Coastal Zone
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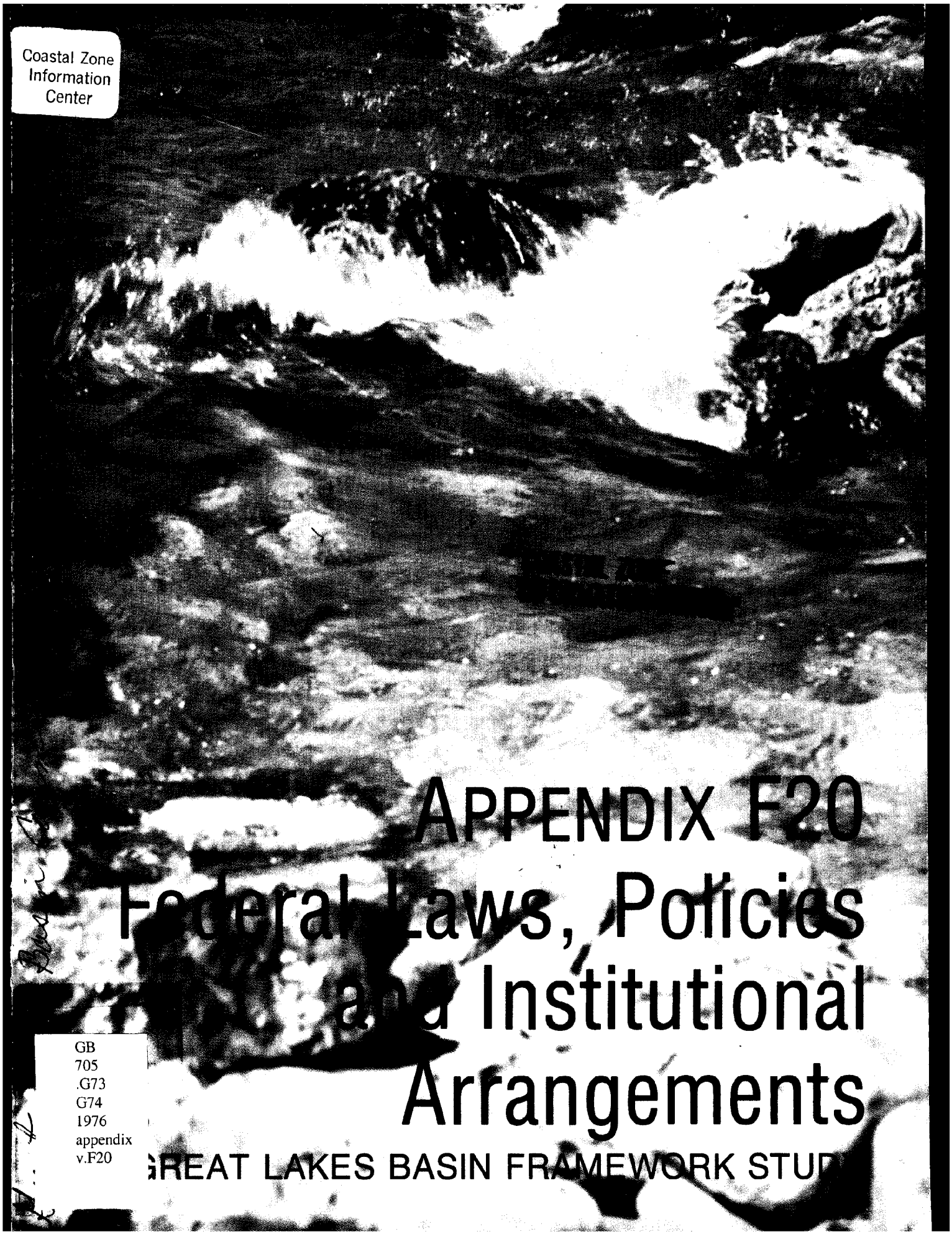

APPENDIX F20
Federal Laws, Policies and Institutional Arrangements

GREAT LAKES BASIN FRAMEWORK STUDY

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APPENDIX F20

FEDERAL LAWS, POLICIES, AND INSTITUTIONAL ARRANGEMENTS

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GREAT LAKES BASIN COMMISSION

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United States Department of Justice

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This appendix to the *Report* of the *Great Lakes Basin Framework Study* was prepared at field level under the auspices of the Great Lakes Basin Commission to provide data for use in the conduct of the Study and preparation of the *Report*. The conclusions and recommendations herein are those of the group preparing the appendix and not necessarily those of the Basin Commission. The recommendations of the Great Lakes Basin Commission are included in the *Report*.

The material in this appendix is current through 1970. Because water and related land resources have been the subject of considerable attention recently, the statutes cited herein may have been repealed or amended, new statutes enacted, and judicial interpretations of statutory and common law revised.

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SYNOPSIS

The material presented in this appendix is intended to serve two functions: as a ready reference to legislators and government officials interested in the existing legal and institutional structure governing the availability, use, management, and preservation of water and related resources within the Great Lakes Basin; and as a basis for judgments regarding institutional approaches capable of solving both projected short-term and long-term problems in comprehensive river basin planning.

This compendium of laws, policies, and programs, if periodically reviewed and updated, can continue to serve indefinitely as a guide for future legislative policy decisions.

FOREWORD

This appendix was prepared by Walter Kiechel, Jr., Deputy Assistant Attorney General, Land and Natural Resources Division, United States Department of Justice, and chairman of the Federal Laws, Policies, and Institutional Arrangements Work Group, Great Lakes Basin Commission, and by Mary Ellen A. Brown, trial attorney, Land and Natural Resources Division, United States Department of Justice; with valuable assistance from Henry J. McGurren, attorney advisor, North Central Division, United States Army Corps of Engineers.

All concerned Federal agencies and all members of the work group reviewed the draft text of this appendix. Comments forthcoming from these reviews, where appropriate, have been incorporated into the appendix.

The material reported in this appendix was derived from original legal research sources, which are referenced by subsection.

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INTRODUCTION

Water scarcity is not as yet a problem in the Great Lakes Basin. Water is relatively abundant in Basin States as it is in most of the eastern one-third of the United States, the so-called "humid States". Water quality, the increasing demands for water, and the heightened competition or conflict among water-users are, however, problems of vital concern in this region and throughout the nation. These problems, under our system of government, must be resolved by law. Because the law is not monolithic, the controlling provisions or principles may be difficult to ascertain, they may not always be written, and their application may vary from place to place or time to time.

Briefly stated, water rights, uses, conservation, and conflicts are, today, determined by a myriad and complex regulatory system of constitutional, legislative, judicial, and administrative law. Custom, usage, and private contract may be the controlling legal precepts where private rights are in dispute. Or, implementation of a law may be the critical legal determinant in the case of a particular public program or project. All three branches of government, legislative, judicial, and executive, are involved in resolving the problems of water and related land resources, as are all three levels of government, Federal, State, and local. Overlapping, duplicative, and even inconsistent measures, responsibilities, and practices sometimes result.

This intricate, multidimensional, legal mosaic is presently undergoing review and evaluation, as part of a composite framework study of law, resources, uses, growth, and need projections, by the Great Lakes Basin Commission, one of several regional commissions established by the President pursuant to Congress' direction, for the purpose of effectuating a national policy for a coordinated, cooperative effort to encourage the conservation, development, and utilization of water and related land resources of the United States (Executive Order Number 11345, dated April 20, 1967, as amended by Executive Order Number 11646, dated February 8, 1972; Title II of the Water Resources Planning Act, 42 U.S.C. 1962b. See also S. Doc. No. 97, 1962, 87th Cong., 2nd Sess.).

Following study and analysis of the Framework Study as a whole, the Commission will prepare and report a comprehensive plan for the development of water and related land resources of the Basin, including its recommendations for implementing the plan.

The task of researching and reporting water law, policies, and institutional arrangements for the Framework Study was assigned to the Laws, Policies, and Institutional Arrangements Work Group of the Great Lakes Basin Commission, and the reports were divided into two separate appendixes. Appendix F20 sets forth Federal law—constitutional, statutory and case law, Federal policies, Federal institutional arrangements, and Federal grant programs relating to water use, development and preservation in and for the Great Lakes Basin today.

Section 1

GENERAL CONSERVATION, DEVELOPMENT, AND USE POLICIES

The basic orientation of Federal policies with regard to water resource development is to accommodate maximization of beneficial uses for the greatest number of persons to minimal interference with the resources themselves and the ecosytems supported by them. In other words, the Federal government exerts its power to resolve the conservation-development dichotomy so as to promote the general welfare of all its citizens, and to nurture individual strivings whenever possible while at the same time remaining faithful to its stewardship responsibilities for the nation's resources. It is within the framework of those overall objectives that competing interests must be reconciled.

The Federal government's activities encompass a broad three-area range: the preservation, protection, conservation, and enhancement of existing resources, including the prevention of erosion and waste; the cultivation and development of potential resources; and the restoration or rehabilitation of resources that have been damaged or diminished.

But the government's concern is not, and cannot be, limited to a narrow view of water resources as such, e.g., improvement or development of waterways, maintenance of navigability in rivers or harbors, flood prevention and control, and alleviation of pollution. Nor can the government's focus be limited to a secondary level of water resources, such as reclamation activities, hydroelectric projects, watershed development, and irrigation. Important as all such pursuits are, they must be evaluated or undertaken only with the fullest comprehension of and allowance for the environmental interdependence of plant, animal, and ultimately, human life. Otherwise, the palliative invoked in one generation may become the malady of the next generation.

Within that context, then, wildlife, waterfowl, marine resources (plant, animal, and mineral), wilderness, forest, soil, open spaces, and even cultural or historic sites are all properly subjects for Federal consideration in water resources development. Recreation, too, is an important constituent of such Federal attention.

Functionally, the government's interest is to formulate and to maintain a nationwide, comprehensive plan for the utilization and development of water resources. Its efforts are directed to study, research, and planning; to the inventory and analysis of needs and resources, and, in the instance of outdoor recreation, to classification; to providing technical assistance and advice; to establishing educational programs; to acquiring and developing needed land and water areas; to establishing uniform policies and procedures in connection with Federal multipurpose water resource projects; to promoting and regulating the use of Federal areas; to preparing and disseminating information; to establishing nationwide quality standards; and to achieving a comprehensive water pollution control program.

Cooperation and coordination with State and local governments and with private interests has been and continues to be the keystone of the Federal government's efforts. Only when cooperation cannot be otherwise achieved, and when also the furtherance of the human condition of its citizens so demands, will the Federal government invoke its supremacy to abrogate or limit a State's exercise of its sovereign power.

Section 2

FEDERAL LAW RELATING TO WATER RESOURCE DEVELOPMENT, MANAGEMENT, AND PRESERVATION IN THE GREAT LAKES REGION

2.1 Constitutional

2.1.1 The Commerce Power

The commerce power is the single most important source of Federal authority over water resources. The power stems from Article I, Section 8 of the Constitution giving Congress authority "to regulate commerce . . . among the several States."

Chief Justice Marshall in *Gibbons* v. *Ogden* first enunciated the principle that control over navigation was part of Federal authority over interstate commerce:

> The word used in the constitution, then, comprehends, and has been always understood to comprehend, navigation within its meaning, and a power to regulate navigation, is as expressly granted, as if that term had been added to the word "commerce."[1]

Gilman v. *Philadelphia* broadened the scope of what regulation of navigation under the commerce power included:

> The power to regulate commerce comprehends the control for that purpose, and to the extent necessary, of all the navigable waters of the United States which are accessible from a State other than those in which they lie. For this purpose they are the public property of the nation, and subject to all the requisite legislation by Congress. This necessarily includes the power to keep them open and free from any obstruction to their navigation, interposed by the States or otherwise; to remove such obstructions when they exist; and to provide, by such sanctions as they may deem proper, against the occurrence of the evil and for the punishment of offenders.[2]

In *The Daniel Ball* decision, the Supreme Court determined what waters were navigable and within the commerce power; the Court rejected the English common law test of the ebb and flow of the tide as not applicable to conditions in the United States, and adopted a navigability-in-fact test:

> Those rivers must be regarded as public navigable in law which are navigable in fact. And they are navigable in fact when they are used, or are susceptible of being used, in their ordinary condition, as highways for commerce. . . .[3]

If a stream is found to be navigable, Federal power extends over its whole course, including its nonnavigable stretches. The power survives commercial disuse due to economic or geographic changes.[4] Use as a navigable stream can be demonstrated in a number of ways, including actual use by any type of vessel, rafting or log floating, or by demonstrating its availability for simpler types of commercial navigation such as access to personal or private boats. Actual use is not the only determining factor since waters capable of use by the public for interstate transportation and commercial purposes are also navigable waters.

Federal control over navigable waterways was further broadened by the Supreme Court in *United States* v. *Appalachian Electric Power Co.*, where the Court interpreted the phrase "susceptible of being used in their natural condition" to mean a waterway which could be reasonably improved so as to become available to navigation in interstate commerce.[5]

Oklahoma v. *Guy F. Atkinson Co.* extended the commerce power further to include nonnavigable streams.[6] Oklahoma sought to enjoin a Federal project on the Red River by raising the claim that the river was not under Federal control since no section of it was navigable within the State. But the Supreme Court affirmed the rights of the Federal government on the basis that the power of Congress under the commerce clause to protect a navigable river from flood extends to the control of waters of its tributaries. However, the Congress has on a number of occasions declared certain waters which otherwise might be subject to the commerce clause to be nonnavigable within the meaning of the Constitution and laws of the United States.[7]

In *United States* v. *Grand River Dam Au-*

thority, the Supreme Court confirmed its earlier decisions upholding Congress' constitutional authority to regulate navigable streams.[8] In reference to nonnavigable streams, the Court referred to *Atkinson*, saying:

> When the United States appropriates the flow either of a navigable or nonnavigable stream pursuant to its superior power under the Commerce Clause, it is exercising established prerogatives and is beholden to no one.[9]

The Supreme Court has recognized the plenary power of the Congress in its exercise of the commerce power.

