatens to engage in any act or practice which constitutes or will constitute a violation of any order of the commission, the commission shall make application, through the attorney general, to the district court for an order enjoining such act or practice. The district court after notice, as prescribed by the court, to the parties in interest shall then proceed to hear the matter and if it finds that the order was lawful and reasonable, it may issue an injunction or a restraining order in accordance with the Colorado Rules of Civil Procedure. In any action for injunction or restraining order brought pursuant to this section, any finding of the commission shall be prima facie evidence of the fact or facts found therein. An appeal or a writ of

error may be taken from any such order of the court in the same manner as is provided in civil cases.

SECTION 14. Preservation of rights. It is the purpose of this act to provide additional and cumulative remedies to prevent, abate, and control the pollution of the waters of the state. Nothing contained herein shall be construed to abridge or alter rights of action or remedies in equity under the common law or statutory law, criminal or civil, nor shall any provisions of this act, or any act done by virtue thereof, be construed as estopping the state or any municipality, or person as owner of water rights or otherwise, in the exercise of their rights in equity or under the common law or statutory law to suppress nuisances or to abate pollution.

SECTION 15. Severability clause. If any provision of this act or the application thereof to any person or circumstances is held invalid, such invalidity shall not affect other provisions or applications of the act which can be given effect without the invalid provision or application, and to this end the provisions of this act are declared severable.

SECTION 16. Effective date of act. This act shall take effect on March 1, 1966.

SECTION 17. Effective date of water quality standards. The initial standards of water quality adopted by the commission under the provisions of section 7 of this act shall take effect on March 1, 1967. All rules, regulations, and standards promulgated by the state board of health pertaining to water pollution control in force and effect on the effective date of this act, or adopted or modified prior to March 1, 1967, shall remain in force and effect until March 1, 1967.

SECTION 18. Repeal. (Legislative Reference Office to make study as to need for repeal of any existing statutes at 1966 or 1967 session.)

SECTION 19. Safety clause. The general assembly hereby finds, determines, and declares that this act is necessary for the immediate preservation of the public peace, health, and safety.

WATER POLLUTION IN COLORADO

A few years ago water pollution was largely viewed as a public health matter. Today water pollution control not only involves public health but is also a subject of concern in as many areas as there are uses made of water. Simply stated, polluted water may be defined as water which is not usable for all purposes. This brief statement may also be modified to include gradations or preferences as to water which may also be usable for human consumption, for example, so far as public health is concerned, but which may have a foul odor or taste which is offensive but not harmful. Similarly, stream or surface water not used for human consumption may be polluted to such an extent as a result of human, industrial, or agricultural wastes that it is unfit for fish and other wildlife to live or for other recreational purposes.

In a state such as Colorado which has only limited amounts of water, the vital question is not only to make beneficial use of that water which is available but, just as importantly, to maintain the quality of this limited resource so that a greater supply of usable water is provided. In terms of the future, if Colorado is to continue its growth and development experience of the past ten years, the state must make expanded use of its water supply, and improving the quality of water therefore becomes a necessity. Furthermore, by action of Congress in adopting the Federal Water Quality Act of 1965, water quality standards will be imposed and enforced within the next few years on the nation's streams, and the major question remaining is whether this program will be conducted by the federal or by the state government.

Colorado perhaps is in a more fortunate position than many of the other states in view of the recently-adopted federal legislation. In the 1965 regular session, the General Assembly directed the Legislative Council to conduct a study of the pollution problems of both surface and underground waters of the state and that drafts of recommended legislation be prepared for consideration by the first regular session of the Forty-sixth General Assembly (1967). Consequently, at the time the Federal Water Quality Act of 1965 was adopted, the committee appointed by the Council to carry out this assignment had already held several meetings on the problems of water pollution in Colorado and the members were in a position to increase their efforts in preparing water pollution control legislation for possible consideration at the 1966 session rather than the 1967 session. This report includes information developed by the committee in the conduct of its study during 1965.

Present Water Pollution Control Laws in Colorado

At the present time, water pollution control in Colorado either is scattered among various state and local agencies or is non-existent. As a result, limited control of water pollution has been assigned state and local health departments, municipalities, the Game, Fish, and Parks Department, and the Oil and Gas Commission, with the addition of a few general statutes of a prohibitory or penal nature for general enforcement purposes.

State and Local Health Departments and Boards

State and local health departments have the primary responsibility of controlling and eliminating sources of epidemic and communicable diseases affecting the public health. Closely connected with this responsibility is the condition of water used for human consumption and the accompanying concern with the pollution of this water.

Under the provisions of Section 66-1-7 (6), (19), and (20), Colorado Revised Statutes 1963, the State Department of Public Health is charged with the enforcement of statutory standards on domestic sewage effluent and the enforcement of regulations adopted by the State Board of Health for industrial sewage effluents. The department also has the duty "to advise with municipalities, utilities, institutions, organizations, and individuals concerning the methods or processes believed best suited to provide the protection or purification of water and the treatment of sewage and trade wastes" to meet minimum sanitary standards.

All plans, specifications, and other related data pertaining to the proposed construction of any publicly- or privately-owned community water or sewage treatment facilities are to be submitted to the State Department of Public Health for its review of the sanitary engineering features prior to construction, but the law specifically exempts industrial plants from this requirement. These provisions also delegate to the department the responsibility of establishing and maintaining a quality testing program of the waters of the state for the purpose of determining adequacy of abatement measures, developing programs for abatement, and ascertaining changes in water quality.

Local organized health departments are required by Section 66-2-6, C.R.S. 1963, to administer and enforce the orders, rules, regulations, and standards adopted by the State Board of Health, including those relating to water pollution. In areas not served by organized district health departments, the Board of County Commissioners serves as the County Board of Health and the governing body of a municipality serves as the Municipal Board of Health, and, under Sections 66-3-11 and 66-3-12, C.R.S. 1963, these boards may adopt regulations concerning sources of filth and causes of sickness within their respective limits as they judge necessary for the public health and safety, as well as enforcing a prohibition on the disposition of dead animals into any lake, river, creek, or pond.

In addition, both organized and unorganized local boards of health are provided with the power to control and supervise the location, construction, and use of septic tanks and other nonmunicipal waste disposal systems through the adoption of House Bills No. 1204 and 1205 in the 1965 regular session (Chapters 175 and 177, Session Laws of 1965).

Game, Fish, and Parks Department

Sections 62-5-13 through 66-5-22, C.R.S. 1963, authorize the Game, Fish, and Parks Department to take action through the courts to abate nuisances adversely affecting fish life. Specifically, no sawdust, tailings or other deleterious or poisonous substance shall be

allowed to pollute any public waters containing fish in such quantities as to destroy or be detrimental to the fish or spawn therein. As may be noted, this provision limits the department to waters containing fish so that the department has no authority with respect to other waters where fish may have long since disappeared. Furthermore, Section 62-5-18 directs the court to consider facts "necessary to form an intelligent judgment of the public necessity and importance of the industry concerned as compared with the like necessity and importance of such waters as a source of fish supply" and, in determining these questions, "the court shall not be precluded from considering the other beneficial uses to which such waters are or may be applied." Thus, the department does not have unqualified control of pollution even in those waters containing fish.

Oil and Gas Commission

The Oil and Gas Commission is another of the state agencies provided by law with limited control over water pollution. In this case, the control primarily involves a program to prevent the pollution of underground water. As authorized by Section 100-6-15, C.R.S. 1963, the commission may require the drilling, casing, operation and plugging of wells in such manner as to prevent the pollution of fresh water supplies by oil, gas, salt water, or brackish water and to generally regulate the disposal of salt water and oil field wastes.

Municipalities

Municipalities generally are provided with the power to provide sewage treatment facilities and to provide for the cleansing and purification of water, watercourses and canals, and the draining or filling of ponds on private property whenever necessary to prevent or abate nuisances (Section 139-32-1 (24), C.R.S. 1963). In addition, Subsection (35) of Section 139-32-1 further authorizes municipalities to enact ordinances and regulations for a distance of five miles upstream of their raw water intake point.

So far as the City and County of Denver is concerned, Denver has jurisdiction over the South Platte River, including its tributaries, above its confluence with Clear Creek to protect the purity of the water therein (Section 36-18-5, C.R.S. 1963). The provisions of Section 36-18-4, C.R.S. 1963, make it "unlawful for any person to deposit into the channels of the South Platte River or Bear Creek, or any of their tributaries above the mouth of Clear Creek, or between or upon the banks of said streams, any unwholesome matter or substance whatever tending to the defilement or pollution of the water of said streams, or to allow the drainage from any sewer, drain or cesspool to drain into or percolate into said streams...but the disturbances of water by placer mining or tailings from ore reduction mills flowing into any of said streams or tributaries shall not be construed as defilement or pollution of the water thereof."

The abatement of water pollution is further authorized through the creation of water and sanitation districts (Article 5 of Chapter 89, C.R.S. 1963), disposal districts (Article 11 of Chapter 89, C.R.S. 1963), and metropolitan sewage disposal districts (Article 15 of Chapter 89, C.R.S. 1963).

Miscellaneous Provisions

Sections 40-12-22 and 23, C.R.S. 1963, make depositing any decomposable or petroleum or other oleaginous substance into the waters of this state a criminal offense, punishable by a fine of not exceeding \$1,000 or imprisonment in the county jail for not exceeding six months, or both, for each offense.

With respect to mines and mining, Section 92-24-3, C.R.S. 1963, provides that "in no case shall any person be allowed to flood the property of another person with water, or wash down the tailings of his sluice upon the claim or property of other persons, but it shall be the duty of every miner to take care of his own tailings, upon his own property, or become responsible for all damages that may arise therefrom."

Domestic Sewage Treatment Programs in Colorado

In Colorado, as elsewhere, there are three general classifications for domestic treatment programs -- no treatment, primary treatment, and secondary treatment. No treatment means exactly what the words imply, or the dumping of raw sewage directly into the receiving waters.

Primary treatment may be defined as a settling or capturing process before the sewage is passed on to the receiving waters and is generally regarded as a minimum treatment program. Primary treatment consists of the separation of the settleable solids from the liquid, disposal of the solids in an approved manner, and the discharge of the liquid residue either without further treatment or after disinfection. About one-third to one-half of the organic material in the sewage may be removed through primary treatment, with most of the remaining organic material being in a dissolved state. In many states, primary treatment has been felt to be sufficient because there are large supplies of dilution waters flowing throughout the year, but because of erratic streamflows, this is not considered an adequate type of program in Colorado.

Secondary treatment, which some refer to as the "complete" treatment of sewage, involves the use of biological processes to further reduce the impurities remaining after primary treatment. Secondary treatment facilities include such units as intermittent sand filters, trickling filters, or the activated sludge process. Even secondary treatment does not accomplish total treatment of sewage wastes, however, and there are reports that a third or tertiary treatment program may need to be utilized in the future.

Based on information prepared by the State Department of Public Health, as of July 1, 1965, the domestic wastes of some 59 per cent of the state's population were receiving secondary treatment; 40 per cent were receiving primary treatment only; and only one per cent were receiving no treatment. Moreover, when the Metropolitan Denver Sewage Disposal District's plant becomes operational in October of 1966, the figure for secondary treatment will increase to 98 per cent of the state's population.

Significantly, so far as Colorado is concerned, a comparison of domestic sewage treatment programs in 1953 to those in 1965 demonstrates that substantial improvements were made in the intervening 12 years, and indications are that additional improvements will be or are planned to be made within the next few years. As may be noted from the following tabulation, the percentage of the state's population where domestic sewage received no treatment dropped from 8.1 per cent to 1.1 per cent and, for primary treatment, the reduction was from 84.2 per cent to 39.7 per cent; on the other hand, secondary treatment increased from 7.7 per cent to 59.2 per cent of the state's population during the same 12-year period.

Summary Comparison of Domestic Sewage Treatment Status
1953-1965

<u>Type of Treatment</u>	<u>Number of Entities - Plants</u>		<u>Domestic Population Served</u>		<u>% of State Population</u>	
	<u>1953</u>	<u>7/1/65</u>	<u>1953</u>	<u>7/1/65</u>	<u>1953</u>	<u>7/1/65</u>
None	44	27	81,449	18,735	8.1%	1.1%
Primary	56	35	847,226	664,490	84.2	39.7
Secondary	<u>37</u>	<u>172</u>	<u>77,080</u>	<u>992,110</u>	<u>7.7</u>	<u>59.2</u>
Total	137	234	1,005,755	1,675,335	100.0%	100.0%

Tables I, II, and III report the domestic sewage treatment programs by communities and population as of July 1, 1965. On the basis of river basins and total population, the greatest number of people involved where there is no treatment of domestic sewage reside in the Colorado River Basin while the greatest number of persons having primary or secondary treatment are located in the Missouri River Basin.

As summarized by the Division of Engineering and Sanitation, State Department of Public Health, a definite trend has been established in Colorado toward improving sewage treatment facilities for the domestic sewage created by an increasing population. These improvements have required, and will continue to require, large capital investments as well as funds for maintenance and operation. Because of the growing population in this state, the trend toward better and improved sewage treatment programs must continue since the volume of surface water will continue to remain static and the only possibility for removing the damaging effects of decomposable matter to the quality of surface water is through maintaining adequate facilities accompanied by competent operating procedures and personnel.