In *United States* v. *Twin City Power Co.* the Court held that if the interests of navigation are served, it is constitutionally irrelevant what other purposes are also advanced.[10] Similarly, in *United States* v. *Chandler-Dunbar Water Co.* it was held that the judgment of Congress as to whether a construction in or over a navigable river is or is not an obstruction to navigation is an exercise of legislative power, wholly within the control of Congress and beyond judicial review.[11]

With respect to compensation, the Supreme Court recently restated the applicable law in *United States* v. *Grand River Dam Authority*, in the following terms:

> The Court of Claims recognized that if the Grand River were a navigable stream the United States would not be liable for depriving another entrepreneur of the opportunity to utilize the flow of the water to produce power. Our cases hold that such an interest is not compensable because when the United States asserts its superior authority under the Commerce Clause to utilize or regulate the flow of the water of a navigable stream there is no "taking" of "property" in the sense of the Fifth Amendment because the United States has a superior navigation easement which precludes private ownership of the water or its flow. See *United States* v. *Chandler-Dunbar Co.*, 229 U.S. 53, 69; *United States* v. *Twin City Power Co.* . . .[12]

2.1.2 The Property Power

The property clause of the Constitution is a second basis of Federal authority over water resources. "The Congress shall have power to dispose of and make all needful Rules and Regulations respecting the Territory or other Property belonging to the United States. . . ."[13]

Under the property clause, Congress has legislative power over the public domain and the power to deal with such lands.[14] The power is without limitation. The United States Supreme Court in *Utah Power and Light Co.* v. *United States* held that "in the instances where [Congress' power] has been questioned in this court its validity has been upheld and its supremacy over state enactments sustained. . . ."[15]

In the landmark case giving rise to the "reserved rights" doctrine, *Winters* v. *United States*, the Court held that the United States had power to reserve waters of a nonnavigable stream in Montana and exempt it from appropriation under State laws, and that it had done so, *ipso facto*, by the reservation of public land for a purpose requiring water (Indian reservation).[16] The doctrine was given modern vitality in *FPC* v. *Oregon*.[17] There, the Federal Power Commission had granted a license to a private power company to construct a dam across a nonnavigable river in Oregon despite State objections that the proposed dam might interfere with fish migration. The authority to grant the license was based on the fact that the dam would be constructed completely on Federal lands. Oregon argued that under the Desert Land Act of 1877 [18] the water sought was under exclusive State control. The Supreme Court affirmed granting the license, because of the "ownership or control by the United States of the reserved lands on which the licensed project is to be located." [19] The Court held the Desert Land Act of 1877 inapplicable in this instance because the lands were reservations, not public lands which are open for public sale or other disposition.

In *Arizona* v. *California* the "reserved rights" doctine was confirmed and broadened.[20] Arizona contended that whatever power the United States may have to reserve rights to use nonnavigable waters on the public domain, the power does not extend to navigable waters after a State has been admitted to the Union. The Court rejected this contention, saying, "We have no doubt about the power of the United States under these clauses [commerce and property clauses] to reserve water rights for its reservations and its property."[21] This case was the first one in which the Supreme Court actually held that the creation of a reservation other than an Indian Reservation effectuated a reservation by the Federal government of the right to use water on the reserved lands.

2.1.3 The General Welfare Power

The United States Constitution provides Congress with the power to levy taxes "to pay the Debts and provide for the . . . general welfare of the United States."[22]

In *United States* v. *Gerlach Live Stock Co.*,[23] the Supreme Court upheld the validity of the Central Valley Project, a Federal project under the Reclamation Act.[24] *Gerlach* established the power of Congress to promote the general welfare through large-scale projects for reclamation, irrigation, or other internal improvements.

Another area of importance which *Gerlach* discussed was the effect of the general welfare power on State law and State-created property rights. Based on Section 8 of the Reclamation Act, the Court held that riparian rights of a claimant should be compensated.

In *Ivanhoe Irrigation District* v. *McCracken*, the issue was whether Section 5 of the reclamation Act, imposing a 160-acre limitation upon contracts, should govern, as opposed to Section 8 of the Act as interpreted by the California Supreme Court, which would require the application of contrary California State law.[25] The Supreme Court of the United States, basing its decision on the authority of the Federal government to develop projects to promote the general welfare, said that it did not believe Congress intended Section 8 to override the repeatedly reaffirmed national policy of Section 5. The *Ivanhoe* opinion also enunciated the Federal right under Congress' power "to condition the use of federal funds, works, and projects on compliance with reasonable requirements," all to the derogation of State law.[26]

Congress changed the law somewhat following the *Ivanhoe* decision by enacting a 1970 statute which provides that irrigation water may be delivered to more than 160 acres of non-Federal publicly owned lands in a Federal reclamation project if the excess lands are farmed primarily as a non-revenue-producing enterprise. The 1970 Act also changed existing law with respect to the eligibility of purchasers and lessees of non-Federal publicly owned lands to receive water from Federal reclamation projects.[27]

2.1.4 The War Power

The Constitution empowers Congress to levy taxes to provide for the common defense of the United States and to declare war.[28] To date the war power has played a modest role as a constitutional basis for Federal authority over water resources.

In 1936, the Supreme Court in the leading case of *Ashwander* v. *TVA*, sustained the power of the Federal government to operate a water resource development project in time of peace under the joint war and commerce powers.[29] Under the 1916 National Defense Act,[30] Congress had authorized the President to investigate the best means of nitrate production for a permanent domestic supply and to designate river sites and public land best suited for power generation for war explosives. Wilson Dam was constructed within the terms of the Act, and during peace time its hydroelectric energy was sold in the area. The Court said:

> We may take judicial notice of the international situation at the time the Act of 1916 was passed, and it cannot be successfully disputed that the Wilson Dam and its auxiliary plants, including the hydro-electric power plant, are, and were intended to be, adapted to the purposes of national defense. While the District Court found that there is no intention to use the nitrate plants or the hydro-electric units installed at Wilson Dam for the production of war materials in time of peace, "the maintenance of said properties in operating condition and the assurance of an abundant supply of electric energy in the event of war, constitute national defense assets."[31] This finding has ample support.

2.1.5 The Treaty Power

The treaty-making power is delegated expressly to the President subject to the advice and consent of the Senate.[32] Treaties made under this authority are the supreme law of the land.[33]

In the *Rio Grande* case the Supreme Court took judicial notice of the obligation of the United States to preserve the navigability of its waters, and held this obligation to be equally as great as any arising by treaty.[34]

In *Sanitary Dist. of Chicago* v. *United States* the Court stated that this type of controversy was not between equals since the Federal government was asserting its sovereign power to carry out treaty obligations to a foreign power by keeping an international lake at a certain level.[35] The treaty power, thus, can limit, cancel, or prevent State water law or its implementation on international waters, and Federal authorities may act to prevent this type of State action.

2.1.6 The Compact Consent Power

The compact clause provides that "No State shall, without the Consent of Congress . . . enter into any Agreement or Compact with another State. . . ."[36]

Despite claims historically that certain agreements between States do require consent

by Congress, the modern practice with respect to interstate water compacts is to seek advance authorization from Congress. The negotiations thus authorized promote communication between the Federal government and the compacting States. Congress can attach certain binding conditions to its ultimate consent to any interstate compact, but such attached conditions must themselves be constitutional.[37] States, as parties to a compact, by accepting it and acting under it, assume the conditions that Congress has attached.[38] A State which is a party to a compact with another State may legislate with respect to matters covered by the compact so long as the legislative action is in approbation of the compact.[39] But any State statute that conflicts with an interstate compact is invalid and unenforceable.[40]

Adjudication concerning compacts—for example, a dispute between States over their respective compact obligations—is by the United States Supreme Court. The Court has original jurisdiction to hear such actions, just as it has for any suit between States.[41]

There are several important cases involving compacts. In *Hinderlider* v. *LaPlata River & Cherry Creek Ditch Co.*, [42] the Supreme Court ruled that even though the internal law of each State was fixed by its constitution, the rights of each to the waters of an interstate stream were to be determined on the basis of Federal common law; i.e., that while it was proper for the constitutions of New Mexico and Colorado to determine the relative rights of users within each State, the method of allocating water from the stream to each State for distribution among its citizens must be determined by national law.

West Virginia ex rel. Dyer v. *Sims* presented a different situation.[43] Two questions of State law were involved: whether the State constitution prohibited the legislature from appropriating money to meet its obligation under an interstate compact; and whether the State legislature had impermissibly delegated police power to an interstate commission, an agency created by compact, outside the State and its control.

The Supreme Court found no conflict between the debt provision in the State constitution and the State's obligation under the compact.

> The compact was evidently drawn with great care to meet the problem of debt limitation in light of this section and similar restrictive provisions in the constitutions of other States. . . .

Similarly, the Court found no State constitutional impairment to the delegation of police power to the interstate commission.

> The State has bound itself to control pollution by the more effective means of an agreement with other States. The compact involves a reasonable and carefully limited delegation of power to an interstate agency. . . .[45]

Increasing use is being made of interstate compacts in water resource development, partly because functions which formerly concerned one State alone have been found to require attention on a regional basis.

2.2. Statutory and Case Law

2.2.1 Energy

The Federal Power Act[1] authorizes the Federal Power Commission to make investigations and collect data concerning the utilization of water resources of any region to be developed and the development of water power, to cooperate with the Executive department and other agencies of State or national governments in these investigations, to issue licenses for production of power on river sites by private companies or by State or municipal agencies. Such licenses may not be issued for a period of more than fifty years and are subject to recapture by the United States at the end of the license period. If the license affects the navigability of any navigable water its issuance depends upon approval of structure plans by the Chief of Engineers and the Secretary of the Army.

If a decision is made against Federal recapture, a license with new terms may be granted to the original licensee or to a different power producer.

This Act defines the licensing jurisdiction of the Federal Power Commission by prohibiting the construction, operation, or maintenance of hydroelectric projects located on navigable waters of the United States, or affecting the interests of commerce, or utilizing public lands or surplus water from government dams, without a Federal Power Commission license or a Federal permit issued prior to enactment of the Power Act of 1920.

The Act sets a basic standard for licensing that the project adopted shall be such as, in the judgment of the Commission, will be best adapted to a comprehensive plan for improving or developing a waterway or waterways for the use or benefit of interstate or foreign commerce, for the improvement and utilization of waterpower development, and for other

beneficial public uses, including recreational purposes.

After deciding to license a project, the Federal Power Commission must determine the duration of its authorization. After the duration of a license is fixed, the Federal Power Commission must decide what conditions will be imposed on the licensee to protect public interest. The Act requires that the following conditions be included in all licenses: that project owners maintain the work in a condition adequate for navigation and efficient power generation, that they conform to safety regulations issued by the Federal Power Commission, that they refrain from substantially altering the works without Commission approval, that they pay annual charges to the United States, and that they reimburse the owners of other installations for benefits derived from their operations.

Besides requiring the licensee to construct booms, sluices, or other structures for navigation purposes in accordance with plans approved by the Chief of Engineers and the Secretary of the Army, the Federal Power Act provides that in the event such structures for navigation purposes are not made a part of the original construction at the expense of the licensee, then whenever the United States desires to complete such facilities the licensee shall convey to the United States, free of cost, land and rights of way, and control of pools as may be required to complete such navigation facilities.

In the installation of facilities for development of water power, the Secretary of the Army, upon recommendation of the Chief of Engineers, is authorized, in his discretion, to provide in the permanent parts of any dam authorized at any time by Congress for the improvement of navigation such foundations, sluices, and other works as may be considered desirable for the future development of its water power.[2]

Provision is also made for penstocks or other similar facilities for future development of water power in flood control projects.[3]

All examinations and surveys of projects relating to flood control must include data on the possible economic development and utilization of water power.[4]

To encourage the conservation, development, and utilization of water and related resources, the Water Resources Planning Act established the Water Resources Council which is composed of the Secretary of the Interior, the Secretary of Agriculture, the Secretary of the Army, the Secretary of Health, Education and Welfare, the Secretary of Transportation, and the Chairman of the Federal Power Commission.[5] The Council is assigned broad powers to coordinate water resources planning, and the responsibility for administering a program of grants to the States for water resources planning purposes. (For a more complete discussion of the Water Resources Planning Act, see Subsection 2.2.14 of this appendix.)

Executive Order Number 11345 established the Great Lakes Basin Commission under Title II of the Water Resources Planning Act.

The Atomic Energy Act[6] provides that the development, use, and control of atomic energy shall be directed so as to make the maximum contribution to the general welfare and promote world peace, increase the standard of living, and strengthen free competition in private enterprise. However, authority to set standards for the protection of the general environment from radioactive material[7] and all functions of the Federal Radiation Council[8] were transferred to the Environmental Protection Agency on December 2, 1970.[9]

2.2.1.1 Decisions

The power of the United States to regulate commerce has been held to include power over navigation.[10] To effectuate this power Congress may keep the "navigable waters of the United States" open and free[11] and legislate to forbid or license dams.[12]

Navigable waters have been defined to include rivers presently being used or suitable for use, rivers that have been used or were suitable for use in the past, or rivers suitable for use in the future by reasonable improvements.[13]

As to the extent of this power to regulate commerce, it has been held that the power of Congress to legislate when commerce between States or foreign countries may be affected is not restricted to an adverse effect upon the present and existing navigable capacity of Federal waters, but it extends to navigable capacity after reasonable improvements which might be made and whether the effect is beneficial or injurious.[14] It was stated in another case[15] that it cannot properly be said that the constitutional power of the United States over its waters is limited to control for navigation, but that flood protection, watershed development, and recovery of the cost of improvements through utilization of power are likewise parts of commerce control.

State laws cannot prevent the Federal Power Commission from issuing a license to bar the licensee from acting under the license to build a dam on a navigable stream since the stream is under the domain of the United States.[16] Similarly, the flow of a navigable stream is not, in any sense, private property, and exclusion of riparian owners from the benefits of such a navigable stream, even without compensation, is entirely within the Federal government's discretion.[17]

Not all important decisions handed down by the Supreme Court concerning power are directly premised upon the Constitution. The Court has also utilized statutory interpretation, within a broad context of comprehensive congressional expression for environmental preservation, in deciding whether a Federal agency's action adequately reflected consideration of environmental values. The Court read the Federal Power Act as requiring the Federal Power Commission to insure that any project for which it issues a license will be adapted to a comprehensive plan which includes conservation of natural resources and maintenance of natural beauty, and overturned a license issued by the Commission for the High Mountain Sheep Dam on the Snake River for failure to consider, among other things, the impact of the dam on fish and wildlife and the relative desirability of private and Federal development.[18]

A Federal court of appeals had earlier read the Federal Power Act as requiring the Federal Power Commission to consider the impact of a power plant upon the scenic beauty of a river. The Court directed the FPC to reconsider the license application, for a plant on the Hudson River, with an eye to the conservation of natural resources and maintenance of natural beauty as well as to possible alternatives to the plant. The decision places a positive responsibility on the FPC to consider alternatives that are less environmentally damaging.[19] Following remand, the subsequent opinion and order issued by the FPC were upheld on review, the Court finding "that the Commission has fully complied with our earlier mandate and with the applicable statutes [including NEPA]. . . ."[20]

Another Federal appellate court ordered the Atomic Energy Commission to conduct an environmental review of a nuclear plant under construction on Chesapeake Bay, for which a license had been granted, so as to give full consideration to environmental factors beyond radiological health and safety.[21] (See Subsection 2.2.14.1 of this appendix for discussion of the *Calvert Cliffs* case.)

2.2.2 Navigation

The Constitution of the United States provides Congress with the power to regulate commerce with foreign nations and among the several States, and with Indian tribes.[1] An early Supreme Court case[2] held that commerce necessarily included power over navigation. Congress has, correspondingly, exercised its power over navigation by enacting numerous laws which involve many of the Federal agencies. However, the Department of the Army and the Department of Transportation are the principal agencies involved.

The Secretary of the Army is required to prescribe such regulations as the public necessity may require for the use, administration, and navigation of the navigable waters of the United States covering all matters not specifically delegated by law to some other department.[3] The Secretary is also authorized to prescribe regulations for portions of navigable waters endangered by artillery fire.[4]

The Coast Guard, which has been transferred from the Department of the Treasury to the Department of Transportation,[5] is required to enforce or assist in the enforcement of all applicable Federal laws upon waters subject to the jurisdiction of the United States; administer laws and promulgate and enforce regulations for the promotion of safety on waters subject to the jurisdiction of the United States covering all matters not specifically delegated by law to some other Executive department; and develop, establish, maintain, and operate aids to maritime navigation, icebreaking facilities, and rescue facilities on waters subject to the jurisdiction of the United States.

Rules for the prevention of collisions have been established for all public and private vessels of the United States using the Great Lakes and their connecting and tributary waters as far east as Montreal.[6] The rules establish speeds[7] for fog and appropriate maneuvers[8] for stream and sailing vessels under varying circumstances such as approaching one another and overtaking one another. The rules also provide for the use of certain lights[9] and sound signaling devices.[10]

To carry out this rule-making authority for navigation on the Great Lakes and their connecting and tributary waters, the Comman-

dant of the Coast Guard is authorized to establish regulations which have the force of law.[11]

The Commandant is further authorized and directed to adopt and prescribe suitable rules and regulations governing the movements and anchorage of vessels and rafts in St. Marys River from Point Iroquois on Lake Superior to Point Detour on Lake Huron.[12]

The Coast Guard, in order to aid navigation and to prevent disasters, collisions, and wrecks, may establish, maintain, and operate aids to maritime navigation required to serve the needs of the armed forces or the commerce of the United States; and electronic aids to navigation systems required to serve the needs of the armed forces of the United States or required to serve the needs of the maritime commerce of the United States.[13]

It is also provided that no person, public body, or instrumentality, excluding the armed services, shall establish, erect, or maintain any aid to maritime navigation without first obtaining authority to do so from the Coast Guard in accordance with applicable regulations.[14]

The Secretary of Transportation[15] is required to prescribe and enforce necessary and reasonable rules and regulations for the establishment, maintenance, and operation of lights and other signals on fixed structures in or over navigable waters of the United States.[16]

Except for the armed services, it is unlawful to remove, change location of, damage, make fast to, or interfere with any aid to navigation or to anchor any vessel in any United States navigable waters so as to obstruct or interfere with range lights maintained therein.[17]

The creation of any obstruction not authorized by Congress to the navigable capacity of any of the waters of the United States is prohibited. The building of any structure and the modification of a port, harbor, canal, or lake must be recommended by the Chief of Engineers and authorized by the Secretary of the Army.[18]

The following provisions of laws to the extent that they relate generally to operation, location, and clearances of bridges, have been transferred from the Department of the Army to the Department of Transportation:[19]

(1) Section 5 of the Act of August 18, 1894,[20] which authorizes the Secretary of the Army to prescribe such rules and regulations as, in his opinion, the public interest requires to govern the opening of drawbridges built across the navigable rivers and other waters of the United States, for the passage of vessels and other watercraft

(2) Section 9 of the Act of March 3, 1899,[21] which requires the consent of Congress or a State legislature, and approval of the Chief of Engineers and the Secretary of the Army for construction of any bridge, dam, dike, or causeway in the navigable waters of the United States[22]

(3) the General Bridge Act of 1906[23] which provides that the plans for the structure must be approved by the Secretary of the Army and the Chief of Engineers prior to construction (to insure free navigation, the act requires the Secretary of the Army to notify the persons who own or control the bridge to make designated changes within specified periods of time or suffer criminal liability[24] in addition to the expenses of alteration or possible removal by the Chief of Engineers)[25]

(4) the General Bridge Act of 1946[26] which requires the Chief of Engineers and the Secretary of the Army to approve the location and plan for bridges to be constructed over navigable waters of the United States, and under which act the Chief of Engineers and the Secretary of the Army have the responsibility to assure that the bridges provide adequate clearances for the reasonable needs of navigation at the least cost to both land and water transportation.

Certain alterations to bridges that obstruct navigation may also be required by the Secretary of Transportation. The Rivers and Harbors Appropriation Act of 1899, as amended,[27] states that when the Secretary of the Army (now the Secretary of Transportation since authority under this act has been transferred to the Coast Guard) has reason to believe that any railroad or other bridge over any navigable waterway of the United States is an unreasonable obstruction to the free navigation of such waters due to height, width of span, or difficulty in passing the draw opening or draw span, it is his duty to give the parties reasonable opportunity to be heard in order to effectuate changes recommended by the Coast Guard. If at the end of the reasonable time set by the Secretary to accomplish the changes the recommended changes have not been made, then the person, corporation, or association owning or controlling the bridge will be subjected to criminal proceedings.

Under another act,[28] authority has been transferred from the Department of the Army to the Department of Transportation. This act deals with obstruction of navigation on navigable waters of the United States by bridges

used and operated for the purpose of carrying railroad traffic or public highway traffic. The act requires a hearing giving the parties in interest an opportunity to be heard and produce evidence. If the Secretary then determines that navigation is obstructed, giving regard to the necessities of rail or highway traffic, he shall order the alterations he deems necessary. After the Secretary approves the plans the Federal government shares in the cost of such alteration in accordance with a stated formula.[29] In essence the owner must bear the part of the costs attributable to benefits to him.

The Secretary of the Army is authorized to cause the establishment of harbor lines when he determines that their establishment is essential to the preservation and protection of a harbor. The act provides that no piers, wharves, bulkheads, or other works are to be extended beyond the harbor lines except under such regulations as the Secretary prescribes.[30] The Secretary is authorized to modify and extend harbor lines in front of the City of Chicago to permit park extension work desired by the municipal authorities.[31]

Authority under the law[32] requiring the Secretary of the Army to define and establish anchorage grounds for vessels in all harbors, rivers, bays, and other navigable waters of the United States, and to adopt suitable rules and regulations for such anchorage grounds has been transferred from the Department of the Army to the Department of Transportation.[33] The rules and regulations are to be enforced by the Coast Guard.

The Coast Guard must provide, establish, and maintain buoys or other suitable marks for marking anchorage grounds for vessels in waters of the United States.[34]

It is unlawful to tie up or anchor vessels in navigable channels in such a manner as to obstruct navigation, or to voluntarily sink or carelessly sink vessels in navigable waters, or to float timber in streams or channels navigated by steamboats in such a way as to obstruct or endanger navigation.[35] Furthermore, whenever a vessel is sunk in a navigable channel, accidentally or otherwise, the owner must immediately mark it with a buoy or beacon during the day and a lighted lantern at night, and maintain such marks until the sunken craft is removed or abandoned.[36]

The Secretary of the Army is authorized, at his discretion, to remove any sunken vessel or similar obstruction that is endangering the navigation of any of the navigable waters of the United States. This removal may be ordered either upon abandonment of the vessel by its owners or upon the expiration of more than thirty days, whichever occurs sooner. The removal is made without liability to the owners of the sunken vessel.[37]

When a vessel, due to sinking, grounding, or being unnecessarily delayed, obstructs navigation in the navigable waters of the United States in such a manner as to stop, seriously interfere with, or specially endanger navigation, it may be removed or destroyed by order of the Secretary of the Army. The costs of such removal or destruction create a lien against the vessel.[38]

The Secretary of Transportation[39] may mark any sunken vessel or other obstruction existing on any navigable waters of the United States. The Secretary may do this in such a manner and for so long as, in his judgment, the needs of maritime navigation require. The owner of the obstruction is liable to the United States for the cost of such marking until the obstruction is removed or its abandonment legally established.[40]

Whenever any vessel of the United States has sustained or caused any accident involving loss of life or serious injury to any person, material loss of property, or has received any material damage affecting its seaworthiness or efficiency, a detailed report of such incident must be made to the Coast Guard by the owner, agent, or master of such vessel within five days of the incident.[41] The managing owner or agent of a vessel must also make a detailed report to the Coast Guard when he has reason[42] to believe that such vessel has been lost. The Commandant of the Coast Guard is required to transmit annually to Congress a summary of the reports.[43]

In the event of a collision between the two vessels the master or person in charge of each vessel is charged with the duty of aiding the other vessel as much as possible without seriously endangering his own vessel, crew, and passengers.[44]

There is authorized[45] a comprehensive program to provide for control and progressive eradication of noxious aquatic plant growth from the navigable waters and allied waters of the United States, in the combined interest of navigation, flood control, drainage, agriculture, fish and wildlife conservation, public health, and other related purposes.

The Secretary of the Army is authorized to allot not to exceed $300,000 from any appropriations for any one fiscal year for improvement of rivers and harbors, for removing ac-

cumulated snags and other debris, and for protecting, clearing, and straightening channels in navigable harbors and navigable streams and tributaries thereof, when the Chief of Engineers thinks such work is advisable in the interest of navigation or flood control.[46]

The Secretary of the Army, acting through the Chief of Engineers, is authorized to undertake measures to clear the channel of the North Branch of the Chicago River, Illinois, of fallen trees, roots, and other debris and objects which contribute to flooding, unsightliness, and pollution of the river; and prior to initiation of measures authorized, non-Federal interests may be required to agree to appropriate conditions of cooperation, similar to those required for other Federal water resources projects. Congress has authorized up to $200,000 for the Federal share of this Chicago River channel clearing project.[47]

Laws such as Sections 10, 12, 13, and 16 of the Rivers and Harbors Appropriation Act of 1899[48] have also been enacted to protect the navigability of the navigable waters of the United States. Section 10[49] prohibits the creation of any "obstruction" not authorized by Congress to the navigable capacity of waters of the United States; and it is made unlawful to erect any structure in navigable waters or to change the channel of any navigable water unless such work is recommended by the Chief of Engineers and authorized by the Secretary of the Army. Section 13[50] makes it unlawful to deposit refuse matter, other than that flowing from streets and sewers, into navigable waters and passing therefrom in a liquid state; and makes it unlawful to place any material on the bank which is likely to be washed into navigable water and impede navigation of a navigable river or tributary thereof. Section 12[51] makes violation of Section 10 a misdemeanor and provides that the United States may enforce removal of structures erected in violation of the Section by injunction of the appropriate district court. Section 16[52] makes violation of Section 13 a misdemeanor.

The Secretary of the Army may permit the deposit or refuse in navigable waters whenever, in the judgment of the Chief of Engineers, such deposit will not injure anchorage and navigation.[53] In issuing, denying, conditioning, revoking, or suspending such permits, the Secretary shall accept the findings, determinations, and interpretations as to applicable water quality standards and compliance therewith in particular circumstances, made by the Administrator of the Environmental Protection Agency; and shall also consult with the Secretaries of the Interior and Commerce, the Administrator of the Environmental Protection Agency, and with the head of the responsible State agency for wildlife resources of any affected State, regarding effects on fish and wildlife that are not reflected in water quality considerations. Coordination of regulations, policies, and procedures of Federal agencies with respect to the permit program is the responsibility of the Council on Environmental Quality. The Council shall also, after consultation with the Secretaries of the Army, Interior, Commerce, and Agriculture, the Administrator of the Environmental Protection Agency, and the Attorney General—who has enforcement responsibility for the permit system—from time to time, or as directed by the President, advise the President respecting implementation of the permit program.[54]

Another act[55] makes it unlawful to discharge refuse matter of any kind, other than that flowing in a liquid state from streets and sewers, into Lake Michigan at any point opposite or in front of the County of Cook, in the State of Illinois, or the County of Lake, in the State of Indiana, within eight miles of the shore.

The Secretary of the Army is authorized to prescribe regulations to govern the transportation and dumping into any navigable water, or waters adjacent thereto, of dredgings, earth, garbage, and other refuse materials whenever he determines such regulations are required in the interest of navigation.[56]

However, primary Federal control over pollution of navigable waters is the Federal Water Pollution Control Act.[57] The Act is discussed in detail in Subsection 2.2.5 of this appendix, which deals particularly with pollution.

Other longstanding Federal laws for the protection of navigable waters are, however, also concerned with water pollution and various interrelated aspects of Federal water law. A 1905 statute authorizes the investigation of and Federal assistance for prevention of erosion of shores into coastal and lake waters.[58] This act establishes under the Chief of Engineers a Coastal Engineering Research Center which, in addition to such functions as the Chief of Engineers may assign, shall plan and carry out research and development studies, investigations and projects concerning shore processes, winds, waves, tides, surges, and currents, particularly as they apply to navigation improvements, flood and storm protection, beach erosion control, and coastal en-

gineering works, and shall publish such information as it deems useful to the public.[59]

The Director of the Coast and Geodetic Survey, under direction of the Secretary of Commerce, is authorized to conduct hydrographic and topographic surveys, tide and current observations, geodetic-control surveys, and geomagnetic, seismological, gravity, and related investigations in order to provide charts and related information for marine commerce.[60] Provision is made for analysis and dissemination of the data collected from the surveys.[61]

The United States Lake Survey, formerly a suboffice within the Corps of Engineers, United States Army, and now functionally divided between the Corps of Engineers and the National Oceanic and Atmospheric Administration of the U.S. Department of Commerce, has been conducting surveys of the Great Lakes to ascertain and to chart depths for navigation purposes since 1841.[62] Collection of data relating to lake levels and outflows of the connecting rivers led to the establishment of the Great Lakes Research Center in 1962. Now a part of the National Oceanic and Atmospheric Administration of the Department of Commerce, the Great Lakes Research Center has responsibilities for scientific investigations of all aspects of limnology relating to development and utilization of water resources of the Great Lakes system.