The progress made in Colorado in getting a greater amount of the population provided with improved sewage treatment facilities has been motivated by several things. A greater public awareness of the problems of sewage treatment and water pollution has made it easier for communities to secure the all-important financing needed for the construction of proper treatment facilities. In this connection,

Table I

COMMUNITIES AND INSTITUTIONS WITH NO TREATMENT
FOR DISPOSAL OF DOMESTIC WASTES
As of July 1, 1965

<u>Area and Name of Community</u>	<u>Population Served</u>
<u>Arkansas River Basin:</u>	
Blendel	200
Cripple Creek	600
East Canon S. D. ¹	110
Penrosel	100
Victor	400
Walsenburg ¹	5,000
Subtotal	<u>6,410</u>
<u>Colorado River Basin:</u>	
Breckenridge	275
DeBeque	30
Fruita	1,700
Hotchkiss ¹	400
Minturn	660
Olathe	775
Ouray	790
Paonia ¹	1,250
Redcliff	590
Ridgway	80
Silverton ¹	820
Telluride ¹	275
Subtotal	<u>7,645</u>
<u>Missouri River Basin:</u>	
Blackhawk ¹	200
Central City ¹	300
Deer Trail	500
Georgetown ¹	200
La Salle	1,200
Milliken ¹	710
Ovid ¹	600
Platteville ¹	240
Subtotal	<u>3,950</u>

<u>Area and Name of Community</u>	<u>Population Served</u>
<u>Rio Grande River Basin</u>	
La Jara	730
Subtotal	<u>730</u>
TOTAL	18,735

Source: State Department of Public Health.

1. New plant planned.

Table II

COMMUNITIES AND INSTITUTIONS WITH PRIMARY TREATMENT
FOR DISPOSAL OF DOMESTIC WASTES
As of July 1, 1965

<u>Area and Name of Community</u>	<u>Population Served</u>
<u>Arkansas River Basin:</u>	
Granada	560
La Veta ¹	320
Leadville	5,600
Ordway	1,250
Ramah	150
Rye	350
Simla	425
Sugar City	450
Subtotal	<u>9,105</u>
<u>Colorado River Basin:</u>	
Bond	75
Camp Hale	100
Collbran	200
Cortez	5,100
Fort Lewis	25
Glenwood Springs ¹	4,300
Hayden	800
Mesa	50
New Castle	500
Oak Creek	600
Rangely	1,200
Rifle	2,000
Silt	450
Steamboat Springs ¹	2,000
Uravan	900
Vancorum	60
Subtotal	<u>18,360</u>
<u>Missouri River Basin:</u>	
Cheyenne Wells	1,100
Crook	225
Denver (2 plants) ²	592,200
Fruitdale S.D. ¹	1,600
Idaho Springs ¹	2,500
Lyons ¹	850
N.W. Lakewood ²	18,900
Wellington	550
Westminster ²	17,100
Subtotal	<u>635,025</u>

<u>Area and Name of Community</u>	<u>Population Served</u>
<u>Rio Grande River Basin:</u>	
Center	<u>2,000</u>
Subtotal	<u>2,000</u>
TOTAL	<u>664,490</u>

Source: State Department of Public Health.

1. New or expanded plant planned.
2. Member of Metropolitan Denver Sewage Disposal District No. 1.

Table III

COMMUNITIES AND INSTITUTIONS WITH SECONDARY TREATMENT
FOR DISPOSAL OF DOMESTIC WASTES
As of July 1, 1965

<u>Area and Name of Community</u>	<u>Population Served</u>
<u>Arkansas River Basin:</u>	
Air Force Academy ¹	10,000
Boone	550
Buena Vista ¹	2,000
Calhan	520
Canon City Metro S.D. ¹	11,000
Cimarron S.D.	750
Colo. Interstate Gas, Springfield	30
Colo. Interstate Gas, Divine	30
Colorado Springs	160,000
Colorado State Reformatory	600
Colorado State Pen., Medium Security	350
Eads	1,000
Florence	2,700
Fountain ¹	2,100
Fowler ²	1,200
Fort Carson	20,000
Ft. Lyon V.A. Hospital	1,200
Golden Age Center	150
Holly	1,550
Hugo ²	850
Ideal Cement Co.	140
Kit Carson	200
La Junta	12,000
La Junta Village	150
Lamar	8,500
Las Animas ¹	3,300
Lime ²	100
Limon	1,600
Manzanola	550
Monument	250
Northridge Utilities	100
North Suburban San. District	2,000
Portland	100
Pueblo	96,000
Pueblo Air Base	800
Pikeview Mines	100
Olney Springs	265
Rocky Ford	5,300
Salida	4,800

<u>Area and Name of Community</u>	<u>Population Served</u>
<u>Arkansas River Basin, Con'd.:</u>	
Security ³	12,000
Springfield	2,400
Stratmoor Hills	1,730
Swink	430
Trinidad ¹	10,000
Walsh	700
Widefield Homes	2,600
Woodland Park	900
Woodmoor S.D.	50
Subtotal	Est. 387,045
<u>Colorado River Basin:</u>	
Artesia	320
Aspen ¹	1,100
Bayfield	300
Carbondale	610
Collbran Job Corps Camp	125
Clifton ²	900
Climax	3,500
Colorado Rocky Mountain School	170
Cortez	1,660
Craig	4,600
Crested Butte S.D.	340
Delta	4,000
Dillon	200
Dolores	810
Dove Creek	1,200
Durango	11,000
Eagle ³	550
Gilman	300
Gunnison ²	4,000
Grand Junction (two plants) ¹	23,000
Granby	Avg. 1,000
Grand Lake ²	Avg. 1,300
Gypsum	360
Ignacio-Ute Agency	930
Kremmling	1,000
Mancos ¹	830
Meeker	1,650
Montrose	5,050
Naturita ²	800
Norwood ²	440
Nucla	800
Pagosa Springs	1,500

<u>Area and Name of Community</u>	<u>Population Served</u>
<u>Colorado River Basin, Cont'd.:</u>	
Palisade	1,000
Rifle Mines	25
Vail Village ³	1,500
W. Glenwood Springs San. District	450
Subtotal	<u>77,320</u>
<u>Missouri River Basin:</u>	
Akron	1,600
Arvada ⁴	36,000
Ault ²	860
Aurora (2 plants) ¹	65,000
Baker ⁴	18,240
Bennett ²	525
Berthoud ⁵	1,300
Boulder ¹	52,000
Boulder Valley W. & S.D.	Est. 50
Brighton	9,000
Broomfield Heights ²	5,600
Brush ¹	3,600
Buckley Field	1,000
Bureau of Reclamation, Estes Park	200
Burlington City & San. District ¹	2,000
Byers	500
Camp George West	200
Castle Rock	1,250
Cherry Creek Recreation Area	Equiv. 180
Clear Creek W. & San. District ¹	6,000
Colorado Industrial School -- Girls ²	150
Eaton ¹	1,230
Erie ²	1,000
Englewood	52,000
Estes Park ⁵	Avg. 5,000
Evans	3,000
Evergreen ²	900
F.C.I. ²	585
Fitzsimons Hospital	4,000
Flagler ²	690
Fleming	340
Fort Collins ¹	27,800
Fort Logan	500
Fort Lupton ⁵	2,200
Fort Morgan ¹	8,000
Dacona, Frederick, Firestone, and Evanston -- Tri-Area S.D. ²	1,400

<u>Area and Name of Community</u>	<u>Population Served</u>
<u>Missouri River Basin, Cont'd.:</u>	
Gilcrest	360
Glendale ²	500
Golden (Coors) ¹	8,400
Greeley ⁵	31,500
Gunbarrel Estates W. & S.D.	Est. 50
Haxtun	1,200
Hi-Land Acres W. & S.D. ⁵	75
Holyoke	1,600
Hudson ²	400
Johnstown	1,300
Julesburg ²	2,000
Keenesburg	320
Kersey	380
Kit Carson Comp. Station	50
Lafayette ⁵	2,700
Littleton	18,800
Log Lane Village ²	310
Longmont ²	13,000
Louisville	2,200
Louviers ²	300
Loveland (2 plants)	11,000
Mead	200
Merino	250
No. College S. D.	700
No. Fort Collins S. D.	50
No. Washington St. W. & S.D. ⁴	4,910
Otis	475
Parker Heights ²	50
Peetz S.D.	250
Rocky Mountain Arsenal	375
Silver Heights	100
Sky Ranch	75
So. Adams W. & S.D.	15,500
So. Lakewood S.D.	10,800
Sterling ¹	11,300
Strasburg S.D. ²	680
Stratton ²	600
Thornton ²	33,200
Walden	810
West Jefferson County S.D.	225
Wheatridge ⁴	20,050
Windsor ²	1,500
Wray	2,050
Yuma	1,900
Subtotal	<u>516,395</u>

<u>Area and Name of Community</u>	<u>Population Served</u>
<u>Rio Grande River Basin:</u>	
Alamosa	6,200
Del Norte	1,200
E. Alamosa S. D.	350
Homelake	100
Monte Vista	3,500
Subtotal	<u>11,350</u>
 TOTAL	 992,110

Source: State Department of Public Health.

1. New or expanded plant planned.
2. Improvements needed.
3. New or expanded plant under construction.
4. Member of Metropolitan Denver Sewage Disposal District No. 1.
5. New plant under construction or awaiting federal aid.

coupled with this increased public awareness has been the effect of activities of sanitary engineers from the State Department of Public Health and the actions and orders issued by the State Board of Health upon communities, encouraging them to improve their sewage treatment facilities. The General Assembly has also assisted in this progress by providing a procedure for handling violators failing to properly treat sewage containing human excrement as well as establishing statutory minimum standards for the quality of effluent discharged into streams.

Another important motivating factor has been the federal grants-in-aid program designed to assist communities building sewage treatment facilities. As of May 31, 1965, a total of 94 projects involving federal grants-in-aid have been built, or are under construction, or have been approved for future construction in Colorado. These federal grants total \$7,830,751 for the 94 projects, with some \$41,473,100 expected to be provided from other sources. While federal assistance has helped the improvement of sewage treatment facilities in this state, it has, at the same time, also tended to limit construction to those projects where federal grant funds can be extended.

Industrial Waste Treatment Programs in Colorado¹

The Sewage and Trade Wastes Effluent Regulations adopted by the State Board of Health in 1957 set certain standards for sewage and trade wastes "discharged upon the land or into the surface or ground waters." In 1959, the General Assembly amended the public health law to include the principal provisions of these regulations but only with respect to wastes containing human excreta. Consequently, the amended law does not apply to industrial wastes unless an industry's sanitary wastes are combined with its process wastes.

As a result, opinions of some attorneys cast doubt as to the authority of the state health department to enforce these effluent regulations for industrial waste discharges, but as yet this authority has not been tested in court. Nevertheless, with continued but necessarily-limited pressure from the staff in the Water Pollution Control Section, Division of Engineering and Sanitation, of the State Department of Public Health, many industries have taken measures to reduce their waste problems. On the other hand, had the department been clearly vested with the authority by law over industry-caused pollution, greater improvements in this area probably would have been achieved.

According to the "Directory of Colorado Manufacturers," there are more than 3,000 manufacturing plants in Colorado. Most of these plants, however, do not have liquid process wastes or are served by municipal sewerage systems so that they contribute little or nothing

1. Based on material prepared by Mr. Louis Parenteau, engineer, Division of Engineering and Sanitation, State Department of Public Health, July 29, 1965.

in the way of water pollution. Based on the latest survey of the state health department, there are only 115 manufacturing plants in Colorado with liquid process wastes which are not discharged into municipal sewers for treatment by a municipality, and, of these, 62 plants provide adequate independent waste treatment programs. However, 53 plants do not provide adequate treatment in terms of state health department effluent standards.

Although few in number, these 53 plants are reported as causing serious stream pollution in this state. The total biochemical oxygen demand² exerted on the waters in this state by the wastes of these 53 industries, measured in terms of 5-day 20°C B.O.D., has been calculated to be about 300,000 pounds of oxygen, or equivalent to that exerted by the untreated sanitary sewage from about 1.75 million persons. Most of the biochemical oxygen demand created by these 53 plants is exerted by the wastes from seasonal food processing industries, such as beet sugar mills and canneries. Beet sugar mills, the major contributors while in operation, normally conduct operations from October to January.

Table IV summarizes the number of industries providing adequate or inadequate treatment of their waste discharges through their own treatment facilities measured by state health department effluent standards. By way of comparison, the population equivalent of 1,743,880 persons in terms of biochemical oxygen demand created by the 53 industries providing inadequate treatment of their wastes greatly exceeds the domestic population total of 18,735 reported in Table I for whom no type of sewage treatment was being provided as of July 1, 1965. Also, industries such as mines and ore processing plants are not included in Table IV since the department's effluent standards do not establish limits for toxic elements discharged by these industries.

Areas of Water Pollution in Colorado

The South Platte River below Denver is commonly referred to as the most polluted stream in Colorado, but water pollution problems are not limited to the northeastern section of the state. One indication of the size and location of water pollution problems in the state is presented in Map 1 on pages 20 and 21. The guideline used for this map is whether the streams are used for fish stocking purposes by the Game, Fish, and Parks Department. On this basis, water pollution is clearly a matter of statewide concern as each area in Colorado is depicted as having some stream pollution, with the greatest amount being the South Platte River below Denver and the Arkansas River below Pueblo, or below areas of heavy population concentration.

According to information prepared by the Game, Fish, and Parks Department, major sources of pollution include industrial and domestic

2. This is a term used to measure the pollution load placed on the receiving waters and involves the so-called "natural" cleansing processes inherent in water.