The Federal Power Act[63] protects navigation by providing that no license affecting the navigable capacity of any navigable waters of the United States shall be issued until the plans of the dams or other structures affecting navigation have been approved by the Chief of Engineers and the Secretary of the Army.[64]

The Federal Power Commission must also require the construction, maintenance, and operation by a licensee at his own expense of such lights and signals as may be directed by the Secretary of Transportation.[65]

In 1935 Congress provided that Federal investigations and improvements of rivers, harbors, and other waterways shall be under the jurisdiction of, and shall be prosecuted by, the Department of the Army under the direction of its Secretary and supervision of the Chief of Engineers.[66]

An earlier act[67] established in the office of the Chief of Engineers, United States Army, a Board of Engineers to whom all reports on examination and surveys provided for by Congress and all projects or changes in projects for works of river and harbor improvement shall be offered for consideration and recommendation. Furthermore, the Board shall submit to the Chief of Engineers recommendations as to the desirability of commencing or continuing any and all improvements upon which reports are required. In making these recommendations the Board shall consider the benefit to commerce, the cost of construction and maintenance, and the public necessity for the work. It is also provided that all special reports ordered by Congress shall, at the discretion of the Chief of Engineers, be reviewed by the Board.[68]

Another act[69] provides that the preparation of preliminary examination reports, which were authorized by an earlier act,[70] shall no longer be required. As to preliminary examinations and surveys authorized in previous river and harbor and flood control acts,[71] the act directs the Secretary of the Army to cause investigations and reports for navigation and allied purposes to be prepared under the supervision of the Chief of Engineers in the form of survey reports.

Whenever, in the judgment of the Secretary of the Army, the condition of any lock, canal, canalized river, or other work for the use and benefit of navigation belonging to the United States is such that its entire reconstruction is absolutely essential to its efficient and economical maintenance and operation, the reconstruction thereof may include such modifications in plan and location as may be necessary to provide adequate facilities for existing navigation. However, the modifications must be necessary to make the reconstructed work conform to similar works previously authorized by Congress and must also form a part of the same improvement. Furthermore, the modifications must be considered and approved by the Board of Engineers and be recommended by the Chief of Engineers before the reconstruction is commenced.[72]

More recently an act[73] has been passed which provides that whenever, during construction or reconstruction of any navigation, flood control, or related water development project under the direction of the Secretary of the Army, the Chief of Engineers determines that any structure or facility owned by an agency of government and utilized in the performance of a government function should be protected, altered, reconstructed, relocated, or replaced to meet the requirements of navigation or flood control, or to preserve the safety or integrity of such facility when its safety or usefulness is determined by the Chief of Engineers to be adversely affected or threatened by the project, the Chief of En-

gineers may enter into a contract providing for the payment from appropriations made for the construction or maintenance of such project, of the reasonable cost of replacing, relocating, or reconstructing such facility, or the payment of a lump sum representing the estimated reasonable cost thereof.

The Secretary of the Army, acting through the Chief of Engineers, is authorized to construct, operate, and maintain any water resource development project, including single- and multiple-purpose projects involving, but not limited to, navigation, flood control, and shore protection, if the estimated Federal cost of constructing such project is less than $10,000,000. However, no appropriations will be made for such project if it has not been approved by resolution adopted by the Committees on Public Works of the Senate and House of Representatives.[74]

Not later than July 1, 1972, the Secretary of the Army, acting through the Chief of Engineers, after consultation with appropriate Federal and State officials, shall submit to Congress, and not later than ninety days after such submission, shall promulgate guidelines designed to assure that possible adverse economic, social, and environmental effects relating to any proposed project have been fully considered in developing such project and that final decisions concerning the project are made in the best overall public interest, taking into consideration the need for flood control, navigation, and associated purposes, and the cost of eliminating or minimizing those adverse effects and air, noise, and water pollution, destruction or disruption of manmade and natural resources, aesthetic values, community cohesion and the availability of public facilities and services, adverse employment effects and tax and property value losses, injurious displacement of people, businesses, and farms, and disruption of desirable community and regional growth.[75] These guidelines shall apply to all projects authorized by the River and Harbor Act of 1970 and to all proposed projects after their issuance.[76]

The Secretary of the Army is authorized to receive funds advanced by local interests for prosecution of authorized river and harbor improvements. The Secretary is authorized and directed to repay such funds without interest from appropriations which may be provided by Congress.[77]

Any person or corporation desiring to improve any navigable river at his or its own expense and risk may do so upon the approval of the plans by the Secretary of the Army and Chief of Engineers. The plan must conform with the general plan of the government improvements and must not impede navigation. Furthermore, no toll shall be imposed. The improvement shall also be under the control and supervision of the Secretary of the Army and the Chief of Engineers.[78]

The Secretary of the Army may allot as much as $10,000,000 in any one fiscal year for the construction of small river and harbor improvement projects not specifically authorized, when in the opinion of the Chief of Engineers such work is advisable and if the benefits are in excess of the cost. Not more than $500,000 shall be spent at any single locality and the amount allotted must be sufficient to complete the Federal participation under the act. Local interests must provide all necessary lands, easements, and rights-of-way and may be required to hold and save the United States free from damages that may result from construction and maintenance of the project. Local interests may also be required to provide such additional local cooperation as the Chief of Engineers deems appropriate.[79]

Any public work on canals, rivers, and harbors adopted by Congress may be prosecuted by direct appropriations, by continuing contracts, or by both. Excepting surveys, estimates, and gauging, the Secretary of the Army is required to apply the money appropriated for navigation improvements by contract or otherwise, as may be most economical and advantageous to the government.[80] This authorization extends to works authorized to be prosecuted or completed under contract; and, in all cases providing for construction or use of government dredging plants, the Secretary may, in his discretion, have the work done by contract if reasonable prices can be obtained.[81]

Congress has also placed certain restrictions on the use of funds. Congress provided that no funds appropriated for works of river and harbor improvement shall be used to pay for any work done by private contract if the contract price is more than 25 percent in excess of the estimated cost of doing the work by government plant.[82] Congress has also provided that no money appropriated for the improvement of rivers and harbors shall be expended for dredging inside of duly established harbor lines.[83]

The Secretary of the Army is authorized to reimburse non-Federal entities for expenditures incurred by them, not in excess of

$1,000,000, in connection with authorized projects for improvement of rivers, navigation, flood control, hurricane protection, beach erosion control, and other water resources development purposes, to the extent that such expenditures are incurred after authorization of the project and are approved by the Secretary of the Army. A maximum of $10,000,000 annually was authorized for reimbursement actions in any one fiscal year.[84]

The Secretary of the Army, acting through the Chief of Engineers, is authorized to conduct a survey of the Great Lakes and St. Lawrence Seaway to determine the feasibility of means of extending the navigation season in accordance with the recommendations of the Chief of Engineers in his report entitled "Great Lakes and St. Lawrence Seaway—Navigation Season Extension."[85]

The Secretary of the Army, acting through the Chief of Engineers, is also authorized and directed, in cooperation with the Departments of Transportation (Coast Guard, St. Lawrence Seaway Development Corporation, and Maritime Administration), Interior, and Commerce, the Environmental Protection Agency, other interested Federal agencies and non-Federal public and private interests, to undertake a program to demonstrate the practicability of extending the navigation season on the Great Lakes and St. Lawrence Seaway. The program shall include ship voyages extending beyond the normal navigation season, observation and surveillance of ice conditions and ice forces, environmental and ecological investigations, collection of technical data related to improved vessel design, ice control facilities, aids to navigation, physical model studies, and coordination of the collection and dissemination of information to shippers on weather and ice conditions, and the submission of a report describing the results of the program to the Congress not later than July 30, 1974.[86]

The Secretary of Commerce, acting through the Maritime Administration, in consultation with other interested Federal agencies, representatives of the merchant marine, insurance companies, industry and other interested organizations, shall conduct a study of ways and means to provide reasonable insurance rates for shippers and vessels engaged in waterborne commerce on the Great Lakes and the St. Lawrence Seaway beyond the present navigation season; and shall submit a report, together with any legislative recommendations, to Congress by June 30, 1971.[87]

The Secretary of the Army may cause proceedings to be instituted for the acquisition by condemnation of any land, right-of-way, or material needed to enable him to maintain, operate, or prosecute works for the improvement of rivers and harbors. However, when the owner of such land, right-of-way, or material sets a price for the same that the Secretary thinks reasonable, he may purchase the same without delay.[88] The Secretary is also authorized to accept donations of lands or materials required for the maintenance or prosecution of such works.[89] A more recent statute gives the Secretary authority to dispose of surplus property for the development of public ports or industrial facilities.[90]

Where real property is taken by the United States for public use in connection with any river, harbor, canal, or waterway improvement, the compensation to be paid for real property taken above the normal high water mark of navigable waters of the United States shall be the fair market value of such real property based upon all uses to which such real property may reasonably be put, including its highest and best use, any of which uses may be dependent upon access to or utilization of such navigable waters. However, in cases of partial takings of real property, no depreciation in the value of any remaining real property resulting from loss of or reduction of access to navigable waters, because of the taking or the purposes of the taking, is compensable.[91]

The Secretary of the Army is required to prescribe regulations for the use of storage allocated for flood control or navigation at all reservoirs constructed wholly or in part with Federal funds provided on the basis of such purposes.[92]

The Secretary of the Army, acting through the Chief of Engineers, is authorized to construct, operate, and maintain contained spoil disposal facilities of sufficient capacity, for a period not to exceed ten years, for the Great Lakes and their connecting channels.[93] Such facilities shall be established at the earliest practicable date after concurrence of appropriate local governments has been obtained; views and recommendations of the Administrator of the Environmental Protection Agency as to those areas which in the Administrator's judgment most urgently need such facilities have been obtained and considered; and pursuant to requirements of the Federal Water Pollution Control Act and the National Environmental Policy Act of 1969.[94]

Prior to the construction of any facility de-

scribed above, the appropriate non-Federal public interest shall agree in writing to:

(1) furnish all lands, easements, and rights-of-way necessary for the construction, operation, and maintenance of the facility,[95] but title to all lands, easements, and rights-of-way so furnished shall be retained by the participating non-Federal Agency[96]

(2) contribute to the United States 25 percent of the construction costs, such amount to be payable in cash prior to construction, in installments during construction, or in installments with interest as determined by the Secretary of the Treasury,[97] except that the 25 percent contribution shall be waived by the Secretary of the Army upon a finding by the Administrator of the Environmental Protection Agency that, as to the area to which such construction applies, the non-Federal public interest involved and industrial concerns are participating in, and in compliance with, an approved plan for the general geographical area of the dredging activity for construction, modification, expansion or rehabilitation of water treatment facilities; and the Administrator's further finding that applicable water quality standards are not being violated[98]

(3) hold and save the United States free from damages due to construction, operation, and maintenance of the facility

(4) maintain the facility after completion of its use for disposal purposes in a manner satisfactory to the Secretary of the Army.[99]

Any of these spoil disposal facilities owned by a non-Federal interest or interests may be conveyed to another party only after completion of the facility's use for disposal purposes and after the transferee agrees to use or maintain the facility in a manner which the Secretary of the Army determines to be satisfactory.[100] Any spoil disposal facility constructed under the authority of Section 123 of the River and Harbor Act of 1970 shall be made available to Federal licensees or permittees upon payment of an appropriate charge for such use. Twenty-five percent of such charge shall be remitted to the participating non-Federal interest or interests, except for those excused by Section 123 from contributing to the construction costs.[101]

All costs of disposal of dredged spoil from the Michigan project for the Great Lakes connecting channels are to be borne by the United States.[102]

The Chief of Engineers, under the direction of the Secretary of the Army, is authorized to extend to all navigable waters, connecting channels, tributary streams, other waters of the United States and waters contiguous to the United States, a comprehensive program of research, study, and experimentation relating to dredged spoil. This program to be carried out in cooperation with the other Federal and State agencies, shall include investigations on the characteristics of dredged spoil and alternative methods of its disposal. To the extent that such study shall include the effects of dredged spoil on water quality, facilities and personnel of the Environmental Protection Agency shall be utilized.[103]

The Chief of Engineers is authorized to construct, maintain, and operate public park and recreational facilities at water resource development projects under the control of the Department of the Army. He is also authorized to permit the construction of such facilities by local interests and to permit maintenance and operation of these facilities by the local interests. Furthermore, he is authorized to grant leases of land, including structures or facilities, at water resource projects. The water areas of all such projects must be open to public use generally for boating, swimming, bathing, fishing, and other recreational purposes.[104]

The Federal Water Project Recreation Act of 1965, which is under the direction of the Secretary of the Interior, states that it is the policy of Congress and intent of the Act that:

(1) in investigating and planning any Federal navigation or multipurpose water resource project, full consideration shall be given to the opportunities the project affords for outdoor recreation and fish and wildlife and that whenever any project can serve these purposes consistently with the provisions of the Act, it shall be constructed, operated, and maintained accordingly

(2) planning with respect to the development of the recreational potential of any project shall be based on the coordination of the recreational use of the project area with the use of existing and planned Federal, State, or local public recreation developments

(3) non-Federal administration of the recreation and fish and wildlife features is to be encouraged by Federal agencies.[105]

To encourage non-Federal administration of the recreation and fish and wildlife enhancement features at Federal water resources projects that commenced construction or were completed by July 9, 1965, Federal water resource agencies are authorized to lease recreation and fish and wildlife enhancement facilities and appropriate project lands to non-Federal public bodies which agree to ad-

minister the facilities and to bear the costs of operation, maintenance, and replacement of such lands and facilities.[106]

It is unlawful for any person to take possession of or make use of for any purpose, or injure, alter, destroy, or move any public work connected with the improvement of navigable waters. However, the Secretary of the Army may, on the recommendation of the Chief of Engineers, grant permission for the temporary occupation or use of such public works when in his judgment such occupation or use will not be injurious to the public interest.[107]

It is declared to be the policy of Congress that water terminals are essential to all cities and towns located upon harbors or navigable waterways and that at least one public terminal should exist, "constructed, owned, and regulated by the municipality or other public agency of the State and open to the use of all on equal terms."[108]

The Secretary of the Army is authorized to draw his warrant or requisition upon the Secretary of the Treasury to pay the actual expenses of operating and maintaining the locks, canals, and other works used for the benefit of navigation. No tolls or operating charges are to be levied upon any vessel for passing through the above works.[109]

The passage of vessels to and from the habor of Michigan City, Indiana, is not subject to toll.[110]

Whenever a complaint is made to the Secretary of the Army that water deflected by a bridge, pier, or abutment in any navigable waters of the United States is causing damage to property, the Secretary is required to cause the owners or persons operating the bridge to repair or prevent such damage as indicated by the Secretary.[111]

Congress demonstrated marked concern for our eroding habitat by declaring a sweeping national policy of environmental protection explicitly applicable to all policies, regulations, and public laws of the United States and to all Federal agencies (the National Environmental Policy Act of 1969).[112] Federal agencies must utilize a systematic, interdisciplinary approach to insure the integrated use of natural and social sciences and the environmental design arts in any environmental-impact planning and decision-making; identify and develop methods and procedures, in consultation with the Council on Environmental Quality, that will give appropriate consideration in decision-making to environmental amenities and values along with economic and technical considerations; develop and describe alternatives in any proposal that involves unresolved conflicts concerning alternative uses of available resources; support international cooperation in environmental preservation efforts, where consistent with the foreign policy of the United States; make available to State and local governments, institutions and individuals, useful advice and information for environmental enhancement; initiate and utilize ecological information in the planning and development of resource-oriented projects; assist the Council on Environmental Quality.[113] Each Federal agency must also have reviewed its present statutory authority, administrative regulations, and current policies and procedures, to determine whether there are any deficiencies or inconsistencies that would prohibit full compliance with the National Environmental Policy Act of 1969, and have proposed to the President by July 1, 1971, necessary measures to bring its authority and policies into conformity with the intent, purposes, and procedures of the Act.[114]

In addition, all Federal agencies, after consultation with and comments from any Federal agency having jurisdiction or special expertise with respect to any environmental impact, must include in their every recommendation or report on proposals for legislation "and other major Federal actions significantly affecting the quality of the human environment," a detailed five-part statement:

(1) the environmental impact of the proposed action

(2) any adverse environmental effects which cannot be avoided should the proposal be implemented

(3) alternatives to the proposed action

(4) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity

(5) any irreversible and irretrievable commitment of resources which would be involved in the proposed action should it be implemented. Copies of that statement, and the comments and views of Federal, State, and local agencies authorized to develop and enforce environmental standards, must be made available to the President, the Council on Environmental Quality, and to the public.[115]

Congress subsequently declared its intent to include the following as objectives in Federally financed water resource projects, and in the evaluation of benefits and costs attributable thereto, giving due consideration to the most feasible alternative means of accomplishing these objectives: enhancing re-

gional economic development, the quality of the total environment including its protection and improvement, the well-being of the people of the United States, and the national economic development.[116]

Heads of all agencies of the Executive branch are required by Executive Order Number 11514, dated March 5, 1970:

(1) to monitor and control, on a continuing basis, their agency's activities so as to protect and enhance the quality of the environment, including activities directed to controlling pollution as well as those designed to accomplish other program objectives which may have environmental consequences

(2) to develop programs and measures to protect the environment

(3) to provide the public with as full information as possible, including alternative courses of actions, about Federal plans or programs pertaining to the environment, in order to obtain the views of interested parties, at public hearings if appropriate

(4) to insure that information regarding existing or potential environmental problems and control methods is made available to Federal, State, and local agencies and to others, as appropriate

(5) to review their statutory authority, administrative regulations, policies, and procedures—including those relating to loans, grants, contracts, leases, licenses, or permits —in order to identify any deficiencies or inconsistencies which prohibit or limit full compliance with the purposes and provisions of the National Environmental Policy Act of 1969

(6) to exchange data and research results, and cooperate with agencies of other governments to foster the purposes of that Act.

Agencies, departments, and establishments of the Executive branch have been ordered specifically by the President, most recently in Executive Order Number 11507, dated February 4, 1970 (which superseded Executive Order Number 11282, dated May 26, 1966, and Executive Order Number 11288, dated July 2, 1966, dealing with the same subject matter), to prevent, control, and abate air and water pollution at all facilities under their jurisdiction.

Heads of agencies, departments, or establishments of the Executive branch are directed to maintain review and surveillance to insure that all facilities under their jurisdiction are designed, operated, and maintained so as to meet the requirements of applicable air and water quality standards; to establish such standards where necessary or advisable, in consultation with State or local governments; to avoid or minimize wastes created by complete cycling of operations; and to observe special provisions for the discharge of waste that might affect ground water quality, and for discharges of radioactivity; to use municipal or regional waste collection or disposal systems as the preferred method of disposal of wastes from Federal facilities, but if such use is not feasible or appropriate, then to take necessary measures, as specified, for the satisfactory disposal of wastes; to handle, store, and use all materials so as to avoid or minimize possibilities for air and water pollution, including if appropriate, taking preventive measures for accidental spillage or discharge; and to establish emergency plans and procedures for dealing with accidental pollution.

Heads of Executive branch agencies, departments, and establishments must also identify potential air and water quality problems associated with the use and production of new materials, and provide for their prevention and control; develop and publish procedures to insure their facilities' conformance; consult with the Administrator of the Environmental Protection Agency (EPA) concerning the best techniques and methods for the protection and enhancement of air and water quality.

The Administrator of the EPA, for his part, must provide leadership in implementing the President's directives, including providing technical advice and assistance; and the Council on Environmental Quality must maintain continuing review of agencies' implementation and must report thereon to the President from time to time.

Heads of agencies must complete, or have under way, abatement actions sufficient to fulfill the President's directives with regard to air and water pollution control at existing facilities no later than December 31, 1972, and must take such other actions, including reports and requests to the Office of Management and Budget, as specified. In the case of new facilities to be constructed in the United States, heads of agencies must insure compliance with the requirements of Executive Order Number 11507 at the earliest possible planning stage of such new facilities, and budget estimates for new facilities must include costs of pollution control measures. In the case of new facilities to be constructed or operated outside the United States, due consideration must also be given to the quality of air and water resources.

All water resource projects of the Departments of Agriculture, Interior, and Army,

of the Tennessee Valley Authority, and of the United States Section of the International Boundary and Water Commission must comply with the President's directives for air and water quality. All such projects must also be presented to the Administrator of the EPA, for his consideration, if they involve authorization or construction of any Federal water resource projects within the United States. The Administrator, in turn, must review and report to the responsible agency, within 90 days after receipt of project plans, the potential impact of the project on water quality, including his recommendations for change or other necessary measures. The Administrator's report, or a statement from the head of the responsible agency that the Administrator failed to report within 90 days, must accompany any report proposing authorization or construction, or a request for funding, for any such water resource project.

With regard to international improvement efforts, the St. Lawrence Seaway Development Corporation was created to construct, in United States territory, deep-water navigation works in the International Rapids section of the St. Lawrence River and to operate and maintain such works in coordination with the St. Lawrence Seaway Authority of Canada.[117] The Corporation is subject to the direction and supervision of the Secretary of Transportation.[118]

The International Joint Commission, which was created by the 1909 treaty between the United States and Great Britain to prevent and settle disputes regarding the use of boundary waters has certain reponsibilities relating to navigation.[119]

The Commission's jurisdiction includes authority to approve "uses, obstructions, and diversions of boundary waters on either side of the line, affecting the natural level or flow of boundary waters on the other side of the line," and "construction or maintenance on their respective sides of the boundary of any remedial or protective works or any dams or other obstructions in waters flowing from boundary waters or waters at a lower level than the boundary in rivers flowing across the boundary the effect of which is to raise the natural level of waters on the other side of the boundary."[120]

The Commission must observe the following order of precedence in the exercise of the foregoing authority:[121]

(1) uses for domestic and sanitary purposes

(2) uses for navigation, including the service of canals for the purposes of navigation

(3) uses for power and irrigation purposes.

2.2.2.1 Decisions

In a recent Supreme Court case,[122] the majority held that the Rivers and Harbors Appropriation Act of 1899 must not be narrowly construed and that "any refuse matter"[123] includes all foreign substances and pollutants, whether commercially valuable or not. The exception from liability of "refuse flowing from sewers in liquid state"[124] means sewage and cannot be enlarged to include industrial discharges.[125] The same case[126] also held that the discharge of industrial waste that reduces the depth of the channel created an "obstruction"[127] to the navigable capacity of the river.

Federal district courts are authorized to grant injunctive relief against violations of statutes, and the Federal government may elect to have violations in these instances enjoined. Or, the Federal government may choose to remove the obstruction and sue the defendant and recover money damages for the cost of such removal.[128]

In upholding the right of the United States to enjoin a proposed irrigation diversion in the nonnavigable upper reaches of a navigable stream, the Supreme Court said of the 1890 Act:[129]

> It is not a prohibition of any obstruction to the navigation, but any obstruction to the navigable capacity, and anything, wherever done or however done, within the limits of the jurisdiction of the United States, which tends to destroy the navigable capacity of one of the navigable waters of the United States, is within the terms of the prohibition.

In another case, the Supreme Court held that under Section 15 of the Rivers and Harbors Appropriation Act of 1899,[130] which makes it unlawful to carelessly sink a vessel in the navigable waters of the United States, the United States may recover the costs of removing a vessel negligently sunk in navigable waters from those responsible for the sinking.[131]

Perhaps most significant for the future is a mid-1970 decision from the Federal Court of Appeals for the Fifth Circuit which held that environmental preservation, including ecological conservation, must be a paramount consideration in the granting of permits for projects located in tidelands. The Court of Appeals overturned the district court, and held that the Secretary of the Army, and his functionary, the Chief of Engineers, acted properly in denying a permit to fill tidelands in Florida, even though the proposed fill would not inter-

fere with navigation, and notwithstanding provisions of the Submerged Lands Act,[132] which relinquish title and power over tidelands to States except for navigation, flood control, and hydroelectric power. The Court of Appeals based its decision upon the following:

(1) the "clear policy" of the National Environmental Policy Act of 1969[133] that ecological or environmental factors must be considered by Federal agencies in all decisions that would have an impact upon ecology or environment

(2) the mandate of the Fish and Wildlife Coordination Act[134] for the conservation of wildlife resources in connection with dredging and filling operations, held that where, as in this instance, there was evidence that the fill would do damage to the ecology or marine life, denial of a permit to fill tidelands was proper (*Zabel* v. *Tabb*).[135] The United States Supreme Court denied certiorari on February 22, 1971.

In a recent decision from the United States District Court for the District of Columbia, the Corps of Engineers was enjoined from issuing permits for discharges into nonnavigable tributaries of navigable waters, and was further enjoined from issuing all permits for discharges under the Federal Refuse Act Permit Program until its regulations are amended to require preparation and filing of a NEPA environmental impact statement for each Refuse Act permit application. The court also ruled that under NEPA the ultimate "balancing" decision as to water pollution control requirements must be made by the Corps of Engineers rather than by the Environmental Protection Agency. The decision is being appealed and the outcome of its appeal could have a significant impact upon the course of litigation under both NEPA and the Refuse Act.[136]

As noted earlier, in the subsection dealing with constitutional powers of the Federal government, the Constitution provided Congress with the power "to regulate commerce with foreign nations and among the several states, and with Indian tribes";[137] and an early Supreme Court case held that commerce necessarily included power over navigation.[138]

Under the Commerce Clause, the United States has the power to improve its navigable waters in the interest of navigation without liability for damages resulting to private property within the bed of the navigable stream.[139]

The United States also has the power to protect navigable waters in the interest of navigation without liability for damages resulting to certain private property.[140] This power is often called the Federal Navigation Servitude.

Louisville Bridge Co. v. *United States*[141] is a good example of the exercise of Federal navigation servitude. The Louisville Bridge Company constructed a bridge that was authorized by an act of Congress. The bridge was in actual operation from 1870 until 1914 when the Secretary of War gave notice that the structure was an interference with navigation and should be altered.

The Supreme Court held that the authority of Congress to compel changes was the same as if the bridge had been constructed under State legislation without a license from Congress, as in the *Union Bridge Co.* case.[142] The court said that the congressional act authorizing the construction of the bridge "created no irrepealable franchise to maintain its bridge precisely as it was originally constructed, and created no vested right entitling appellant to compensation under the 5th Amendment in case Congress should thereafter, in the exercise of its power to regulate commerce, require changes to be made in the interest of navigation."[143]

To briefly summarize constitutionally based case law involving the Commerce Power,[144] navigability in law means navigability in fact.[145] Rivers are navigable in fact "when they are used, or are susceptible of being used, in their natural condition, as highways for commerce."[146] The phrase "susceptible of being used in their natural condition" was subsequently interpreted to mean a waterway which could be reasonably improved so as to become available to navigation in interstate commerce.[147] Federal control over navigable waters under the Commerce Power has been extended to the tributaries of a navigable river in order to protect a navigable river from flood.[148]

2.2.3 Flood Prevention and Control

Authority to deal with Federal investigations and improvements of rivers and other waterways for flood control and allied purposes is vested in the Department of the Army. Flood control and allied purposes is vested in the Department of the Army. Flood control is construed to include channel and major drainage improvements.[1]

All surveys relating to flood control are required to include a comprehensive study of the watershed or watersheds.[2]

In order to have any money expended on

construction of local protection projects, assurances must be made by States and other non-Federal interests that they will provide land, easements, and rights-of-way; hold and save the United States free from damages due to construction works; and maintain and operate all the works in accordance with regulations prescribed by the Secretary of the Army.[3]

Construction of any water resources project on or after January 1, 1972, by either the Secretary of the Army, acting through the Chief of Engineers, or by a non-Federal interest where such interest will be reimbursed for the construction, shall not be commenced until each non-Federal interest has entered into a written agreement with the Secretary of the Army to furnish its required cooperation for the project. Every such agreement shall be enforceable in the appropriate district court of the United States. After commencement of construction of a project, the Chief of Engineers may undertake performance of those items of cooperation necessary to the functioning of the project for its purposes, if he has first notified the non-Federal interest of its failure to perform the terms of its agreement and has given such interest a reasonable time after such notification to so perform. "A non-Federal interest" must be a legally constituted public body with full authority and capability to perform the terms of its agreement and to pay damages, if necessary, in the event of failure to perform. The Secretary of the Army, acting through the Chief of Engineers, shall maintain a continuing inventory of these agreements and the status of their performance, and shall report thereon annually to the Congress.[4]

An emergency preparation fund is authorized for flood emergency preparation, flood fighting and rescue operations, repair or restoration of any flood control work threatened or destroyed by flood, and emergency protection and repair of Federally authorized hurricane or shore protection works. Pending appropriation of such funds, the Secretary of the Army may allot funds from existing flood control appropriations.[5]

There is also authorized a separate emergency fund for the repair, restoration, and strengthening of levees and other flood control works threatened or destroyed by floods.[6]

The Secretary of the Army is authorized to allot funds from flood control appropriations for the construction of small projects for flood control purposes not specifically authorized by Congress;[7] and for the construction of emergency bank-protection works to prevent flood damage to highways, bridge approaches, and public works.[8]

An expenditure from funds appropriated for flood control is authorized for the establishment and operation of the National Oceanic and Atmospheric Administration[9] of a network of recording and nonrecording precipitation stations in connection with flood control surveys and improvement works.[10] The Chief of Engineers is authorized to allot funds therefor out of flood control and rivers and harbors appropriations.