Table IV

STATUS OF TREATMENT OF PROCESS WASTES
BY INDUSTRIES NOT CONNECTED TO MUNICIPAL SEWERS
July, 1965

<u>River Basin</u>	<u>Treatment Pro- vided Process Wastes to Meet Legal Effluent Standards</u>	<u>Number of Plants with Independent Waste Discharges</u>			<u>B.O.D. - Population Equivalent of Wastes to Stream</u>
		<u>To Stream</u>	<u>Otherwise*</u>	<u>Total</u>	
Arkansas	Adequate	2	6	8	300
	Inadequate	4	3	7	<u>107,700</u>
					108,000
Colorado	Adequate	2	8	10	0
	Inadequate	14	0	14	<u>105,000</u>
					105,000
Missouri	Adequate	10	31	41	2,320
	Inadequate	29	0	29	<u>1,529,540</u>
					1,531,860
Rio Grande	Adequate	0	3	3	0
	Inadequate	2	1	3	<u>1,640</u>
					1,640
Totals for State**	Adequate	14	48	62	2,620
	Inadequate	49	4	53	<u>1,743,880</u>
					1,746,500

*Note: "Otherwise" includes holding ponds, septic tanks, ditches, dry gulches, etc., but not city sewers.

**Note: Of the plants discharging process wastes to streams, only 22 per cent are complying with the State's effluent standards; but, of the plants discharging process wastes to septic tanks, holding ponds and ditches, over 92 per cent are complying with these standards.

wastes in the northeastern and southeastern portions of the state and mining and mineral activities, including natural acidity, in the western regions. Specifically, stream areas in Colorado which are unsuitable for fish stocking due to pollution and the sources of pollution and the sources of pollution are as follows:

Northeast Region

1. South Platte River from Waterton to the state line.
2. Poudre River below Fort Collins.
3. St. Vrain Creek and Boulder Creek below Longmont and Boulder.
4. Clear Creek and North Clear Creek below Central City and Idaho Springs.
5. North Fork of the South Platte, Hall Valley Area.

Pollution Sources

- Industrial, domestic, irrigation, dewatering.
- Industrial.
- Industrial, domestic.
- Acid mine drainage and old tailings.
- Natural acidity.

Southeast Region

1. Arkansas River from Pueblo to the state line.
2. California Gulch, Leadville area.

- Industrial, domestic, irrigation, dewatering.
- Acid mine drainage.

Northwest Region

1. Williams Fork, Yampa River, Hamilton downstream.
2. White River below Rangely.
3. Ten Mile Creek, Climax to Dillon.

- Oil drilling.
- Oil drilling.
- Mine tailings and acid mine drainage.

Southwest Region

1. Dolores River below Uravan.
2. Dolores River, Rico to Bear Creek.
3. Red Mountain Creek above Ouray.
4. Mineral Creek, Silverton.
5. Cement Creek, Silverton.

- Uranium processing.
- Acid processing.
- Natural acidity and mine tailings.
- Natural acidity.
- Natural acidity and mine drainage.

6. Willow Creek, Creede.

Mine tailings.

7. Alamosa River.

Natural acidity.

Stream areas in Colorado where fish stocking is reduced because of pollution and the sources of pollution are as follows:

Northeast Region

Pollution Sources

1. Jim Creek and Left Hand Creek, Jamestown and Ward area.

Old mill tailings.

2. Clear Creek, Georgetown to Idaho Springs.

Old mill tailings.

Southeast Region

1. Arkansas River, Lake Fork to Granite.

Acid mine drainage.

2. Middle Fork South Platte River, Fairplay area.

Dredged out streambed.

Northwest Region

1. Colorado River below Rifle.

Uranium processing, high silt load, and water diversion.

2. Eagle River, Minturn area.

Old mine tailings.

Southwest Region

1. Uncompahgre River below Ouray.

Old mine tailings.

2. San Miguel River, Telluride area.

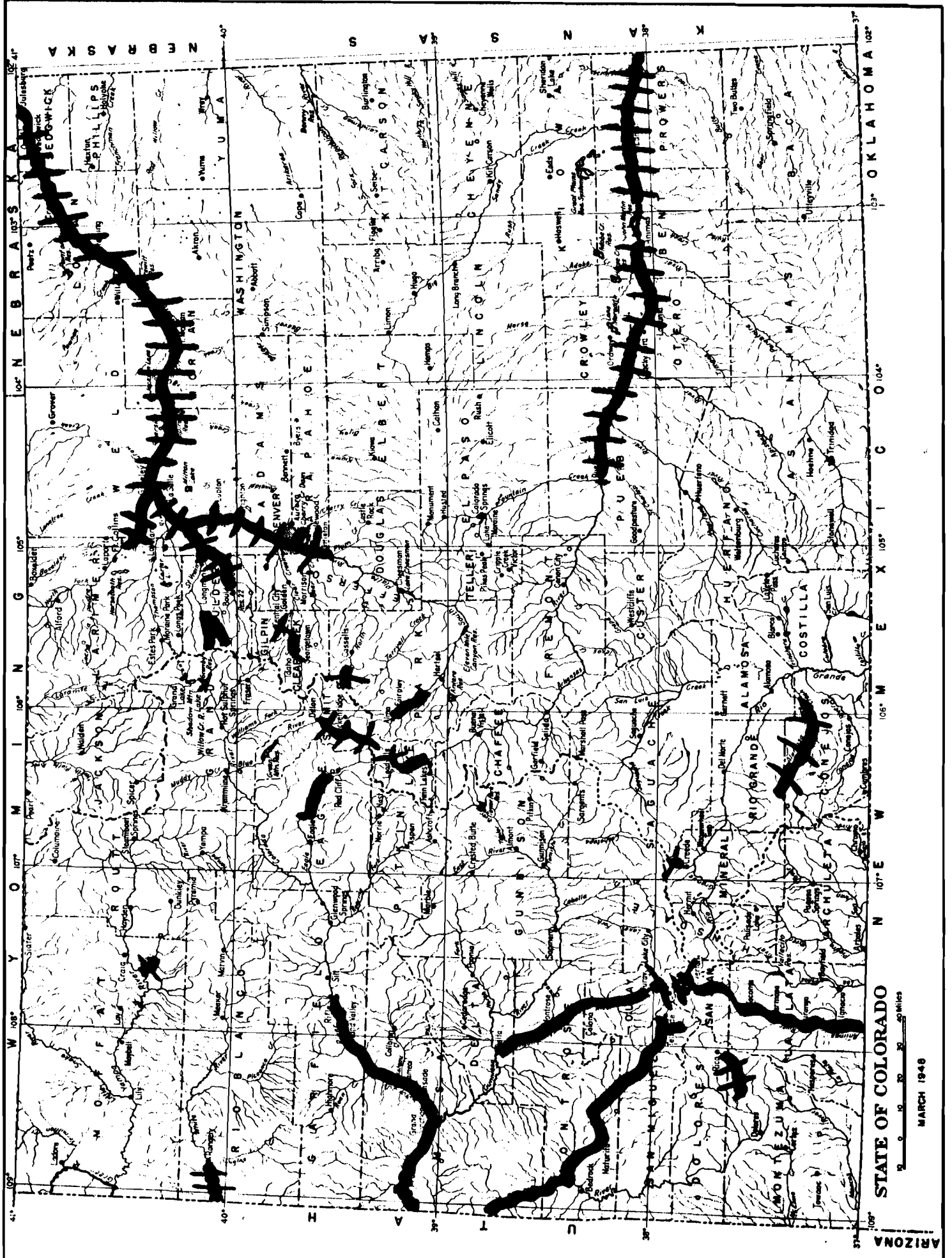
Old mine tailings.

3. Animas River, all.

Old mine tailings.

MAP 1

The map of Colorado on the opposite page indicates in general those areas in the state where stream pollution has adversely affected fish stocking practices of the Game, Fish, and Parks Department. Solid black lines roughly denote those streams where fish stocking has been reduced because of pollution, and black lines with cross marks are used for stream areas unsuitable for fish stocking due to pollution. Please refer to the text on pages 16 through 19 for more details on this situation.



STATE OF COLORADO

0 10 20 30 miles

MARCH 1948

Map labels include county names: ARIZONA, NEBRASKA, KANSAS, OKLAHOMA, COLORADO, and NEBRASKA. Major cities shown include Denver, Colorado Springs, Pueblo, and Fort Collins. Rivers such as the Colorado River and Rio Grande are depicted. The map features a grid of latitude and longitude lines, with latitude ranging from 37°N to 41°N and longitude from 102°W to 109°W.

Water Pollution Problems in Colorado

Because of the widespread uses made of water, numerous groups, organizations, and governmental agencies, as well as individual citizens and industries, are directly involved with problems of water pollution. At the state level, these largely include the State Natural Resources Coordinator, the State Department of Public Health, Game, Fish, and Parks Department, State Department of Agriculture, Highway Department, State Engineer, Colorado Water Conservation Board, Ground Water Commission, Oil and Gas Conservation Commission, Bureau of Mines, Division of Commerce and Development, and some university and college programs. Other governmental activities involve the U. S. Public Health Service at the federal level and, locally, Colorado cities, towns, counties, local health departments, and local water and sanitation districts must deal with water pollution problems.

The committee appointed by the Legislative Council to conduct a study of water pollution in Colorado adopted a study program based on a series of discussions of the present programs of water pollution control and the problems thereunder with the various governmental agencies and interested organizations and individuals concerned with this matter. During the course of the meetings held in 1965, the committee provided an opportunity for comprehensive reports to be presented for the consideration of the members. On the basis of the material and information developed at these meetings, including statements on the viewpoints of those groups vitally concerned with water pollution problems, the committee members were able to compile a substantial amount of general background information.

In the early fall of 1965, impetus was added to the committee's work with the adoption of the Federal Water Quality Act of 1965. Among the provisions in this act is one requiring each state to file a letter of intent by October 2, 1966, that it will adopt quality criteria applicable to interstate waters or portions thereof within the state and a plan for implementation and enforcement before June 30, 1967. If a state does not do so, the Secretary of Health, Education, and Welfare is authorized to prepare standards applicable to interstate waters within that state. (See Appendix A for the text of federal water pollution control laws as amended by the 1965 act.)

On the basis of the committee's meetings and various materials submitted to the committee, water pollution problems in Colorado may be grouped into four general areas -- (1) defining water pollution, (2) inadequate state laws or administration, (3) the high costs of sewage treatment programs, and (4) lack of detailed information and other technical difficulties. Moreover, compounding all of these problems is the fact that there is a substantial variety of sources of water pollution. Pollution can result from human wastes, industrial wastes, animal wastes, chemicals such as pesticides, etc. In addition, pollution problems are aggravated in Colorado because there are normal periods of low stream flow when the water supply is insufficient for dilution purposes.

Definition of Water Pollution

Since Colorado has no general water pollution control law, there is no clear-cut statutory definition of the term "water pollution" in this state. The closest language to this concept is contained in Section 89-15-2 (26), C.R.S. 1963, which defines "pollution" or "pollute" as meaning "the condition of water resulting from the introduction therein of substances of a kind and in quantities rendering it detrimental or immediately or potentially dangerous to the public health, or unfit for public or commercial use." However, this provision is part of the Metropolitan Sewage Disposal District Law and not a general water pollution control act.

As a result of this lack of a general statutory definition, except for those specific statutory effluent standards for human wastes, there has been little agreement as to what constitutes water pollution. What one person may feel is a perfectly acceptable process for disposing of waste materials may be considered as water pollution by another person downstream. Similarly, the average citizen's idea of water pollution and the technician's idea of water pollution may sometimes be very divergent. The average citizen is more concerned with taste, odor, and appearance, but technically there are pollutants other than those that affect the senses. Furthermore, the point was raised before the committee that water should be of no greater quality than the need for which the water would be used. As this quality would vary with the need, it was suggested that standards should be imposed to so regulate the pollution that the downstream water can be used for those purposes which are most beneficial to the public interest.

In attempting to arrive at a general definition of water pollution, the committee invited suggestions from various state and local agencies and interested organizations and industries. The first question asked by the committee was: What pollutants or class of elements should be prohibited completely because of their toxic characteristics? Generally, the respondents indicated that pollutants harmful to the health of human, animals, and fish should be prohibited from being introduced into stream flow or, if there were a stream classification system, discharges should be prohibited which cause the stream at the locality of the discharge to be unfit for the use or uses to which it should be put in accordance with its classification. The replies to the committee on this question were as follows:

State Department of Public Health. "Effluents discharging from sewage systems and industrial plants shall not contain substances in quantities toxic to man." The department adds that this general prohibition is offered because it is next to impossible to list all of the possible elements which may have toxic characteristics. For example, arsenic and pesticides are known toxic substances, but there are many others, some known and certainly many yet to be developed, which will also have toxic characteristics and can be expected to appear in sewage effluents and runoff from the land.

Metropolitan Denver Sewage Disposal District No. 1. "Any material or substance which is in itself corrosive, irritating to human beings and animals, toxic, noxious, or which by interaction with

other wastes could constitute a hazard to humans or to animals or could adversely affect the receiving stream."

Adams County Planning Department. Radioactive materials; plating chemicals -- chromates; and any highly acid or alkaline chemicals.

Colorado Clean Streams Committee. "Substances which are deleterious to human, animal, and plant life."

Colorado Fuel and Iron Works Corporation. "We are of the opinion that different standards of quality should be established for different streams and portions thereof, depending on their appropriate use or uses. Thus, there should be a classification of areas in the State to establish such uses and different standards would apply in different areas. Probably in all areas the discharge of human excreta into a stream should be prohibited, to the extent now specified in the statutes, but the basic concept should be to prohibit the discharge of any substance or element into a stream when such discharge causes the stream to be in violation of the standards established for that area. There could be a prohibition of specific discharges giving the substances or elements involved. The objective would be to prohibit discharges which cause the stream at the locality of the discharge to be unfit for the use or uses to which it should be put in accordance with its classification. We suggest that the primary consideration should be the effect of the discharge on the stream rather than the discharge itself."

Great Western Sugar Company. "We do not believe it would be possible to enumerate all the various chemical, biological and radioactive wastes and not include in the list some materials that occur naturally. Therefore, we believe prohibition of any materials should be limited to those waters used for municipal water supply and which prohibitions are necessary to protect the public health."

Tri-County District Health Department. "All pollutants that are toxic to human, animal, and plant life should be regulated below non-toxic limits."

The second question asked by the committee was: As distinguished from the first question, what should be the statutory definition of water pollution in a general sense? The respondents indicated that this language should be tied to the alteration of the various properties of water, with sufficiently specific terminology being employed to enable enforcement thereof. In more detail, the replies contained the following definitions:

State Department of Public Health. "The statutory definition of water pollution is the presence of contaminants or other deleterious substances in such amounts which exceed standards established by law for the particular waters involved. In the technical sense, water pollution is the presence of any contaminant or deleterious substances in amounts which critically deplete the oxygen or which otherwise render the water unsuitable or unfit for its intended use." As reasons for this language, the department reported that "it is extremely difficult to develop a satisfactory, all inclusive definition of water pollution of reasonable length. A definition establishing at least

broad ranges is necessary because those discharging effluents will be attacked as violators when measured against what a complainant thinks is water pollution. Enforcement will be very difficult unless violations can be established within reasonably narrow limits; limits require thorough investigation prior to adoption."

Game, Fish, and Parks Department. "'Pollution' means the contamination, reduction in quality, or other alternation of the physical, chemical, or biological properties, of any waters of the state, or such discharge of any liquid, gaseous, or solid substance in any waters of the state as will create a nuisance or render such waters harmful or detrimental or injurious to public health, safety or welfare, or to domestic, commercial, industrial, agriculture, recreational or other legitimate beneficial uses, or to livestock, wild animals, birds, fish or other aquatic life."

Bureau of Mines. For both questions one and two, the bureau replied: "When any chemicals, combination of chemicals, elements, solids or liquids, discharged into a staeam in Colorado in sufficient amounts or strength when diluted with equal parts of the stream water, contain sufficient toxic, poisonous or bacterial parts to be injurious to plant life or human life, they shall be classed as pollutants and shall be prohibited from being discharged into Colorado streams."

Metropolitan Denver Sewage Disposal District No. 1. "Any substance which is discharged to the waters of the state and exceeds the limits established by law "

Adams County Planning Department. "The contamination of any waters of the state by human, agricultural, commercial and industrial pollutants that are harmful and dangerous to human, animal or plant life."

Colorado Clean Streams Committee. The same concept as in the federal law should be included in a state law -- "anything that changes or impairs the quality of the water."

Colorado Fuel and Iron Works Corporation. "...we believe that a reasonable and effective means of controlling pollution will require that many different interests and uses be recognized and that there be a classification of streams and portions thereof establishing different standards for different areas, based on the appropriate uses for each particular area. In line with this, we suggest the following general definition of pollution: Pollution shall mean the alteration of the physical, chemical or biological properties of the waters of any area of the State which causes such waters to be in violation of the standards adopted for that area."

Great Western Sugar Company. "Pollution shall mean contamination or other alteration of the physical, chemical, or biological properties of any waters of the state or such discharge of any liquid, gaseous or solid substance into any waters of the state to such extent or in such volume as will create a nuisance or render such waters harmful, detrimental or injurious to public health, safety or welfare."

Tri-County District Health Department. "The statutory definition of water pollution in a general sense should be the same as is stated in the Preamble of the Federal Statutes that was recently passed."

Inadequate State Laws or Administration

Beginning with the fact that existing pieces of law pertaining to water pollution in Colorado are scattered among the statutes and their administration is similarly scattered among various state agencies, the bulk of the criticism presented to the committee on the present condition of water pollution control in Colorado was directed at the inadequacy of the state's laws and deficiencies in their administration. It would appear, however, that much of any administrative deficiency may be credited to problems connected with the inadequacies of the laws themselves.

Generally speaking, a centralized program of water pollution control in Colorado was advocated more than any other single change by those persons meeting with the committee. It was reported that numerous problems are caused by the present system of divided authority; moreover, that authority which is provided at present is insufficient and needs to be spelled out more clearly. For example, the standards written into Colorado's present health department law were reported as not being flexible enough to apply to the varying situations as they arise in different parts of the state. Further, regulatory agencies of the state who are concerned with water pollution control are caught in the middle since they must try to satisfy the many, and at times conflicting, interests involved without the benefit of comprehensive statutory guidelines.

Under the present laws, no individual state agency is charged with the responsibility for control of underground water pollution, an area which in the future may pose greater problems for Colorado than surface water pollution. Along the same line, while developers of subdivisions must prove they have access to an adequate water supply before their plans are approved, the boards of county commissioners have no power to require proof of the adequacy of sewage treatment facilities. One result of this situation has been the installation of septic tanks which, in some cases, become insufficient after the area is largely populated and the residents discover they must add a sewage treatment disposal program so that they end up paying for two sewerage systems instead of just one.

The lack of statutory enforcement power represents another problem area in Colorado. In this connection, for example, under the provisions of Section 62-5-18, C.R.S. 1963, district courts are allowed to make a finding of public necessity in regard to water pollution actions brought by the Game, Fish, and Parks Department with the result that water pollution violators may be allowed to continue their activities. This situation may be one reason why the committee was informed that injunctive relief, although a remedy, has not been an effective deterrent to the prevention of stream pollution in Colorado. It was further reported that there is a problem in getting district attorneys to prosecute unless an offense is flagrant if this action would be harmful to an area's economy. In addition, effective sanctions are not provided in the laws of Colorado in cases where local action lags or is non-existent in establishing proper sewage treatment facilities.

Related to this latter situation, however, is the report that the water pollution control program in the State Department of Public

Health is underfunded and understaffed even in terms of the present law. That is, on the basis of a detailed survey conducted by Public Administration Service under a contract with the U.S. Public Health Service, Colorado should have a minimum staff of 32 and a desirable staff of 48 compared to the present water pollution control staff of ten, including the part-time work of permanent employees with other responsibilities. This proposal may be particularly significant if the state expects to accomplish anything in terms of the prevention of water pollution as well as abatement after the damage has been done.

In regard to administration and enforcement, the committee raised two general questions. The first was: Should water pollution control in Colorado be assigned to a central state agency? The feeling was quite strong that water pollution control should be assigned to a central state agency, with the State Department of Public Health being frequently suggested as the logical agency for this function, as follows:

State Department of Public Health. "Yes, water pollution control in Colorado should be assigned to a central state agency; it should be assigned to the Colorado State Department of Public Health" because the department "has an experienced staff of Sanitary Engineers, and laboratory facilities, plus the experience of working on several pollution abatement problems. The Department has successfully promoted the construction of improved sewage treatment facilities and has been active in all fields related to water pollution. It initiated organization of the State Agencies Committee, which brought all State Agencies involved in water pollution together for the common purpose of working on water pollution problems. This Committee has been actively functioning for the past six years. Additional resources are available through twelve (12) active local Health Departments having qualified staffs of over one-hundred (100) sanitarians."

Game, Fish, and Parks Department. "Water pollution control should be vested in an independent central agency."

Bureau of Mines. "Water pollution control should be assigned to one State agency."

Metropolitan Denver Sewage Disposal District No. 1. "Yes, it should be assigned to the Colorado State Department of Public Health. In some states a separate Water Resources Commission has been established, but my experience indicates that the creation of a second agency only creates confusion, overlapping of powers, etc., and has not resulted in the best and most efficient control of pollution...our existing Department of Public Health has both the know-how and the experienced people to administer water pollution control in Colorado."

Adams County Planning Department. "Yes. Every indication is here, now, that the existing authorities, agencies, districts are unable to cope with the ever-mounting water pollution problem. Considering the anticipated future growth, development and urbanization of the State, and considering the ineffective control -- preventive measures -- of water pollution that exist today, it becomes apparent that some sort of a very definite control agency, with adequate powers, is needed to prevent the continuous and increased future pollution of our waterways."

Colorado Clean Streams Committee. "Yes, with the State Health Department recommended as the central agency."

Colorado Fuel and Iron Works Corporation. "Yes. We believe the Colorado State Department of Public Health should be the administrative agency for water pollution control. We believe there also should be a water pollution control board which could be the Board of Health or a separate board created by law. This board should be representative of the various drainage areas, or irrigation division, industry, agriculture, municipalities, the Game and Fish Department, the State Engineer and possibly other interests. The board would establish classifications of areas and water quality standards for such areas in accordance with their classification. It would have the power to make periodic reclassifications and revisions of standards for all or any particular part of an area and to grant variances in appropriate cases for specified periods of time. The board would, of course, have the power to conduct hearings in the performance of its duties and certain other powers which should be enumerated by law."

Great Western Sugar Company. "We believe the water pollution control in Colorado should be assigned to a central state agency."

Tri-County District Health Department. "Water pollution control in Colorado should be assigned to a central state agency, namely, the Colorado Department of Public Health."

Colorado Municipal League. "Such a proposal would seem to have merit, particularly if the various state statutes governing water pollution are consolidated into one comprehensive act. This would seem to remove much of the conflict between various agencies at the state level which now play a part in controlling water pollution. This would be particularly beneficial to Colorado cities and towns if competent personnel were employed in one state agency to assist local units of government with their pollution problems. Our major concern with a centralized state agency would be the extent of authority given it to enforce compliance by local units of government, inasmuch as extensive authority invested in a state administrative agency could tend to undermine the traditional relationship between state and local governments. Accordingly, if the committee decides to go this route, we would suggest that you look carefully at the type of enforcing authority such an agency would be given over local governmental units."

In regard to enforcement, part of the committee's discussion included the possibility of imposing a pollution fee on violators as compared to the present method of injunctive proceedings. Two main benefits might be expected from the pollution fee approach: (1) It would be cheaper in many cases for a pollutor to correct the violation than it would be to pay a continuing fee; and (2) this fee could be used as a source to provide funds for necessary remedial programs downstream from the pollutor. In order that there would be no loop-hole where, in some cases, it would be cheaper to pay a pollution fee instead of correcting a pollution problem, a time limit of two years, for example, could be provided during which time proper corrective action would be required to be taken. Consequently, the committee asked this question: Should water pollution violations be handled through an injunctive proceeding, through the imposition of a pollution fee program as outlined above, or through some other means? The

majority of the replies to this question favored handling water pollution violations through the use of injunctive proceedings.

State Department of Public Health. "Handling violations by injunctive proceedings appears to be the soundest approach. It accomplishes abatement by stopping pollution. By this method the court would assess a penalty and collect a fine if the violation continued."

Game, Fish, and Parks Department. "Injunctive proceedings might be the only remedy for violations by political subdivisions and might be more effective for large industries who would find it cheaper to pay penalties than to abate the pollution. Fines and penalties would be a better method to abate pollution for individuals or smaller industries where injunctive proceedings would be cumbersome or ineffective."

Bureau of Mines. "Water pollution violations should be handled through injunctive proceedings."

Metropolitan Denver Sewage Disposal District No. 1. "...they should be handled by injunctive proceedings...the Court should be able to issue what would be known as 'Court Order Bonds' backed up by the faith and credit of the State of Colorado to provide the necessary funds required for eliminating the waste problem."

Adams County Planning Department. "We believe that a 'fee system' would be the most desirable approach. It is very simple; it will eliminate costly judicial procedures; it will apply equally to all culprits; its optimum goal will be zero pollution. To sum it up: 'You pay in proportion to how much you pollute. If you do not pollute, you do not pay.'"

Colorado Clean Streams Committee. "Injunctive procedure."

Colorado Fuel and Iron Works Corporation. "...rather detailed procedure should be set forth in the law for the handling of water pollution control and violations. Perhaps the control should start with the requirement that a permit or approval be obtained for the construction of sewage treatment or water pollution control facilities. There would be a provision for the issuance of orders by the administrative department and for hearings before the board with respect to any orders that might be contested. There would also be a provision for appeals to the courts from any order. An order directing compliance with certain standards should prescribe a reasonable time for compliance under all circumstances. We feel that violations could very properly be handled through injunctive proceedings and that penalties or fines could be assessed as a part of such proceedings. For example, after an order of the department had become final by the expiration of a certain period of time or after it had been sustained on appeal, then the department could seek an injunction if the violator failed to comply with the order. If the injunction were issued and thereafter disobeyed, there could be a penalty assessed and the amount of this penalty would be what was appropriate under all the circumstances of the case. This penalty could be in the nature of a fine for contempt of court. Thus, a high penalty might be assessed, if necessary, in order to induce remedial action on the part of the violator."

Great Western Sugar Company. "...injunctive proceedings should be used at the outset where water pollution creates a public health problem. On other matters related to pollution, we believe there should be provided a hearing procedure first with the central control agency, which would then impose the time limits with the final effort being made through the injunctive proceedings. We do not believe the fee program is a workable method of abating pollution."

Tri-County District Health Department. "Water pollution violations should be handled through an injunctive proceeding."