The Secretary of the Army is also authorized to compile and disseminate information on floods and flood control[11] and prescribe regulations for the use of storage allocated for flood control or navigation at all reservoirs constructed wholly or in part with Federal funds.[12]

The Secretary of the Army is also authorized to administer a comprehensive program to provide for control and eradication of noxious aquatic plant growth in the navigable waters of the United States, in the interest of flood control and related purposes.[13] The Secretary is also authorized to allot from appropriations made for flood control funds for removing accumulated snags and other debris, and clearing and straightening the channel in navigable streams and tributaries thereof, when in the opinion of the Chief of Engineers such work is advisable in the interest of flood control.[14]

The Secretary of Agriculture also has broad authority and responsibility for flood protection and control as part of his duties to improve the conditions of water flow and of watershed management, as well as the specific duty to protect resources against floods and erosion (Subsection 2.2.6, Water Supply).

In the Watershed Protection and Flood Prevention Act the Secretary of Agriculture is given certain authority with respect to watershed areas not exceeding 250,000 acres and not including any single structure which provides more than 12,500 acre-feet of floodwater detention capacity, and more than 25,000 acre-feet of total capacity. Upon application of local organizations the Secretary of Agriculture has authority to conduct investigations; prepare plans; to make allocations of cost and determine whether benefits exceed cost; to cooperate and enter into agreements with, and to furnish financial assistance to, local organizations.[15]

The Secretary of Agriculture is given the

authority to establish the Soil Conservation Service for the purpose of exercising certain powers to control and prevent soil erosion and thereby preserve natural resources, control floods, prevent impairment of reservoirs, and maintain the navigability of rivers and harbors.[16]

The President ordered Executive agencies to evaluate flood hazards, to prevent uneconomic uses and development of the nation's flood plains, and to lessen the risks of flood losses. The agencies given this order are those responsible for constructing Federal buildings, structures, roads, and other facilities; administering Federal grant, loan, and mortgage insurance programs for the construction of buildings, structures, roads, and other facilities; disposing of Federal lands or properties; and land use planning.[17]

The congressional mandate for environmental protection is, of course, applicable to all flood control and protection projects (see discussion concerning the National Environmental Policy Act of 1969,[18] in Subsection 2.2.2).

All Federal agencies having jurisdiction over any real property or facility or engaged in any Federal public works activity must insure compliance with applicable water quality standards in the administration of such property, facility, or activity;[19] and the summary of conference discussions prepared following any conference called to discuss abatement of pollution of interstate or navigable waters, pursuant to 33 U.S.C. 1160(d)(4), shall include references to any discharges allegedly contributing to pollution from any Federal property, facility, or activity. Copies of such summary, and notice of any hearing involving the alleged pollution, must be given to the Federal agency having jurisdiction over the property, facility, or activity involved.[20]

The President is given the authority to provide an orderly and continuing means for Federal aid to States and local governments in carrying out responsibilities to alleviate suffering and damage resulting from major disasters which by definition include flood, drought, fire, hurricane, earthquake, storm, or other catastrophe. The authorities and functions of the President are delegated by Executive Order[21] to the Director of the Office of Emergency Preparedness. The Director may coordinate the activities of Federal agencies in providing assistance and direct them to utilize their available personnel, equipment, facilities, and other resources. In carrying out the purposes of the Federal act authorizing such aid, any Federal agency may temporarily employ additional personnel; incur obligations on behalf of the United States by contract or otherwise for the acquisition, rental, hire of equipment, services, materials, and supplies for shipping, drayage, travel, and communications; and supervise such activities. The amount of such obligations is limited to the funds available to the President, and are reimbursable to the extent the President may deem appropriate.[22]

The Small Business Act,[23] which created the Small Business Administration, provides for loans to be made to aid small businesses affected by floods or other catastrophes.

Under the National Flood Insurance Act of 1968,[24] the Secretary of Housing and Urban Development is authorized to establish and carry out a National Flood Insurance Program. The program was established to make flood insurance available, eventually, throughout the nation, through a cooperative effort of the Federal government and the private insurance industry.

For a community to be eligible for flood insurance, the community must demonstrate a positive interest, including legislative and executive action, need for such coverage, and also give satisfactory assurances of land use and control measures. Included in the assurances are that the community constrict development of land exposed to flood damage; guide the development of proposed construction away from flood-prone areas; assist in reducing damage caused by floods; and improve the long-range land management and use of flood-prone areas. After June 30, 1970, no new coverage has been available in communities which have not adopted such land use provisions.

Before a community can be declared eligible for flood insurance, rate-making studies must be completed. In conducting these rate studies the Secretary of Housing and Urban Development uses the services of the Army Corps of Engineers, the U.S. Soil Conservation Service, the U.S. Geological Survey, the Environmental Science Services Administration, and the Tennessee Valley Authority.

Different flood insurance premiums provide incentives to avoid construction in flood areas. "Existing structures"—those which were in flood plain areas having special flood hazards when they were officially identified for flood-insurance purposes—will be eligible for a lower than normal rate made possible by a government subsidy. However, structures which are erected in an area after it has been

identified as a flood plain area which has special flood hazards will be insurable only at the full risk premium rate.

Insurance under the National Flood Insurance Program is available only for loss due to floods. "Flood" means a general and temporary condition of partial or complete inundation of normally dry land areas from the overflow of inland or tidal waters or the unusual and rapid accumulation or runoff of surface water from any source.

2.2.3.1 Decisions

Congress, under the Commerce Clause of the United States Constitution, has the authority to provide for the prevention and control of floods on navigable waters in aid of navigation.[25] This power over flood control on navigable streams extends to their tributaries and watersheds, and includes the power to control, under a comprehensive plan, the entire basin of the stream.[26]

The Tenth Amendment does not deprive "the national government of authority to resort to all means for the exercise of a granted power which are appropriate and plainly adapted to the permitted end."[27] Furthermore, the fact that land is owned by a State is no barrier to its condemnation by the United States.[28] (See also the decision in *Zabel* v. *Tabb*,[29] discussed in Subsection 2.2.2.1.)

2.2.4 Beach and Shore Erosion

Federal assistance is authorized for the construction but not the maintenance of, shore protection and beach restoration projects along the shores of the Great Lakes.[1] The Federal contribution for such projects will be 100 percent with respect to restoration and protection of Federal property; and up to 70 percent with respect to restoration and protection of State, County, and other publicly owned shore parks and conservation areas, when such areas: include a zone which excludes permanent human habitation; include but are not limited to recreational beaches; satisfy adequate criteria for conservation and development of the natural resources of the environment; extend landward a sufficient distance to include, where appropriate, protective dunes, bluffs, or other natural features which serve to protect the uplands from damage; and provide essentially full park facilities for appropriate public use, all of which must meet the approval of the Chief of Engineers. The Federal contribution for construction of other works for the restoration and protection against erosion, by waves and currents, of the shores of the United States must not exceed 50 percent of the cost of the project. The remainder shall be paid by the State, municipality, or other political subdivision in which the project is located.

All such projects are subject to the requirements of the National Environmental Policy Act of 1969;[2] to Executive Order Number 11514[3] and Number 11507[4] pertaining to environmental protection and enhancement and pollution control (see discussion of these three directives in Subsection 2.2.2); and to the Federal Water Pollution Control Act, as amended,[5] including the requirement that all Federal agencies having jurisdiction over any real property or facility or engaged in any Federal public works activity must insure compliance with applicable water quality standards in the administration of such property, facility or activity;[6] and the summary of conference discussions prepared following any conference called to discuss abatement of pollution of interstate or navigable waters, pursuant to 33 U.S.C. 1160(d)(4), shall include references to any discharges allegedly contributing to pollution from any Federal property, facility, or activity. Copies of such summary, and notice of any hearing involving the alleged pollution, must be given to the Federal agency having jurisdiction over the property, facility, or activity involved.[7] (See Subsection 2.2.5, Water Pollution, for detailed discussion as to applicability of the Federal Water Pollution Control Act.)

Federal assistance is also authorized for restoration and protection of privately owned shores if there is a public benefit such as that arising from public use or from the protection of nearby public property.

Notwithstanding the above, no Federal contribution may be made unless the plan for the restoration project has been surveyed and recommended by Congress.[8] The Secretary of the Army, however, may approve small shore and beach restoration and protection projects without congressional authority if they otherwise comply with the above provisions.[9]

The Chief of Engineers of the United States Army is authorized to conduct surveys relating to shore protection to prevent erosion of shores of coastal and lake waters by waves and currents.[10] The same authority establishes the Coastal Engineering Research Center under the Chief of Engineers, which is conducted with the guidance and advice of the

Board on Coastal Engineering Research, appointed by the Chief of Engineers to plan and carry out research and development studies, investigations and projects concerning shore processes, winds, waves, tides, surges, and currents as applied to navigation improvements, flood and storm protection, beach erosion control, and coastal engineering works.[11]

The Chief of Engineers is authorized to make an appraisal investigation and study of the coasts of the United States, and the shorelines of the Great Lakes, for the purpose of:

(1) determining areas along such coasts and shorelines where significant erosion occurs

(2) identifying those areas where erosion presents a serious problem because the rate of erosion, considered in conjunction with economic, industrial, recreational, agricultural, navigational, demographic, ecological, and other relevant factors indicate that action to halt such erosion may be justified

(3) describing generally the most suitable type of remedial action for those areas that have a serious erosion problem

(4) providing preliminary cost estimates for such remedial action

(5) recommending priorities among the serious problem areas for action to stop erosion

(6) providing State and local authorities with information and recommendations to assist the creation and implementation of State and local coast and shoreline erosion programs

(7) developing recommended guidelines for land use regulation in coastal areas taking into consideration all relevant factors

(8) identifying coastal areas where title uncertainty exists.

The Secretary of the Army shall take into account the views of concerned local, State, and Federal authorities and interests in making such appraisal investigation and study; and shall report the results of such appraisal investigation and study, together with his recommendations, to the Congress.[12]

The Secretary of the Army, acting through the Chief of Engineers, is also authorized to investigate, study, and construct projects for the prevention or mitigation of shore damages attributable to Federal navigation works.[13]

Furthermore, the Chief of Engineers is authorized to compile and disseminate information on floods. Such information may aid future prevention of soil and beach erosion.[14]

The Soil Conservation Service of the Department of Agriculture has broad authority in connection with soil erosion studies and preventive measures on farm, and grazing and forest lands of the nation.[15]

The President of the United States is given the authority to provide an orderly and continuing means of Federal aid to States and local governments in carrying out responsibilities to alleviate suffering and damage resulting from major disasters which by definition include flood, drought, fire, hurricane, earthquake, storm, or other catastrophe.[16] Such aid includes lending of equipment, supplies, facilities, personnel, and other resources; distribution of food and medicine; performance of protective and other work essential for the preservation of life and property, clearing debris and wreckage, and making emergency repairs to and temporary replacement of public facilities damaged or destroyed in a major disaster.[17]

The Flood Control Act[18] authorizes an emergency fund to be expended in flood emergency preparation, in flood fighting and rescue operations, in the repair or restoration of any flood control work threatened or destroyed by flood, or in the emergency protection of Federally authorized hurricane or shore protection works.

2.2.5 Water Pollution

The Rivers and Harbors Appropriation Act of 1899 (the "Refuse Act")[1] makes it unlawful[2] to discharge or cause to be discharged into the navigable waters of the United States any refuse matter of any kind or description other than that flowing in a liquid state from streets and sewers. All persons and firms proposing to commence or continue discharging or depositing of any material into the navigable waters of the nation must secure a permit from the Secretary of the Army through the Corps of Engineers. Failure to apply for or receive such a permit will subject the person or firm responsible for the discharge or deposit to criminal or injunctive proceedings under the Refuse Act. The liability extends to any tributary or bank of such tributary if the refuse is likely to be washed into navigable waters. The Act states that it shall not apply to or prohibit the operations in connection with the improvement of navigable waters or construction of public works considered necessary and proper by the United States officers supervising the improvement of work. However, upon application and approval by the Chief of Engineers,

the Secretary of the Army may, under certain circumstances, permit the deposit of refuse material in navigable waters. But the Refuse Act generally does not apply to municipal discharges, a very significant component of national water quality programs.

The Refuse Act also prohibits the creation of any obstruction to the navigable capacity of any waters of the United States that is not affirmatively authorized by Congress.[3]

Department of Army regulations[4] provide that the determination as to whether a permit for work in navigable waters will be issued will be based on an evaluation of all relevant factors including the effect of proposed work on navigation, fish and wildlife, conservation, pollution, and the general public interest. The Corps will accept comments on these factors, which will be made part of the record and will be considered in determining whether it will be in the best public interest to grant a permit.

The necessity for multiagency responsibility for the issuance of permits under the Refuse Act was made explicit in Executive Order Number 11574, issued December 23, 1970. The extent of, and a procedure for implementing, that shared responsibility were later developed by the responsible agencies.

The Corps may not issue a permit, however, unless pursuant to the requirements of section 21(b) of the Federal Water Pollution Control Act, the State in which the discharge will originate has certified that such discharge will not violate applicable water quality standards. The Corps may not issue the permit if the State denies certification.

Under a proposed memorandum of understanding between the Army and the Environmental Protection Agency published for public comment in the Federal Register on January 21, 1971, the Environmental Protection Agency will review permit applications and State certifications and in connection with such review will advise the Corps with respect to the meaning and content of water quality standards, their application to the proposed discharge, and the permit conditions required to comply with standards and to carry out the purposes of the Federal Water Pollution Control Act.

The proposed memorandum of understanding provides that the Corps will accept the Environmental Protection Agency's advice on matters pertaining to water quality standards and related considerations as conclusive and will not issue a permit where to do so would be inconsistent with the Environmental Protection Agency's findings, determinations, and interpretations.

Prior to submitting its recommendation to the Corps of Engineers, the Environmental Protection Agency consults informally with the Fish and Wildlife Service of the Department of the Interior so as to incorporate the views of that Service as to effects, or potential effects, of any discharge, or prospective discharge, upon fish and wildlife; and into the findings, determinations, and interpretations made by the Environmental Protection Agency as to whether the discharge, or prospective discharge, complies with applicable water quality standards. The recommendation, then, of the Environmental Protection Agency as to whether a permit should be granted is based upon those findings, determinations, and interpretations.