Colorado Municipal League. "It would seem that the answer to this question should depend largely on the enforcing approach decided upon by the committee. It is our view that the present statutes and common law doctrines governing injunction proceedings are not adequate to meet present day pollution problems. If the injunction procedure is to be strengthened, we ask that the committee give some consideration to strengthening the power of municipalities to protect their own water sources from private pollution. Municipal officials would object to any legislation which imposed a penalty fee on local governments or their officials for failing to comply with minimum state standards, particularly where either the community was not capable of financing adequate sewage treatment facilities, or where local officials had referred a bond issue to improve such facilities but failed to receive voter approval. From a legal standpoint, it is difficult for us to visualize how the state could expect to enforce fines levied under these circumstances without jeopardizing the entire concept of local government. With regard to the suggestion that pollution violators might pay a pollution fee in lieu of correcting the pollution problem, we have grave doubts about the merits of this proposal. If the fee were to be applied to municipal governments, the basic problems involved to our people would be no different than those involved with a fine, as already discussed."

Costs of Sewage Treatment Programs

Proper sewage treatment involves both primary and secondary treatment programs in Colorado. Substantial costs are not only involved for providing the necessary plant facilities but, to be effective, must be fully operated by competent and qualified personnel so that these programs are also costly in terms of maintenance and operation.

Furthermore, so far as local governmental programs are concerned, it is often difficult to convince taxpayers of the necessity of developing proper sewage treatment programs when the readily-apparent benefits go to water users downstream. Similarly, when an industry is faced with this proposition, the decision involves the expenditure of capital for purposes where little or no profit return may be expected.

In the case of local governments, federal aid funds may be available to assist in the financing of sewage treatment facilities, but industrial and other private waste treatment programs do not qualify for federal aid. Also, as indicated previously, the presence of a federal-aid program has tended to restrict the construction or

improvement of local sewage treatment plants to those where the costs are shared by the federal government, and there are more applications for these federal aid funds in Colorado than there are funds allocated to this state. Moreover, the committee was informed that municipalities in Colorado are hard-pressed financially to provide sewage and water treatment facilities rapidly enough to keep pace with their needs since many are taxing at their limits now. It was therefore suggested to the committee that some type of state aid is desirable such as financial assistance for local governmental units and tax relief for industries providing facilities to meet waste treatment standards.

In order to gather more detailed expressions of sentiment on this situation, the committee asked: Should state financial aid be provided municipalities, industries, or both, to assist their sewage or waste treatment programs? Most of those replying to this question indicated some form of state aid should be provided, as follows:

State Department of Public Health. "Yes. Financial assistance in some form should be provided government subdivisions through State grants, long term loans or guarantees of bond issues. Industries could lawfully be assisted by tax relief on additional waste treatment facilities or credit allowed on capital gains for income tax purposes."

Game, Fish, and Parks Department. "The Game, Fish, and Parks Department would be ready to make available technical assistance to persons, industries and political subdivisions who might request it."

Bureau of Mines. "State financial aid should be provided for municipalities."

Metropolitan Denver Sewage Disposal District No. 1. "No, I think the 'Court Order Bonds' which would rate lower interest costs and not be a reflection on the total debt obligations of a municipality is sufficient."

Adams County Planning Department. "If some guarantee can be obtained from municipalities, districts, industries, that their ultimate goal (within a reasonable time) is zero pollution, then financial aid should be considered. If not, then the fee system should be established and the monies collected will provide the necessary funds for treating and eliminating the pollutants from our waterways."

Colorado Clean Streams Committee. "Yes, in terms of grants, low interest loans, state guarantee, tax write-off of loans."

Colorado Fuel and Iron Works Corporation. "We believe that the question of state aid should be deferred at this time, pending the evaluation of the effect of federal aid under the new federal Water Pollution Act and pending the evaluation of the effect of new water pollution control legislation which may result from the efforts of this Committee. It may be that a stronger water control law will obviate the necessity of state aid. It is our understanding that there may be serious question whether state aid may be granted to private industry. If this is so, it seems unfair for industry to be taxed to pay for state aid to municipalities when an industry such as CF&I has already spent approximately two million dollars to pay for its own facilities."

Great Western Sugar Company. "We do not believe it is within our province to make a recommendation about financial aid to municipalities, but we do believe it would be in order for the state government to provide sales tax and use tax relief for the cost of waste treatment facilities built by industry to reduce stream pollution."

Tri-County District Health Department. "Ways and means should be sought to provide financial aid to municipalities and to industries."

Colorado Municipal League. "The League Executive Board is in favor of the highest standards for water and sewerage facilities which will be in the best interests of the health, safety and welfare of the public. It is recognized, however, that the ability to finance these facilities will vary considerably from community to community. Therefore, the matter of state and federal assistance will have to be given careful study by the Legislative Council Committee on Water Pollution and the League."

Lack of Detailed Information

The prevention and abatement of water pollution involves a number of complex questions and problems relating to the nature of water pollution itself. This situation necessitates the compilation of information on the causes and sources of pollution and the development of treatment programs best able to meet a particular pollution problem. Obtaining this information constitutes a rather substantial but not insurmountable problem in itself.

As may be noted from a review of the information previously reported herein, more detailed information would be helpful with respect to the condition of sewage treatment facilities in Colorado, including private waste treatment facilities as well as local governmental plants and programs. For example, at the present time it would be extremely difficult if not impossible to estimate the dollar cost which would be involved in improving present waste treatment facilities to acceptable minimum standards and, just as importantly, reasonably close estimates for this cost for the next five to ten years. Similarly, at present the condition of pollution for all streams in the state can only be roughly indicated on the basis of fish-stocking practices of the Game, Fish, and Parks Department.

A comprehensive study of water pollution in the South Platte River Basin in Colorado is being conducted by the U.S. Public Health Service. This study will not be completed, however, until August of 1967, or some three and one-half years after the project was started. The length of this study indicates the size of the problem if similar information is to be gathered for other water basins in the state.

So far as some of the technical difficulties are concerned, one industrial representative reported to the committee that his company had reached a point where it does not have sufficient knowledge or information on design criteria for the construction of a treatment system that would remove the very high percentage of organic wastes that it now seems will have to be accomplished in order to satisfy the more rigid standards that will be imposed on stream water quality.

Relative to determining adverse effects of pollution, a public health sanitarian informed the committee the whole problem is so complex that the only reliable way to determine effects of pollutants on specific waters is to mix the pollutant with the actual receiving water and make all toxicological tests on these combinations. Along this line, it was also pointed out to the committee that it is most difficult to prove that a specific source of pollution is the cause of a communicable disease.

Summary of Immediate Issues and Problems Confronting Colorado

Everyone needs clean or usable water in order to live, to work, and to play, yet at the same time everyone pollutes this most precious resource. In Colorado, where water has always been a limited resource, water pollution serves to reduce further the amount of usable water available; but water pollution is a national as well as a state problem as evidenced by the action taken by Congress in 1965.

The Federal Water Quality Act of 1965 gives the responsibility to each state to, first, file a letter of intent by October 2, 1966, that it will adopt quality criteria applicable to interstate waters or portions thereof within the state and, second, to adopt a plan for implementation and enforcement before June 30, 1967. For those states failing to carry out these two steps, the act authorizes the Secretary of Health, Education, and Welfare to prepare the standards for interstate waters therein.

The act requires that "standards established shall be such as to protect public health or welfare, enhance quality of water, and serve the purposes of this act, and in establishing standards, the Secretary, the hearing board, or appropriate state authority, shall take into consideration their use and value for public water supplies, propagation of fish and wildlife, recreational purposes, and agricultural, industrial, and other legitimate uses." As Colorado's Attorney General pointed out to the committee in a letter dated October 20, 1965, "while there are statutes in Colorado providing the standards for human wastes which may be discharged into the waters of the State and provision for an action to abate pollution in violation of such standards, the present legislation would not cover all of the various standards of pollution required by...the Federal Water Pollution Control Act, above referred to."

On the basis of information developed by the Legislative Council Committee on Water Pollution, a unified program of water pollution control is needed in Colorado, including the assignment of this activity to a central state agency. Moreover, such a program is needed because of existing water pollution problems in this state and not merely to meet newly-adopted federal requirements, although these may serve to provide added impetus to state action being taken.

In brief, decisions are needed, if not required, in Colorado on a general definition of water pollution; the establishment of water quality standards; a program for administration and enforcement of water quality standards, including the prevention as well as the abatement of water pollution; and, possibly, methods or programs for

financing necessary improvements of waste treatment facilities in Colorado.

Among other things, this summary may point up the desirability or need for compiling information on such questions as the present condition of waste treatment programs, private as well as public, and the estimated costs involved to meet present demands and anticipated demands over the next ten years. Information is also needed on existing sources and types of pollution. From the legislative standpoint, during 1966 the Legislative Council's Committee on Water Pollution could devote attention to these questions for the benefit of the members in the 1967 session, including assisting in the development of a program to implement any state water pollution control law.

Of course, as one meeting participant reported to the committee in 1965, perhaps facetiously, the ultimate answer to solving water pollution problems lies in requiring water users to place their waste output pipes immediately upstream of their water intake pipes.

APPENDIX A

TEXT OF FEDERAL WATER POLLUTION
CONTROL LAWS AS AMENDED BY
THE WATER QUALITY ACT OF 1965

TEXT OF FEDERAL WATER POLLUTION CONTROL LAWS ADMINISTERED
BY HEW, INCLUDING "WATER QUALITY ACT OF 1965".

SECTION 1. Congressional declaration of policy in controlling
water pollution; right of states to waters.

(a) The purpose of this Act is to enhance the quality and value of our water resources and to establish a national policy for the prevention, control, and abatement of water pollution.

(b) In connection with the exercise of jurisdiction over the waterways of the Nation and in consequence of the benefits resulting to the public health and welfare by the prevention and control of water pollution, it is declared to be the policy of Congress to recognize, preserve, and protect the primary responsibilities and rights of the States in preventing and controlling water pollution, to support and aid technical research relating to the prevention and control of water pollution, and to provide Federal technical services and financial aid to State and interstate agencies and to municipalities in connection with the prevention and control of water pollution. The Secretary of Health, Education, and Welfare (hereinafter in this Act called 'Secretary') shall administer this Act through the Administration created by section 2 of this Act and with the assistance of an Assistant Secretary of Health, Education, and Welfare designated by him, shall supervise and direct (1) the head of such Administration in administering this Act and (2) the administration of all other functions of the Department of Health, Education, and Welfare related to water pollution. Such Assistant Secretary shall perform such additional functions as the Secretary may prescribe.

There shall be in the Department of Health, Education, and Welfare, in addition to the Assistant Secretaries now provided for by law, one additional Assistant Secretary of Health, Education, and Welfare who shall be appointed by the President, by and with the advice and consent of the Senate. The provisions of section 2 of Reorganization Plan Numbered 1 of 1953 (67 Stat. 631) shall be applicable to such additional Assistant Secretary to the same extent as they are applicable to the Assistant Secretaries authorized by that section. Paragraph (17) of section 303(d) of the Federal Executive Salary Act of 1964 (78 Stat. 418) is amended by striking out "(5)" before the period at the end thereof and inserting in lieu thereof "(6)."

SECTION 2. Federal water pollution control administration.

(Note: This section covers detailed personnel and administrative provisions in effecting the creation of the new administrative department and is therefore omitted.)

SECTION 3. Preparation or development of comprehensive water
pollution programs; cooperation with other agencies; storage for
regulation of streamflow; water quality control; costs.

(a) The Secretary shall, after careful investigation, and in cooperation with other Federal agencies, with State water pollution control agencies and interstate agencies, and with the municipalities and industries involved, prepare or develop comprehensive programs for

eliminating or reducing the pollution of interstate waters and tributaries thereof and improving the sanitary condition of surface and underground waters. In the development of such comprehensive programs due regard shall be given to the improvements which are necessary to conserve such waters for public water supplies, propagation of fish and aquatic life and wildlife, recreational purposes, and agricultural, industrial, and other legitimate uses. For the purpose of this section, the Secretary is authorized to make joint investigations with any such agencies of the condition of any waters in any State or States, and of the discharges of any sewage, industrial wastes, or substance which may adversely affect such waters.

(b) (1) In the survey or planning of any reservoir by the Corps of Engineers, Bureau of Reclamation, or other Federal agency, consideration shall be given to inclusion of storage for regulation of streamflow for the purpose of water quality control, except that any such storage and water releases shall not be provided as a substitute for adequate treatment or other methods of controlling waste at the source.

(2) The need for and the value of storage for this purpose shall be determined by these agencies, with the advice of the Secretary, and his views on these matters shall be set forth in any report or presentation to the Congress proposing authorization or construction of any reservoir including such storage.

(3) The value of such storage shall be taken into account in determining the economic value of the entire project of which it is a part, and costs shall be allocated to the purpose of water quality control in a manner which will insure that all project purposes share equitably in the benefits of multiple-purpose construction.

(4) Costs of water quality control features incorporated in any Federal reservoir or other impoundment under the provisions of this title shall be determined and the beneficiaries identified and if the benefits are widespread or national in scope, the costs of such features shall be nonreimbursable.

SECTION 4. Interstate cooperation; uniform State laws; State compacts; consent of Congress to compacts.

(a) The Secretary shall encourage cooperative activities by the States for the prevention and control of water pollution; encourage the enactment of improved and, so far as practicable, uniform State laws relating to the prevention and control of water pollution; and encourage compacts between States for the prevention and control of water pollution.

(b) The consent of the Congress is given to two or more States to negotiate and enter into agreements or compacts, not in conflict with any law or treaty of the United States, for (1) cooperative effort and mutual assistance for the prevention and control of water pollution and the enforcement of their respective laws relating thereto, and (2) the establishment of such agencies, joint or otherwise, as they may deem desirable for making effective such agreements and compacts. No such agreement or compact shall be binding or obligatory upon any State a party thereto unless and until it has been approved by the Congress.

SECTION 5. Research, investigations, experiments, demonstrations, and studies -- Authorization; powers and duties of Secretary.

(a) The Secretary shall conduct in the Department of Health, Education, and Welfare and encourage, cooperate with, and render assistance to other appropriate public (whether Federal, State, interstate, or local) authorities, agencies, and institutions, private agencies and institutions, and individuals in the conduct of, and promote the coordination of, research, investigations, experiments, demonstrations, and studies relating to the causes, control, and prevention of water pollution. In carrying out the foregoing, the Secretary is authorized to --

(1) collect and make available, through publications and other appropriate means, the results of and other information as to research, investigations, and demonstrations relating to the prevention and control of water pollution, including appropriate recommendations in connection therewith;

(2) make grants-in-aid to public or private agencies and institutions and to individuals for research or training projects and for demonstrations, and provide for the conduct of research, training, and demonstrations by contract with public or private agencies and institutions and with individuals without regard to section 529 of Title 31 and section 5 of Title 41;

(3) secure, from time to time and for such periods as he deems advisable, the assistance and advice of experts, scholars, and consultants as authorized by section 55a of Title 5;

(4) establish and maintain research fellowships in the Department of Health, Education, and Welfare with such stipends and allowances, including traveling and subsistence expenses, as he may deem necessary to procure the assistance of the most promising research fellowships: Provided, That the Secretary shall report annually to the appropriate committees of Congress on his operations under this paragraph; and

(5) provide training in technical matters relating to the causes, prevention, and control of water pollution to personnel of public agencies and other persons with suitable qualifications.

Specific Problems of Water Pollution

(b) The Secretary may, upon request of any State water pollution control agency, or interstate agency, conduct investigations and research and make surveys concerning any specific problem of water pollution confronting any State, interstate agency, community, municipality, or industrial plant, with a view of recommending a solution of such problem.

Collection and Dissemination of Basic Data on Chemical, Physical, and Biological Water Quality

(c) The Secretary shall, in cooperation with other Federal, State, and local agencies having related responsibilities, collect and disseminate basic data on chemical, physical, and biological water quality and other information insofar as such data or other information relate to water pollution and the prevention and control thereof.

Municipal Sewage and Other Waterborne Wastes; Effects of
Pollutants on Water Uses; Evaluation of Effects on
Water Quality and Water Uses of Augmented
Streamflows; Appropriation

(d) (1) In carrying out the provisions of this section the Secretary shall develop and demonstrate under varied conditions (including conducting such basic and applied research studies, and experiments as may be necessary):

(A) Practicable means of treating municipal sewage and other waterborne wastes to remove the maximum possible amounts of physical, chemical, and biological pollutants in order to restore and maintain the maximum amount of the Nation's water at a quality suitable for repeated reuse;

(B) Improved methods and procedures to identify and measure the effects of pollutants on water uses, including those pollutants created by new technological developments; and

(C) Methods and procedures for evaluating the effects on water quality and water uses of augmented streamflows to control water pollution not susceptible to other means of abatement.

(2) For the purposes of this subsection there is authorized to be appropriated not more than \$5,000,000 for any fiscal year, and the total sum appropriated for such purposes shall not exceed \$25,000,000.

Field Laboratory and Research Facilities

(e) The Secretary shall establish, equip, and maintain field laboratory and research facilities, including, but not limited to, one to be located in the northeastern area of the United States, one in the Middle Atlantic area, one in the southeastern area, one in the midwestern area, one in the southwestern area, one in the Pacific Northwest, and one in the State of Alaska, for the conduct of research, investigations, experiments, field demonstrations and studies, and training relating to the prevention and control of water pollution. Insofar as practicable, each such facility shall be located near institutions of higher learning in which graduate training in such research might be carried out.

Waters of the Great Lakes: Research and
Technical Development Work

(f) The Secretary shall conduct research and technical development work, and make studies, with respect to the quality of the waters of the Great Lakes, including an analysis of the present and projected future water quality of the Great Lakes under varying conditions of waste treatment and disposal, an evaluation of the water quality needs of those to be served by such waters, an evaluation of municipal, industrial, and vessel waste treatment and disposal practices with respect to such waters, and a study of alternate means of solving water pollution problems (including additional waste treatment measures) with respect to such waters.

SECTION 6. Grants for research and development. (a) The Secretary is authorized to make grants to any State, municipality, or intermunicipal or interstate agency for the purpose of assisting in the development of any project which will demonstrate a new or improved method of controlling the discharge into any waters of untreated or inadequately treated sewage or other waste from sewers which carry storm water or both storm water and sewage or other wastes, and for the purpose of reports, plans, and specifications in connection therewith. The Secretary is authorized to provide for the conduct of research and demonstrations relating to new or improved methods of controlling the discharge into any waters of untreated or inadequately treated sewage or other waste from sewers which carry storm water or both storm water and sewage or other wastes, by contract with public or private agencies and institutions and with individuals without regard to sections 3648 and 3709 of the Revised Statutes, except that not to exceed 25 per centum of the total amount appropriated under authority of this section for any fiscal year may be expended under authority of this sentence during such fiscal year.

(b) Federal grants under this section shall be subject to the following limitations: (1) No grant shall be made for any project pursuant to this section unless such project shall have been approved by an appropriate State water pollution control agency or agencies and by the Secretary; (2) no grant shall be made for any project in an amount exceeding 50 per centum of the estimated reasonable cost thereof as determined by the Secretary; (3) no grant shall be made for any project under this section unless the Secretary determines that such project will serve as a useful demonstration of a new or improved method of controlling the discharge into any water of untreated or inadequately treated sewage or other waste from sewers which carry storm water or both storm water and sewage or other wastes.

(c) There are hereby authorized to be appropriated for the fiscal year ending June 30, 1966, and for each of the next three succeeding fiscal years, the sum of \$20,000,000 per fiscal year for the purposes of this section. Sums so appropriated shall remain available until expended. No grant or contract shall be made for any project in an amount exceeding 5 per centum of the total amount authorized by this section in any one fiscal year.

SECTION 7. Grants for water pollution control programs - Authorization of appropriations.

(a) There are authorized to be appropriated for the fiscal year ending June 30, 1957, and for each succeeding fiscal year to and including the fiscal year ending June 30, 1961, \$3,000,000, and for each succeeding fiscal year to and including the fiscal year ending June 30, 1968, \$5,000,000 for grants to States and to interstate agencies to assist them in meeting the costs of establishing and maintaining adequate measures for the prevention and control of water pollution.

(b) The portion of the sums appropriated pursuant to subsection (a) of this section for a fiscal year which shall be available for grants to interstate agencies and the portion thereof which shall be available for grants to States shall be specified in the Act appropriating such sums.

Allotments to States

(c) From the sums available therefor for any fiscal year the Secretary shall from time to time make allotments to the several States, in accordance with regulations, on the basis of (1) the population, (2) the extent of the water pollution problem, and (3) of the financial need of the respective States.

Payment to States of Amount Equivalent to Federal Share of Cost of Carrying Out State Plan

(d) From each State's allotment under subsection (c) of this section for any fiscal year the Secretary shall pay to such State an amount equal to its Federal share (as determined under subsection (h) of this section) of the cost of carrying out its State plan approved under subsection (f) of this section, including the cost of training personnel for State and local water pollution control work and including the cost of administering the State plan.

Allotments to Interstate Agencies; Payment of Amount Equivalent to Federal Share of Cost of Carrying Out Plan

(e) From the sums available therefor for any fiscal year the Secretary shall from time to time make allotments to interstate agencies, in accordance with regulations, on such basis as the Secretary finds reasonable and equitable. He shall from time to time pay to each such agency, from its allotment, an amount equal to such portion of the cost of carrying out its plan approved under subsection (f) of this section as may be determined in accordance with regulations, including the cost of training personnel for water pollution control work and including the cost of administering the interstate agency's plan. The regulations relating to the portion of the cost of carrying out the interstate agency's plan which shall be borne by the United States shall be designed to place such agencies, so far as practicable, on a basis similar to that of the States.

Approval of State or Interstate Plans; Notice and Hearing

(f) The Secretary shall approve any plan for the prevention and control of water pollution which is submitted by the State water pollution control agency or, in the case of an interstate agency, by such agency, if such plan --

(1) provides for administration or for the supervision of administration of the plan by the State water pollution control agency or, in the case of a plan submitted by an interstate agency, by such interstate agency;

(2) provides that such agency will make such reports, in such form and containing such information, as the Secretary may from time to time reasonably require to carry out his functions under this title;

(3) sets forth the plans, policies, and methods to be followed in carrying out the State (or interstate) plan and in its administration;

(4) provides for extension or improvement of the State or interstate program for prevention and control of water pollution;

(5) provides such accounting, budgeting, and other fiscal methods and procedures as are necessary for the proper and efficient administration of the plan; and

(6) sets forth the criteria used by the State in determining priority of projects as provided in section 8 (b) (4) of this title.

The Secretary shall not disapprove any plan without first giving reasonable notice and opportunity for hearing to the State water pollution control agency or interstate agency which has submitted such plan.

Failure to Comply With Requirements of Plan; Cessation
of Payments After Notice and Hearing; Review
of Action of Secretary

(g) (1) Whenever the Secretary, after reasonable notice and opportunity for hearing to a State water pollution control agency or interstate agency finds that --

(A) the plan submitted by such agency and approved under this section has been so changed that it no longer complies with a requirement of subsection (f) of this section; or

(B) in the administration of the plan there is a failure to comply substantially with such a requirement,

the Secretary shall notify such agency that no further payments will be made to the State or to the interstate agency, as the case may be, under this section (or in his discretion that further payments will not be made to the State, or to the interstate agency, for projects under or parts of the plan affected by such failure) until he is satisfied that there will no longer be any such failure. Until he is so satisfied, the Secretary shall make no further payments to such State, or to such interstate agency, as the case may be, under this section (or shall limit payments to projects under or parts of the plan in which there is no such failure).

(2) If any State or any interstate agency is dissatisfied with the Secretary's action with respect to it under this subsection, it may appeal to the United States court of appeals for the circuit in which such State (or any of the member States, in the case of an interstate agency) is located. The summons and notice of appeal may be served at any place in the United States. The findings of fact by the Secretary, unless contrary to the weight of the evidence, shall be conclusive; but the court, for good cause shown, may remand the case to the Secretary to take further evidence, and the Secretary may thereupon make new or modified findings of fact and may modify his previous action. Such new or modified findings of fact shall likewise be conclusive unless contrary to the weight of the evidence. The court shall have jurisdiction to affirm the action of the Secretary or to set it aside, in whole or in part. The judgment of the court shall be subject to review by the Supreme Court of the United States upon certiorari or certification as provided in section 1254 of Title 28.

Amount of Federal Shares; Promulgation

(h) (1) The "Federal share" for any State shall be 100 per centum less that percentage which bears the same ratio to 50 per centum as the per capita income of such State bears to the per capita income of the United States, except that (A) the Federal share shall in no case be more than 66 2/3 per centum or less than 33 1/3 per centum, and (B) the Federal share for Puerto Rico and the Virgin Islands shall be 66 2/3 per centum.

(2) The "Federal shares" shall be promulgated by the Secretary between July 1 and September 30 of each even-numbered year, on the basis of the average of the per capita incomes of the States and of the average of the per capita incomes of the States and of the United States for the three most recent consecutive years for which satisfactory data are available from the Department of Commerce. Such promulgation shall be conclusive for each of the two fiscal years in the period beginning July 1 next succeeding such promulgation: Provided, That the Federal shares promulgated by the Secretary pursuant to section 4 of the Water Pollution Control Act Amendments of 1956, shall be conclusive for the period beginning July 1, 1956, and ending June 30, 1959.

(3) As used in this subsection, the term "United States" means the fifty States and the District of Columbia.

(4) Promulgations made before satisfactory data are available from the Department of Commerce for a full year on the per capita income of Alaska shall prescribe a Federal share for Alaska of 50 per centum and, for purposes of such promulgations. Alaska shall not be included as part of the "United States". Promulgations made thereafter but before per capita income data for Alaska for a full-three year period are available for the Department of Commerce shall be based on satisfactory data available therefrom for Alaska for such one full year or, when such data are available for a two-year period, for such two years.

(i) The population of the several States shall be determined on the basis of the latest figures furnished by the Department of Commerce.

Method of Computation and Payment of Allotments

(j) The method of computing and paying amounts pursuant to subsection (d) or (e) of this section shall be as follows:

(1) The Secretary shall, prior to the beginning of each calendar quarter or other period prescribed by him, estimate the amount to be paid to each State (or to each interstate agency in the case of subsection (e) of this section) under the provisions of such subsection for such period, such estimate to be based on such records of the State (or the interstate agency) and information furnished by it, and such other investigation, as the Secretary may find necessary.

(2) The Secretary shall pay to the State (or to the interstate agency), from the allotment available therefor, the amount so estimated by him for any period, reduced or increased, as the case may be,

by any sum (not previously adjusted under this paragraph) by which he finds that his estimate of the amount to be paid such State (or such interstate agency) for any prior period under such subsection was greater or less than the amount which should have been paid to such State (or such agency) for such prior period under such subsection. Such payments shall be made through the disbursing facilities of the Treasury Department, in such installments as the Secretary may determine.

SECTION 8. Grants for construction of sewerage treatment works - Authorization.