Another act[5] makes it unlawful to discharge refuse matter of any kind, other than that flowing in a liquid state from streets and sewers, into Lake Michigan within eight miles of the shore, at any point opposite or in front of the County of Cook in the State of Illinois, or the County of Lake in the State of Indiana.

The primary Federal control over pollution is the Federal Water Pollution Control Act,[6] enacted in 1948, and amended over the years so as to comprise the present Federal pollution control program. In 1966, the responsibility for administering the program was shifted from the Department of Health, Education, and Welfare to the Federal Water Pollution Control Administration within the Department of the Interior.[7] Then, in 1970, Congress enacted the Water Quality Improvement Act,[8] the latest and the most substantial amendment to the Act since its passage; and, also, in 1970, the President transferred the Federal Water Pollution Control Administration to a new Federal agency, the Environmental Protection Agency.[9]

The purposes of the Water Pollution Control Act are 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.[10] The Act states that the policy of Congress is to recognize, preserve, and protect the primary responsibilities and rights of the States in preventing and controlling water pollution.[11]

The Act regulates pollution of navigable waters of the United States by sewage from vessels,[12] by oil,[13] or by other hazardous substances;[14] authorizes Federal-State cooperation in projects to demonstrate methods for the elimination or control of acid or other mine

water pollution within watersheds;[15] and also authorizes Federal-State cooperation in demonstration projects for the elimination or control of pollution within watersheds of the Great Lakes.[16]

The 1970 Act,[17] which repealed the Oil Pollution Act of 1924[18] and amended the Clean Water Restoration Act of 1966,[19] prohibits the discharge of oil in harmful quantities as determined by the President into or upon the navigable waters of the United States, adjoining shorelines, or into or upon the waters of the contiguous zone,[20] "except in the case of such discharges into waters of the contiguous zone where permitted under Article IV of the International Convention for the Prevention of Pollution of the Sea by Oil, 1954, as amended;[21] and where permitted in quantities and at times and locations or under such circumstances or conditions as the President may, by regulation, determine not be harmful."[22]

Any person in charge of a vessel or of any onshore or offshore facility, is required, as soon as he has knowledge of any discharge of oil from such vessel or facility in violation of Section 11(b)(2) of the 1970 Act, immediately to notify the appropriate agency of the United States government of such discharge.[23] Failure to give such notice is made subject to a fine of not more than $10,000 or imprisonment of not more than one year, or both. Immunity from prosecution on the basis of information so obtained by the government is provided for, except where the prosecution is for perjury or for giving a false statement.[24]

Provision is made for the recovery by the United States of expenses incurred in removing or mitigating the damages of proscribed discharges of oil upon the navigable waters of the United States, subject only to specific defenses and dollar limitations. These dollar limitations are inapplicable, however, where the United States can show that the discharge was caused by "willful negligence or willful misconduct within the privity and knowledge of the owner."[25]

Formerly, under the Oil Pollution Act of 1924, as amended,[26] a grossly negligent or willful act was required before a civil penalty could be assessed. The law now permits assessment of a civil penalty against the owner or operator of a vessel, or of an onshore or offshore facility, from which oil is "knowingly" discharged.[27] A civil penalty was formerly authorized against the vessel itself by means of an *in rem* action. Penalty against a vessel has been dropped by the new law.[28]

Another change under the new law permits an owner or operator of a vessel, or of an onshore or offshore facility, who acts to remove the oil discharged, to recover the reasonable removal costs in an action against the United States if he establishes that the proscribed discharge was caused solely by an act of God, an act of war, negligence of the United States, or the act or omission of a third party, or any combination thereof.[29] Such actions against the United States are to be brought in the Court of Claims.[30]

When the President determines there is an imminent and substantial threat to the public health or welfare of the United States because of an actual or threatened oil discharge from an onshore or offshore facility, he may require the United States Attorney of the appropriate district to secure such relief as may be necessary to abate such threat.[31]

The President is authorized and directed to promulgate regulations designating hazardous substances other than oil which, when discharged in any quantity into or upon the navigable waters of the United States or adjoining shorelines or waters of the contiguous zone, present an imminent and substantial danger to the public health or welfare; and establishing, if appropriate, recommended methods and means for the removal of such substances,[32] and to remove or to arrange for removal of such substances,[33] and to have submitted a report with his recommendations to the Congress, by November 1, 1970, on the need for and desirability of enacting legislation to impose liability for the cost of removal of hazardous substances discharged.[34]

Inspection of vessels, boarding and arrests are authorized in the enforcement of the oil pollution control measures.[35] Emergency actions may be taken by the United States government to remove spilled oil in cases of marine disaster.[36] Vessels over 300 gross tons—including barges that are self-propelled and that carry oil as cargo or fuel—[37] using any port or place in the United States or the navigable waters of the United States must establish and maintain evidence of financial responsibility of $100 per gross ton or $14,000,000, whichever is less.[38] Counterpart measures to require all onshore and offshore facilities to provide evidence of financial responsibility are now undergoing study.[39]

However, nothing in the new Federal oil pollution provisions shall be construed as preempting any State or political subdivision thereof from imposing any requirement or lia-

bility with respect to the discharge of oil into any waters within such State.[40]

In order to prevent the discharge of untreated or inadequately treated sewage from vessels into or upon the navigable waters of the United States, the 1970 Act requires that Federal standards of performance for marine sanitation devices be established.[41] After such standards become effective, the manufacture, sale, or operation of vessels lacking appropriate sanitation devices is prohibited.[42] Sale of any nonconforming marine sanitation device is similarly forbidden.[43] Any person who violates the manufacture and sale prohibitions shall be liable to a civil penalty of not more than $5,000 for each violation. Any person who violates the prohibition against operation of a vessel lacking the required sanitation device on the navigable waters of the United States shall be liable to a civil penalty of not more than $2,000 for each violation.[44]

Boarding and inspection of vessels, execution of warrants, and service of process are authorized to effectuate enforcement of the sewage control provisions.[45]

The amended Act authorizes the Administrator of the new Federal agency, the Environmental Protection Agency, to make grants to States, cities, and interstate agencies for construction of necessary treatment works to prevent the discharge of untreated or inadequately treated sewage or other waste into any waters.[46] The construction of municipal waste treatment facilities is recognized as a key element in the attainment and enforcement of water quality standards. Projects must be approved by the appropriate State water pollution control agency and by the Administrator.[47] The grant for any project cannot exceed 30 percent of the estimated reasonable cost, and the grantee must pay the remaining cost.[48] Provision is made for an increase to 50 percent under certain circumstances.[49] The amount of the grant may be increased by an additional 10 percent for any project which has been certified to the Administrator by an official State, metropolitan, or regional planning agency.[50] Appropriations are allocated to States on population and per capita income bases.[51]

The Act authorizes the Administrator, at the request of the governor of a State or a majority of the governors when more than one State is involved, to make a grant of up to 50 percent of the "administrative expenses" of a planning agency for a period of up to three years for the development by that agency of a comprehensive pollution control and abatement program for a basin.[52] "Administrative expenses" include the planning expenses.[53]

The Act authorizes grants to any interstate, State, or local governmental agency for projects that demonstrate new or improved waste treatment procedures and to persons for research and demonstration of projects for the treatment of industrial wastes or for otherwise preventing industrial pollution.[54] However, these grants are subject to certain limitations.[55]

The Administrator of the EPA is authorized to make grants to public or private agencies and institutions for research and training projects and for demonstrations.[56]

The Act authorizes grants to States and interstate agencies to assist them in meeting the costs of establishing and maintaining adequate measures for the prevention and control of water pollution, including the training of personnel of public agencies.[57]

The Act authorizes grants to interstate, State, or local governmental agencies for the construction of necessary treatment works to prevent the discharge of untreated or inadequately treated waste.[58] The grants are, however, subject to certain limitations.[59]

The Act authorizes the Administrator to prepare, in cooperation with Federal agencies, State agencies, interstate agencies, and with municipalities and industries involved, comprehensive programs for reducing pollution of interstate waters and tributaries thereof and improving the sanitary condition of surface and underground waters.[60]

The Act further authorizes the Administrator to encourage improved and, insofar as practicable, uniform State laws for water pollution control. He is also given authority to encourage compacts between States for the prevention and control of water pollution.[61]

The Administrator is also authorized to provide research and technical advice through publications, experts, and fellowships; investigate specific pollution cases upon request and recommend solutions; study and evaluate the waters of the Great Lakes; develop and demonstrate improved techniques for identifying and removing pollutants; study the effects of pollution, including sedimentation, in estuaries of the United States, on fish and wildlife, fishing, recreation, water supply, and power; establish field laboratories; and disseminate data.[62] The Act also provides for studies to be made of the cost of programs and personnel needs for local and State agencies.[63]

The Administrator of the EPA is authorized, in cooperation with other Federal depart-

ments, agencies, and instrumentalities, to enter into Federal-State agreements to carry out demonstration projects for the elimination or control of acid or other mine water pollution within all or part of a watershed,[64] subject to the conditions that the appropriate State or interstate agency shall pay not less than 25 percent of the actual project costs, which payment may be in any form; and that the State or interstate agency shall provide legal and practical protection to the project area to insure against any activities which will cause future acid or other mine water pollution.[65]

Federal participation in Federal-State agreements is similarly authorized for demonstration projects for the elimination or control of pollution within all or any part of the watersheds of the Great Lakes,[66] subject to the condition that the State, political subdivision, interstate agency, or other public agency, or combination thereof, must pay not less than 25 percent of the actual project costs, which payment may be in any form.[67]

The Administrator of the EPA is authorized to make training grants to, or contracts with, colleges and universities for programs or projects for the preparation of undergraduate students for water quality control occupations.[68] Applications for such grants or contracts must meet specified requirements.[69] Distribution of grants or contracts is to be in a geographically equitable manner.[70] Grant or contract funds may be used to compensate qualified students employed in treatment works,[71] and Federal agencies are encouraged to employ students enrolled in approved programs.[72] Scholarships are similarly authorized to be awarded,[73] but additional qualifying requirements are imposed upon both the student recipient[74] and the recipient institution of higher education,[75] both of which would receive funds.[76]

All Federal agencies having jurisdiction over any real property or facility or engaged in any Federal public works activity must insure compliance with applicable water quality standards in the administration of such property, facility, or activity.[77]

In certain cases where discharges to interstate or navigable waters endanger a State or foreign country or where discharges originating in one State endanger another State, conferences between the affected parties will be called to discuss abatement of the pollution. Summaries of conference discussions are to be kept and are to include references to any discharges allegedly contributing to pollution from any Federal property, facility, or activity. Copies of such summary, and notice of any hearing involving the alleged pollution, must be given to the Federal agency having jurisdiction over the property, facility, or activity involved.[78]

Any applicant for a Federal license or permit for any activity which may result in any discharge into navigable waters of the United States must show a certificate from the appropriate State or interstate agency that there is reasonable assurance that the activity will be conducted in a manner which will not violate applicable water quality standards.[79] Where such standards have been promulgated by the Administrator of the EPA,[80] or where a State or interstate agency has no authority to give such a certification, the required certification shall be from the Administrator of the EPA. A State, interstate agency, or the Administrator must act on a request for certification within one year after receipt of the request. The certification requirement is waived with respect to the Federal application for failure to act within one year. No license or permit will be granted until the required certification has been obtained, or waived. If certification is denied, no license or permit will be granted.[81]

Procedures for public notice of all applications for certification, by a State or interstate agency, and for public hearings in connection with specific applications, where appropriate, must be established by States and interstate agencies.[82]

A Federal licensing or permitting agency must "immediately" notify the Administrator of the EPA upon receipt of an "application and certification."[83] If the Administrator of the EPA thereafter determines that the discharge—which would result from the activity for which the license or permit is sought—may affect the quality of the waters of any other State, then the Administrator must, within 30 days of the date of notice of application, so notify such other State, the licensing or permitting agency, and the applicant. The other State then has 60 days following receipt of such notification within which to determine if the discharge will affect the quality of its waters so as to violate its water quality standards, and, if so, to notify in writing the Administrator and the licensing or permitting agency of its objection to the issuance of the license or permit, and to request a public hearing on its objection. The licensing or permitting agency must then hold such a hearing, and, based upon the recommendations and evidence presented, must condition, as necessary, any license or permit issued so as to in-

sure compliance with applicable water quality standards. If such imposition of conditions cannot insure that compliance, then the license or permit shall not be issued.[84]

Notice of any proposed changes in construction or operation of a facility for which a license or permit has been granted, which may result in a violation of applicable water quality standards, must be provided to the certifying agency. Where a Federal license or permit is required both for the construction of a facility and its operation, then the initial certification obtained for construction shall also fulfill any other Federal license or permit requirements with respect to Federal certification for the operation of such facility unless, subsequent to issuance of the construction license or permit certification, there have been changes in the construction or operation of the facility, or in the characteristics of the waters into which the discharge is made, or in the applicable water quality standards, and within 60 days of notice to the State or agency involved, the State or agency notifies the issuing Federal agency that there is no longer reasonable assurance that there will be compliance with applicable water quality standards.[85]

Before the initial operation of a Federally licensed or permitted facility or activity with respect to which a certification was obtained for construction, and which facility or activity is not subject to a Federal operating license or permit, the licensee or permittee is required to provide to the certifying State, interstate agency, or the Administrator, as the case may be, an opportunity to review the manner of operation of the facility or activity for the purpose of assuring that applicable water quality standards will not be violated. Upon notification that such standards will be violated, the Federal licensing or permitting agency may, after a public hearing, suspend the license or permit of the facility or activity, and such license or permit shall remain suspended until subsequent notification is received from the certifying agency that there is reasonable assurance of compliance.[86] Suspension or revocation of any Federal license or permit with respect to which certification has been obtained is also authorized, on the part of the Federal agency issuing that license or permit, upon the entry of a judgment under 33 U.S.C. 1160(h) that the facility or activity has been operated in violation of applicable water quality standards.[87]

No Federal agency may be deemed an applicant for the purpose of these provisions.[88]

If the actual construction of a facility had been lawfully commenced before April 3, 1970, the date of enactment of the Water Quality Improvement Act of 1970, then no certification is required for a license or permit issued thereafter to operate such facility,[89] except that if such a license or permit is issued without certification it must terminate at the end of three years from the date of enactment of the 1970 Act—i.e., on or before April 3, 1973—unless before such date a proper certification is submitted to the licensing or permitting agency and the person having that license or permit otherwise meets all requirements.[90]