(a) The Secretary is authorized to make grants to any State, municipality, or intermunicipal or interstate agency for the construction of necessary treatment works to prevent the discharge of untreated or inadequately treated sewage or other waste into any waters and for the purpose of reports, plans, and specifications in connection therewith.

Limitations

(b) Federal grants under this section shall be subject to the following limitations: (1) No grant shall be made for any project pursuant to this section unless such project shall have been approved by the appropriate State water pollution control agency or agencies and by the Secretary and unless such project is included in a comprehensive program developed pursuant to this title; (2) except as otherwise provided in this clause, no grant shall be made for any project in an amount exceeding 30 per centum of the estimated reasonable cost thereof as determined by the Secretary, or in an amount exceeding \$1,200,000, whichever is the smaller: Provided, That the grantee agrees to pay the remaining cost: Provided, further, That, in the case of a project which will serve more than one municipality (A) the Secretary shall, on such basis as he determines to be reasonable and equitable, allocate to each municipality to be served by such project its share of the estimated reasonable cost of such project, and shall then apply the limitations provided in this clause (2) to each such share as if it were a separate project to determine the maximum amount of any grant which could be made under this section with respect to each such share, and the total of all the amounts so determined or \$4,800,000, whichever is the smaller, shall be the maximum amount of the grant which may be made under this section on account of such project, and (B) for the purpose of the limitation in the last sentence of subsection (d) of this section, the share of each municipality so determined shall be regarded as a grant for the construction of treatment works; (3) no grant shall be made for any project under this section until the applicant has made provision satisfactory to the Secretary for assuring proper and efficient operation and maintenance of the treatment works after completion of the construction thereof; (4) no grant shall be made for any project under this section unless such project is in conformity with the State water pollution control plan submitted pursuant to the provisions of section 7 of this title and has been certified by the State water pollution control agency as entitled to priority over other eligible projects on the basis of financial as well as water pollution control needs; and (5) no grant shall be made under this section for any project in any State in an amount exceeding \$250,000 until a grant has been made

thereunder for each project in such State (A) for which an application was filed with the appropriate State water pollution control agency prior to one year after July 20, 1961 and (B) which the Secretary determines met the requirements of this section and regulations thereunder as in effect prior to July 20, 1961. The limitations of \$1,200,000 and \$4,800,000 imposed by clause (2) of this subsection shall not apply in the case of grants made under this section from funds allocated under the third sentence of subsection (c) of this section if the State agrees to match equally all Federal grants made from such allocation for projects in such state.

Determination of Desirability of Projects and of Approving
Federal Financial Aid; Allotment of Funds; Determination
of Population and per Capita Income

(c) In determining the desirability of projects for treatment works and of approving Federal financial aid in connection therewith, consideration shall be given by the Secretary to the public benefits to be derived by the construction and the propriety of Federal aid in such construction, the relation of the ultimate cost of constructing and maintaining the works to the public interest and to the public necessity for the works, and the adequacy of the provisions made or proposed by the applicant for such Federal financial aid for assuring proper and efficient operation and maintenance of the treatment works after completion of the construction thereof. The sums appropriated pursuant to subsection (d) of this section for each fiscal year ending on or before June 30, 1965, and the first \$100,000,000 appropriated pursuant to subsection (d) for each fiscal year beginning on or after July 1, 1965, shall be allotted by the Secretary from time to time, in accordance with regulations, as follows: (1) 50 per centum of such sums in the ratio that the population of each State bears to the population of all the States, and (2) 50 per centum of such sums in the ratio that the quotient obtained by dividing the per capita income of the United States by the per capita income of each State bears to the sum of such quotients for all the States. All sums in excess of \$100,000,000 appropriated pursuant to subsection (d) for each fiscal year beginning on or after July 1, 1965, shall be allotted by the Secretary from time to time, in accordance with regulations in the ratio that the population of each state bears to the population of all states. Sums allotted to a State under the two preceding sentences which are not obligated within six months following the end of the fiscal year for which they were allotted because of a lack of projects which have been approved by the State water pollution control agency under subsection (b) (1) of this section and certified as entitled to priority under subsection (b) (4) of this section, shall be reallocated by the Secretary, on such basis as he determines to be reasonable and equitable and in accordance with regulations promulgated by him, to States having projects approved under this section for which grants have not been made because of lack of funds: Provided, however, That whenever a State has funds subject to reallocation and the Secretary finds that the need for a project in a community in such State is due in part to any Federal institution or Federal construction activity, he may, prior to such reallocation, make an additional grant with respect to such project which will in his judgment reflect an equitable contribution for the need caused by such Federal institution or activity. Any sum made available to a State by reallocation under the

preceding sentence shall be in addition to any funds otherwise allotted to such State under this title. The allotments of a State under the second, third, and fourth sentences of this subsection shall be available, in accordance with the provisions of this section, for payments with respect to projects in such State which have been approved under this section. For purposes of this section, population shall be determined on the basis of the latest decennial census for which figures are available, as certified by the Secretary of Commerce, and per capita income for each State and for the United States shall be determined on the basis of the average of the per capita incomes of the States and of the continental United States for the three most recent consecutive years for which satisfactory data are available from the Department of Commerce.

Authorization of Appropriations

(d) There are authorized to be appropriated for each fiscal year through and including the fiscal year ending June 30, 1961, the sum of \$50,000,000 per fiscal year for the purpose of making grants under this section. There are authorized to be appropriated, for the purpose of making grants under this section, \$80,000,000 for the fiscal year ending June 30, 1962, \$90,000,000 for the fiscal year ending June 30, 1963, \$100,000,000 for the fiscal year ending June 30, 1964, \$100,000,000 for the fiscal year ending June 30, 1965, \$150,000,000 for the fiscal year ending June 30, 1966, and \$150,000,000 for the fiscal year ending June 30, 1967. Sums so appropriated shall remain available until expended. At least 50 per centum of the funds so appropriated for each fiscal year ending on or before June 30, 1965, and at least 50 per centum of the first \$100,000,000,000 so appropriated for each fiscal year beginning on or after July 1, 1965, shall be used for grants for the construction of treatment works servicing municipalities of one hundred and twenty-five thousand population or under.

Method of Payment; Inclusion of Preliminary Planning in Construction

(e) The Secretary shall make payments under this section through the disbursing facilities of the Department of the Treasury. Funds so paid shall be used exclusively to meet the cost of construction of the project for which the amount was paid. As used in this section the term "construction" includes preliminary planning to determine the economic and engineering feasibility of treatment works, the engineering, architectural, legal, fiscal, and economic investigations and studies, surveys, designs, plans, working drawings, specifications, procedures, and other action necessary to the construction of treatment works; and the erection, building, acquisition, alteration, remodeling, improvement, or extension of treatment works; and the inspection and supervision of the construction of treatment works.

(f) Notwithstanding any other provisions of this section, the Secretary may increase the amount of a grant made under subsection (b) of this section by an additional 10 per centum of the amount of such grant for any project which has been certified to him by an official State, metropolitan, or regional planning agency empowered under State or local laws or interstate compact to perform metropolitan or regional planning for a metropolitan area within which the assistance is to be

used, or other agency or instrumentality designated for such purposes by the Governor (or Governors in the case of interstate planning) as being in conformity with the comprehensive plan developed or in process of development for such metropolitan area. For the purposes of this subsection, the term "metropolitan area" means either (1) a standard metropolitan statistical area as defined by the Bureau of the Budget, except as may be determined by the President as not being appropriate for the purposes hereof, or (2) any urban area, including those surrounding areas that form an economic and socially related region, taking into consideration such factors as present and future population trends and patterns of urban growth, location of transportation facilities and systems, and distribution of industrial, commercial, residential, governmental, institutional, and other activities, which in the opinion of the President lends itself as being appropriate for the purposes hereof.

Rates of Wages for Laborers and Mechanics

(g) The Secretary shall take such action as may be necessary to insure that all laborers and mechanics employed by contractors or subcontractors on projects for which grants are made under this section shall be paid wages at rates not less than those prevailing for the same type of work on similar construction in the immediate locality, as determined by the Secretary of Labor, in accordance with sections 276a to 276a-5 of Title 40.

The Secretary of Labor shall have, with respect to the labor standards specified in this subsection, the authority and functions set forth in Reorganization Plan Numbered 14 of 1950 (15 F.R. 3176; 64 Stat. 1267; 5 U.S.C. 133z-15) and section 2 of the Act of June 13, 1934, as amended (48 Stat. 948; 40 U.S.C. 276C).

SECTION 9. Water Pollution Control Advisory Board - Establishment; composition; term of office of members; compensation.

(a) (1) There is established in the Department of Health, Education, and Welfare, a Water Pollution Control Advisory Board, composed of the Secretary or his designee, who shall be chairman, and nine members appointed by the President, none of whom shall be Federal officers or employees. The appointed members, having due regard for the purposes of this title, shall be selected from among representatives of various State, interstate and local governmental agencies, of public or private interests contributing to, affected by, or concerned with water pollution, and of other public and private agencies, organizations, or groups demonstrating an active interest in the field of water pollution prevention and control, as well as other individuals who are expert in this field.

(2) (A) Each member appointed by the President shall hold office for a term of three years, except that (i) any member appointed to fill a vacancy occurring prior to the expiration of the term for which his predecessor was appointed shall be appointed for the remainder of such term, and (ii) the terms of office of the members first taking office after June 30, 1956, shall expire as follows: three at the end of one year after such date, three at the end of two years after such date, and three at the end of three years after such date, as designated by the President at the time of appointment, and (iii) the term

of any member under the preceding provisions shall be extended until the date on which his successor's appointment is effective. None of the members appointed by the President shall be eligible for reappointment within one year after the end of his preceding term, but terms commencing prior to July 9, 1956 shall not be deemed "preceding terms" for purposes of this sentence.

(B) The members of the Board who are not officers or employees of the United States, while attending conferences or meetings of the Board or while otherwise serving at the request of the Secretary, shall be entitled to receive compensation at a rate to be fixed by the Secretary, but not exceeding \$50 per diem, including travel time, 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 (section 73b-2 of Title 5) for persons in the Government service employed intermittently.

Duties

(b) The Board shall advise, consult with, and make recommendations to the Secretary on matters of policy relating to the activities and functions of the Secretary under this title.

Clerical and Technical Assistance

(c) Such clerical and technical assistance as may be necessary to discharge the duties of the Board shall be provided from the personnel of the Department of Health, Education, and Welfare.

SECTION 10. Enforcement measures against pollution of interstate or navigable waters - Pollution of waters subject to abatement.

(a) The pollution of interstate or navigable waters in or adjacent to any State or States (whether the matter causing or contributing to such pollution is discharged directly into such waters or reaches such waters after discharge into a tributary of such waters), which endangers the health or welfare of any persons, shall be subject to abatement as provided in this title.

Encouragement of State and Interstate Action

(b) Consistent with the policy declaration of sections 466-466k of this title, State and interstate action to abate pollution of interstate or navigable waters shall be encouraged and shall not, except as otherwise provided by or pursuant to court order under subsection (h) of this section, be displaced by Federal enforcement action.

(c)(1) If the Governor of a State or a State water pollution control agency files, within one year after the date of enactment of this subsection, a letter of intent that such State, after public hearings, will before June 30, 1967, adopt (A) water quality criteria applicable to interstate waters or portions thereof within such State, and (B) a plan for the implementation and enforcement of the water quality criteria adopted, and if such criteria and plan are established in accordance with the letter of intent, and if the Secretary determines that such State criteria and plan are consistent with paragraph

(3) of this subsection, such State criteria and plan shall thereafter be the water quality standards applicable to such interstate waters or portions thereof.

(2) If a State does not (A) file a letter of intent or (B) establish water quality standards in accordance with paragraph (1) of this subsection, or if the Secretary or the Governor of any State affected by water quality standards established pursuant to this subsection desires a revision in such standards, the Secretary may, after reasonable notice and a conference of representatives of appropriate Federal departments and agencies, interstate agencies, States, municipalities and industries involved, prepare regulations setting forth standards of water quality to be applicable to interstate waters or portions thereof. If, within six months from the date the Secretary publishes such regulations, the State has not adopted water quality standards found by the Secretary to be consistent with paragraph (3) of this subsection, or a petition for public hearing has not been filed under paragraph (4) of this subsection, the Secretary shall promulgate such standards.

(3) Standards of quality established pursuant to this subsection shall be such as to protect the public health or welfare, enhance the quality of water and serve the purposes of this Act. In establishing such standards the Secretary, the Hearing Board, or the appropriate State authority shall take into consideration their use and value for public water supplies, propagation of fish and wildlife, recreational purposes, and agricultural, industrial, and other legitimate uses.

(4) If at any time prior to 30 days after standards have been promulgated under paragraph (2) of this subsection, the Governor of any State affected by such standards petitions the Secretary for a hearing, the Secretary shall call a public hearing, to be held in or near one or more of the places where the water quality standards will take effect, before a Hearing Board of five or more persons appointed by the Secretary. Each State which would be affected by such standards shall be given an opportunity to select one member of the Hearing Board. The Department of Commerce and other affected Federal departments and agencies shall each be given an opportunity to select a member of the Hearing Board and not less than a majority of the Hearing Board shall be persons other than officers or employees of the Department of Health, Education, and Welfare. The members of the Board who are not officers or employees of the United States, while participating in the hearing conducted by such Hearing Board or otherwise engaged on the work of such Hearing Board, shall be entitled to receive compensation at a rate fixed by the Secretary, but not exceeding \$100 per diem, including travel time, 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. Notice of such hearing shall be published in the Federal Register and given to the State water pollution control agencies, interstate agencies and municipalities involved at least 30 days prior to the date of such hearing. On the basis of the evidence presented at such hearing, the Hearing Board shall make findings as to whether the standards published or promulgated by the Secretary should be approved or modified and transmit its findings to the

Secretary. If the Hearing Board approves the standards as published or promulgated by the Secretary, the standards shall take effect on receipt by the Secretary of the Hearing Board's recommendations. If the Hearing Board recommends modifications in the standards as published or promulgated by the Secretary, the Secretary shall promulgate revised regulations setting forth standards of water quality in accordance with the Hearing Board's recommendations which will become effective immediately upon promulgation.

(5) The discharge of matter into such interstate waters or portions thereof, which reduces the quality of such waters below the water quality standards established under this subsection (whether the matter causing or contributing to such reduction is discharged directly into such waters or reaches such waters after discharge into tributaries of such waters), is subject to abatement in accordance with the provisions of paragraph (1) or (2) of subsection (g) of this section, except that at least 180 days before any abatement action is initiated under either paragraph (1) or (2) of subsection (g) as authorized by this subsection, the Secretary shall notify the violators and other interested parties of the violation of such standards. In any suit brought under the provisions of this subsection the court shall receive in evidence a transcript of the proceedings of the conference and hearing provided for in this subsection, together with the recommendations of the conference and Hearing Board and the recommendations and standards promulgated by the Secretary, and such additional evidence, including that relating to the alleged violation of the standards, as it deems necessary to a complete review of the standards and to a determination of all other issues relating to the alleged violation. The court, giving due consideration to the practicability and to the physical and economic feasibility of complying with such standards, shall have jurisdiction to enter such judgment and orders enforcing such judgment as the public interest and the equities of the case may require.

(6) Nothing in this subsection shall (A) prevent the application of this section to any case to which subsection (a) of this section would otherwise be applicable, or (B) extend Federal jurisdiction over water not otherwise authorized by this Act.

(7) In connection with any hearings under this section no witness or any other person shall be required to divulge trade secrets or secret process.

Notification of Pollution; Conference of State and
Interstate Agencies; Notice of Conference
Date; Summary of Conference Discussions

(d) (1) Whenever requested by the Governor of any State or a State water pollution control agency, or (with the concurrence of the Governor and of the State water pollution control agency for the State in which the municipality is situated) the governing body of any municipality, the Secretary shall, if such request refers to pollution of waters which is endangering the health or welfare of persons in a State other than that in which the discharge or discharges (causing or contributing to such pollution) originates, give formal notification thereof to the water pollution control agency and interstate agency, if any, of the State or States where such discharge or discharges

originate and shall call promptly a conference of such agency or agencies and of the State water pollution control agency and interstate agency, if any, of the State or States, if any, which may be adversely affected by such pollution. Whenever requested by the Governor of any State, the Secretary shall, if such request refers to pollution of interstate or navigable waters which is endangering the health or welfare of persons only in the requesting State in which the discharge or discharges (causing or contributing to such pollution) originate, give formal notification thereof to the water pollution control agency and interstate agency, if any, of such State and shall promptly call a conference of such agency or agencies, unless, in the judgment of the Secretary, the effect of such pollution on the legitimate uses of the waters is not of sufficient significance to warrant exercise of Federal jurisdiction under this section. The Secretary shall also call such a conference whenever, on the basis of reports, surveys, or studies, he has reason to believe that any pollution referred to in subsection (a) of this section and endangering the health or welfare of persons in a State other than that in which the discharge or discharges originate is occurring, or he finds that substantial economic injury results from the inability to market shellfish or shellfish products in interstate commerce because of pollution referred to in subsection (a) and action of Federal, State, or local authorities.

(2) The agencies called to attend such conference may bring such persons as they desire to the conference. Not less than three weeks prior notice of the conference date shall be given such agencies.

(3) Following this conference, the Secretary shall prepare and forward to all the water pollution control agencies attending the conference a summary of conference discussions including (A) occurrence of pollution of interstate or navigable waters subject to abatement under sections 466-466k of this title; (B) adequacy of measures taken toward abatement of the pollution; and (C) nature of delays, if any, being encountered in abating the pollution.

Recommendation of Secretary to State
Agency to Take Remedial Action

(e) If the Secretary believes, upon the conclusion of the conference or thereafter, that effective progress toward abatement of such pollution is not being made and that the health or welfare of any persons is being endangered, he shall recommend to the appropriate State water pollution control agency that it take necessary remedial action. The Secretary shall allow at least six months from the date he makes such recommendations for the taking of such recommended action.

Failure to Take Remedial Action; Public Hearing;
Appointment of Board, Notice of Hearing;
Findings of Board; Recommendations to
Secretary of Health, Education,
Welfare; Action of Secretary

(f) If, at the conclusion of the period so allowed, such remedial action has not been taken or action which in the judgment of the Secretary is reasonably calculated to secure abatement of such

pollution has not been taken, the Secretary shall call a public hearing, to be held in or near one or more of the places where the discharge or discharges causing or contributing to such pollution originated, before a Hearing Board of five or more persons appointed by the Secretary. Each State in which any discharge causing or contributing to such pollution originates and each State claiming to be adversely affected by such pollution shall be given an opportunity to select one member of the Hearing Board and at least one member shall be a representative of the Department of Commerce, and not less than a majority of the Hearing Board shall be persons other than officers or employees of the Department of Health, Education, and Welfare. At least three weeks' prior notice of such hearing shall be given to the State water pollution control agencies and interstate agencies, if any, called to attend the aforesaid hearing and the alleged polluter or polluters. On the basis of the evidence presented at such hearing, the Hearing Board shall make findings as to whether pollution referred to in subsection (a) of this section is occurring and whether effective progress toward abatement thereof is being made. If the Hearing Board finds such pollution is occurring and effective progress toward abatement thereof is not being made it shall make recommendations to the Secretary concerning the measures, if any, which it finds to be reasonable and equitable to secure abatement of such pollution. The Secretary shall send such findings and recommendations to the person or persons discharging any matter causing or contributing to such pollution, together with a notice specifying a reasonable time (not less than six months) to secure abatement of such pollution, and shall also send such findings and recommendations and such notice to the State water pollution control agency and to the interstate agency, if any, of the State or States where such discharge or discharges originate.

Action on Behalf of United States to Secure
Abatement of the Pollution

(g) If action reasonably calculated to secure abatement of the pollution within the time specified in the notice following the public hearing is not taken, the Secretary --

(1) in the case of pollution of waters which is endangering the health or welfare of persons in a State other than that in which the discharge or discharges (causing or contributing to such pollution) originate, may request the Attorney General to bring a suit on behalf of the United States to secure abatement of pollution, and

(2) in the case of pollution of waters which is endangering the health or welfare of persons only in the State in which the discharge or discharges (causing or contributing to such pollution) originate, may, with the written consent of the Governor of such State, request the Attorney General to bring a suit on behalf of the United States to secure abatement of the pollution.

(h) The court shall receive in evidence in any such suit a transcript of the proceedings before the Board and a copy of the Board's recommendations and shall receive such further evidence as the court in its discretion deems proper. The court, giving due

consideration to the practicability and to the practicability and to the physical and economic feasibility of securing abatement of any pollution proved, shall have jurisdiction to enter such judgment, and orders enforcing such judgment, as the public interest and the equities of the case may require.

Per Diem Allowances for Members of Hearing Boards

(i) Members of any Hearing Board appointed pursuant to subsection (f) of this section who are not regular full-time officers or employees of the United States shall, while participating in the hearing conducted by such Board or otherwise engaged on the work of such Board, be entitled to receive compensation at a rate fixed by the Secretary, but not exceeding \$100 per diem, including travel time, 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 (section 73b-2 of Title 5) for persons in the Government service employed intermittently.

Definitions

(j) As used in this section the term --

(1) "persons" includes an individual, corporation, partnership, association, State, municipality, and political subdivision of a State, and

(2) "municipality" means a city, town, borough, county, parish, district, or other public body created by or pursuant to State law.

SECTION 10-1. Controversies involving construction or application of interstate compacts and pollution of waters - Jurisdiction of actions by States.

(a) The United States district courts shall have original jurisdiction (concurrent with that of the Supreme Court of the United States, and concurrent with that of any other court of the United States or of any State of the United States, in matters in which the Supreme Court, or any other court, has original jurisdiction) of any case or controversy--

(1) which involves the construction or application of an interstate compact which (A) in whole or in part relates to the pollution of the waters of an interstate river system or any portion thereof, and (B) expresses the consent of the States signatory to said compact to be sued in a district court in any case or controversy involving the application or construction thereof; and

(2) which involves pollution of the waters of such river system, or any portion thereof, alleged to be in violation of the provisions of said compact; and

(3) in which one or more of the States signatory to said compact is a plaintiff or plaintiffs; and

(4) which is within the judicial power of the United States as set forth in the Constitution of the United States.

Amount in Controversy; Residence, Situs or Citizenship; Nature, Character, or Legal Status of Parties

(b) The district courts shall have original jurisdiction of a case or controversy such as is referred to in subsection (a) of this section, without any requirement, limitation, or regard as to the sum or value of the matter in controversy, or of the place of residence or situs or citizenship, or of the nature, character, or legal status, of any of the proper parties plaintiff or defendant in said case or controversy other than the signatory State or States plaintiff or plaintiffs referred to in paragraph (3) of subsection (a) of this section: Provided, That nothing in this section shall be construed as authorizing a State to sue its own citizens in said courts.

Suits Between States Signatory to Interstate Compact

(c) The original jurisdiction conferred upon the district courts by this section shall include, but not be limited to, suits between States signatory to such interstate compact: Provided, That nothing in this section shall be construed as authorizing a State to sue another State which is not a signatory to such compact in said courts.

Venue

(d) The venue of such case or controversy shall be as prescribed by law: Provided, That in addition thereto, such case or controversy may be brought in in any judicial district in which the acts of pollution complained of, or any portion thereof, occur, regardless of the place or places of residence, or situs, of any of the parties, plaintiff or defendant.

SECTION 11. Cooperation to control pollution from Federal installations.

It is declared to be the intent of the Congress that any Federal department or agency having jurisdiction over any building, installation, or other property shall, insofar as practicable and consistent with the interests of the United States and within any available appropriations, cooperate with the Department of Health, Education, and Welfare, and with any State or interstate agency or municipality having jurisdiction over waters into which any matter is discharged from such property, in preventing or controlling the pollution of such waters. In his summary of any conference pursuant to section 10 (d)(3) of this title, the Secretary shall include references to any discharges allegedly contributing to pollution from any Federal property. Notice of any hearing pursuant to section 10 (f) of this title involving any pollution alleged to be effected by any such discharges shall also be given to the Federal agency having jurisdiction over the property involved and the findings and recommendations of the Hearing Board conducting such hearing shall also include references to any such discharges which are contributing to the pollution found by such Hearing Board.

SECTION 12. Administration - Rules and regulations.

(a) The Secretary is authorized to prescribe such regulations as are necessary to carry out his functions under this title.

Utilization of Personnel of Other Agencies

(b) The Secretary, with the consent of the head of any other agency of the United States, may utilize such officers and employees of such agency as may be found necessary to assist in carrying out the purposes of sections 466-466k of this title.

(c) There are authorized to be appropriated to the Department of Health, Education, and Welfare such sums as may be necessary to enable it to carry out its functions under sections 466-466k of this title.

(d) Each recipient of assistance under this Act shall keep such records as the Secretary shall prescribe, including records which fully disclose the amount and disposition by such recipient of the proceeds of such assistance, the total cost of the project or undertaking in connection with which such assistance is given or used, and the amount of that portion of the cost of the project or undertaking supplied by other sources, and such other records as will facilitate an effective audit.

(e) The Secretary of Health, Education, and Welfare and the Comptroller General of the United States, or any of their duly authorized representatives, shall have access for the purpose of audit and examination to any books, documents, papers, and records of the recipients that are pertinent to the grants received under this Act.

SECTION 13. Definitions.

When used in this title --

(a) The term "State water pollution control agency" means the State health authority, except that, in the case of any State in which there is a single State agency, other than the State health authority, charged with the responsibility for enforcing State laws relating to the abatement of water pollution, it means such other State agency.

(b) The term "interstate agency" means an agency of two or more States established by or pursuant to an agreement or compact approved by the Congress, or any other agency of two or more States, having substantial powers or duties pertaining to the control of pollution of waters.

(c) The term "treatment works" means the various devices used in the treatment of sewage or industrial wastes of a liquid nature, including the necessary intercepting sewers, outfall sewers, pumping power, and other equipment, and their appurtenances, and includes any extensions, improvements, remodeling, additions, and alterations thereof.

(d) The term "State" means a State, the District of Columbia,

the Commonwealth of Puerto Rico, the Virgin Islands, and Guam.

(e) The term "interstate waters" means all rivers, lakes, and other waters that flow across or form a part of State boundaries, including coastal waters.

(f) The term "municipality" means a city, town, borough, county, parish, district, or other public body created by or pursuant to State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes.

SECTION 14. Application to other laws.

Sections 466-466k of this title shall not be construed as (1) superseding or limiting the functions, under any other law, of the Surgeon General or of the Public Health Service, or of any other officer or agency of the United States, relating to water pollution, or (2) affecting or impairing the provisions of the Oil Pollution Act, 1924, or sections 407, 408, 409, and 411-413 of this title, or (3) affecting or impairing the provisions of any treaty of the United States.

SECTION 14.1. 1965 Act - Short Title.

This Act may be cited as the "Water Quality Act of 1965".