Except as provided in the above paragraph, an application for a license or permit that was pending on April 3, 1970, which license or permit was then issued within one year after that date—i.e., on or before April 3, 1971—will not require certification for a one-year period following date of issuance of the license or permit, except that the license or permit will terminate at the end of one year unless before that expiration date the licensee or permittee submits a certification to the Federal licensing or permitting agency and otherwise meets all requirements.[91]

In the case of any activity which will affect water quality but for which there are no applicable water quality standards, no certification will be required. In such event, however, the Federal licensing or permitting agency must impose, as a condition of any license or permit, a requirement that the licensee or permittee shall comply with the purposes of the Federal Water Pollution Control Act.[92]

If a State in which a discharge originates, or, as appropriate, the interstate agency or the Administrator of the EPA, notifies a Federal Agency that its licensee or permittee has received notice of the adoption of water quality standards applicable to such activity, and has failed after reasonable notice, of not less than six months, to comply with the standards, the Federal agency must suspend the license or permit until it receives the notice that there is reasonable assurance of compliance.[93]

In order to carry out the purposes of the Federal law, the Administrator of the EPA is directed to provide any relevant information on applicable water standards, and to comment on any methods to comply with such standards, upon the request of any Federal department or agency, State or interstate agency, or applicant.[94]

The Chief of Engineers is authorized, if he deems it to be in the public interest, to permit the use of spoil disposal areas under his juris-

diction by Federal licensees or permittees, and to make an appropriate charge for such use.[95]

A new provision in the Federal law authorizes a program of official recognition by the United States government to industrial organizations and political subdivisions of States which, during the preceding year, have demonstrated either an outstanding technological achievement or an innovative process, method, or device in their waste treatment and pollution abatement programs. The Administrator, in consultation with the appropriate State water pollution control agency, is to establish appropriate regulations for application for and granting of this award. However, no applicant is to be eligible if he is not in total compliance with all applicable water quality standards and does not otherwise have a satisfactory record with respect to environmental quality.[96] The award for such excellence is to be in the form of a certificate, or a plaque of suitable design.[97] Notification of the award is to be given by the Administrator to the President, the governor of the appropriate State, the Speaker of the House of Representatives, and the President *pro tempore* of the Senate, and the awarding of such recognition is also to be published in the Federal Register.[98]

Another new provision for Federal assistance added to Federal law by the 1970 Act relates to the training of personnel to operate and maintain existing and future treatment works and related activities. Under this new program, the Administrator of the EPA will finance a pilot program in cooperation with State and interstate agencies, municipalities, educational institutions and other organizations and individuals, for manpower development and training and retraining of persons interested in entering, or who are actually in the field of operation and maintenance of such works. The purpose of the program is to supplement, not supplant, other manpower training programs. The Administrator can carry out these programs directly or through joint ventures with one or more States, acting jointly or severally, or with other public or private agencies.[99] The Administrator is also authorized to enter into agreements with public and private agencies and institutions, and individuals, to develop and maintain an effective system for forecasting the supply of, and demand for, various professional and other occupational categories in the water pollution field, and periodically to publish the results of such forecasts.[100]

To further the purposes of the Federal Water Pollution Control Act, the Administrator is authorized:

(1) to make grants to public or private agencies and institutions and to individuals for training projects, and to enter into contracts with public or private agencies and institutions and individuals to provide for training, without regard to Sections 3648 and 3709 of the Revised Statutes[101]

(2) to establish and maintain research fellowships

(3) to provide additional training in technical matters in the water pollution field for personnel of public agencies and other persons with suitable qualifications.[102]

The Administrator must submit, through the President, a report to the Congress before October 3, 1971, summarizing actions taken under this new provision, including information on the number of persons trained, occupational categories for which training was provided, effectiveness of various training programs in this field, estimates of future needs, and recommendations, including legislative recommendations.[103]

The Administrator is also specifically empowered to enter into contracts with or to make grants to public or private agencies and organizations and individuals, for research and development on problems of lake eutrophication and other lake pollution problems, including construction of publicly owned research facilities for that purpose.[104]

A special provision relates to Federally financed assistance for the study of oil pollution. The Administrator of the EPA is directed to engage in research, studies, experiments, and demonstrations by grants to, or contracts with, public or private agencies and organizations and individuals, relative to the removal of oil discharges from any waters and to the prevention and control of oil pollution; and from time to time, he must publish the results of such activities, as well as develop and publish in the Federal Register, specifications and other technical information on various chemical compounds used as dispersants or emulsifiers in the control of oil spills.[105]

A separate subsection of the 1970 Act directs the Administrator to engage in a program of research, studies, experiments, and demonstrations, by grants or contracts, relative to marine sanitation devices to be installed on board vessels and which are designed to receive, retain, treat, or discharge sewage from vessels, with particular emphasis on equipment for use on small recreational vessels. The Administrator must report his findings to

Congress prior to the effective date of any standards to be established under 33 U.S.C. 1163.[106]

In furtherance of his duties in connection with development of field laboratories, research facilities and demonstration projects, the Administrator may acquire lands and interests therein by purchase, with appropriated or donated funds, by donation, or by exchange.[107]

The Administrator is also required within two years, i.e., before April 3, 1972, and after consultation with appropriate local, State, and Federal agencies, public and private organizations, and interested individuals, to develop and issue to the States, for the purpose of adopting standards, pursuant to 33 U.S.C. 1160(c), the latest scientific knowledge indicating the kind and extent of effects on health and welfare which may be expected from the presence of pesticides in the water in varying quantities.[108] The President must conduct a study and investigation of methods to control the release of pesticides into the environment, including study of the persistence of pesticides in water and alternatives to pesticide use, and must report these results and recommendations for legislation to Congress on or before April 3, 1972.[109]

The Administrator of the EPA must also conduct a study of the feasibility of all methods of financing the cost of preventing, controlling, and abating water pollution, other than methods authorized by existing law; and must have reported the results of such study, together with his recommendations, to Congress on or before December 31, 1970.[110]

The Federal law authorizing grants for construction of sewage treatment works was amended by the 1970 Act so as to specifically mention, in the provision relating to the reallottment of unused allocations by the Administrator, that these funds can be used to reimburse States for certain construction projects otherwise eligible for grants but which received no grant funds or for certain other construction projects, likewise eligible, which received less than an allowable amount because of a lack of funds.[111]

The heart of the Federal Water Pollution Control Act remains that part which deals with administrative and judicial enforcement procedures.

The Act differentiates between waters subject to enforcement of quality standards and those subject to pollution abatement procedures.[112] Water quality standards apply to "interstate waters" which are defined by the Act as all rivers, lakes, and other waters that flow across or form a part of State boundaries, including coastal waters.[113] The pollution abatement provisions apply to "interstate or navigable waters," whether the matter causing or contributing to such pollution discharges directly into such waters or reaches such waters after being discharged into the tributaries of such waters.

The Act calls for formulation of water quality standards for interstate waters and a plan for implementing the standards. States are encouraged to establish quality criteria and enforcement plans.[114] The Act provides that the standards are to protect the public health or welfare, enhance the quality of water, and that in their establishment consideration should be given to public water supply; propagation of fish and wildlife; recreation purposes; and agricultural, industrial, and other legitimate uses.

The water quality standards proceedings consist of three stages: establishment or revision of standards,[115] public hearing,[116] and court action.[117]

If a State failed to file the necessary letter of intent that it will adopt water quality criteria and a plan for enforcement of the criteria, or failed to conduct public hearings before adopting such criteria, or failed to have adopted the criteria and plan before June 30, 1967, or if the Administrator of the EPA determines that the standards proposed do not meet the requirements of the Act or if the Administrator or the governor of any State affected by these water quality standards desires a revision of the standards, then the Administrator may, after reasonable notice and necessary conferences, prepare regulations setting forth standards which, if not adopted by the State according to the set procedure, will be promulgated by the Administrator.[118]

If the quality of the water is reduced below the established standards, the Administrator may request that an abatement action be initiated after 180-days notice to violators and interested parties.[119] Where the pollution originating in one State endangers the health and welfare of persons in another State, the Administrator, at his discretion, may request the Attorney General of the United States to bring an abatement action.[120] Where, however, the pollution originating in one State endangers health and welfare of persons in that State only, then the Administrator may request such suit only upon the written consent of the governor of that State.[121]

The other procedure for abating water pol-

lution has been in the act since its enactment.[122] It, too, consists of three stages of enforcement: conference,[123] public hearing,[124] and court action.[125]

The Administrator must call a conference under the following circumstances:

(1) whenever it is requested by the governor of any State, the State water pollution control agency or the governing body of any municipality with concurrence of the governor and the State water pollution control agency; and the request refers to pollution which is endangering the health or welfare of persons in a State other than the State where the discharge occurred[126]

(2) whenever on the basis of reports, surveys or studies, the Administrator has reason to believe that interstate pollution is occurring[127]

(3) whenever the Administrator finds that substantial economic injury results from the inability to market shellfish or their products in interstate commerce because of pollution and the action of Federal, State, or local authorities[128]

(4) whenever the Administrator, upon receipt of reports, surveys, or studies from any duly constituted international agency has reason to believe that international pollution is occurring which endangers the health or welfare of persons in a foreign country, and the Secretary of State requests the Administrator to abate the international pollution; and the Administrator believes that such international pollution is occurring in sufficient quantity to warrant the calling of a conference, and he has determined that the foreign country involved has given the United States essentially the same rights as are given to the foreign country by this Act.

However, these provisions in no way affect provisions of the 1909 Boundary Waters Treaty between Canada and the United States or the Water Utilization Treaty of 1944 between Mexico and the United States relative to the control and abatement of water pollution in waters covered by those treaties.[129]

Further, the Administrator must call a conference whenever he is requested to do so by the governor of any State, 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 originates, unless in the Administrator's judgment, the effect of the pollution on legitimate uses of the waters is not of sufficient significance to warrant the exercise of Federal jurisdiction.[130]

Briefly, the administrative procedure is conducted as follows: the Administrator calls a conference; if effective progress toward abatement is not being made the Administrator recommends to the State that it take remedial action and at least six months must be given to reply; if compliance is not forthcoming, a public hearing is held; the Hearing Board makes recommendations for reasonable measures to secure abatement, and at least six additional months are given to comply.[131] If abatement is not secured by administrative proceedings, the Administrator may request the Attorney General of the United States to bring a suit in Federal court when pollution endangers health or welfare in a State other than the State in which the pollution originates. If, however, the administrative proceedings fail, but pollution endangers the health or welfare only of citizens in the polluting State, then the Administrator may request such suit only with the written consent of that State's governor.[132] The court, giving due consideration to the practicability and to the physical and economic feasibility of securing abatement of any pollution proved, shall have jurisdiction to enter such judgment as the public interest and the equities of the case may require.[133]

Certain functions relating to water pollution and public health, originally administered by the Department of Health, Education and Welfare, have also now been transferred to the Environmental Protection Agency. These are the administration of the functions formerly assigned to HEW relating to water pollution—other than those under the Federal Water Pollution Control Act and the functions also formerly assigned to HEW, of determining the public health aspects of the value of storage for regulation of stream flow for water quality control, the epidemiology of waterborne diseases and means for their control, which are retained as responsibilities of the U.S. Public Health Service.[134]

The National Environmental Policy Act of 1969,[135] and Executive Order Number 11514[136] and Number 11507[137] pertaining to environmental protection and enhancement and pollution control are also components of Federal water pollution control law (Subsection 2.2.2).

The Water Resources Planning Act,[138] although primarily concerned with water supply, is also necessarily concerned with pollution as well (Subsection 2.2.14, Planning).

A broad program of Federal assistance for water-related projects, ranging from research to construction of facilities, is authorized and

administered by the Departments of Agriculture, Commerce, Housing and Urban Development, and Interior; the Atomic Energy Commission; the Environmental Protection Agency; and the National Science Foundation (Subsection 2.2.6, Water Supply).

2.2.5.1 Decisions

In a recent Supreme Court case,[139] the majority held that the River and Harbor Act must not be narrowly construed and that "any refuse matter"[140] includes all foreign substances and pollutants, whether commercially valuable or not. The exception from liability of refuse flowing from sewers "in a liquid state"[141] means "sewage" and cannot be enlarged to include industrial discharges.[142] The same case[143] also held that the discharge of industrial waste that reduces the depth of the channel created an obstruction[144] to the navigable capacity of the river, and that a Federal district court is authorized to grant injunctive relief against violation of the statutes. The government may remove the obstruction and sue the defendant and recover money damages for the cost of such removal.[145]

The Supreme Court has original and exclusive jurisdiction in all controversies between two or more States.[146] Frequently litigation involving pollution is a dispute between two or more States, and the Supreme Court then hears the controversy immediately.

In the Great Lakes drainage litigation,[147] which resulted from the Sanitary District of Chicago diverting waters from the Great Lakes through the Chicago Drainage Canal and Illinois River to the Mississippi River, a secondary issue concerned water quality. As to the issue of water quality it was held that Chicago's alleged need for a larger diversion for sanitary purposes was no defense to the injunction granted limiting the diversion. In a later proceeding in this litigation in which the United States intervened, the diversion was further limited.[148]

In the Mississippi River sewage litigation,[149] Missouri sued Illinois to enjoin sewage diversions from the canal into the Mississippi River on the grounds that such diversion will poison the water supply of Missouri. It was intimated in the Court's opinion[150] that in order to grant an injunction the nuisance created by the diversion must be made out upon determinate and satisfactory evidence, that it must not be doubtful, and that the danger must be shown to be real and immediate. The Court denied the injunction, finding that there was no visible increase in filth or increase in smell, that the inference of increase in disease was too narrow, and that Missouri was unable to prove that its own waste discharges had not caused or contributed to the result.[151] The Court also relied on the fact that the Missouri cities, in treating the water against pollution of their own creation, would also protect against pollution caused by Illinois.[152]

In the New York Harbor sewage litigation,[153] the State of New York sued the State of New Jersey to enjoin a threatened discharge of sewage into New York Harbor. The Supreme Court dismissed the case for the following reasons:

(1) the water of New York Bay was too brackish to be used for drinking or other domestic purposes

(2) the evidence that the sewage would cause damage to the hulls of vessels navigating the bay and create hazards of airborne diseases to persons on such vessels or persons on shore was too insubstantial and uncertain to justify issuance of an injunction

(3) there would not be any additional damages to bathers or fish due to the large amount of sewage already discharged into the bay and the fact that the defendants' discharge was to be treated

(4) the complainant failed to show by convincing evidence that the proposed sewage discharge would cause offensive odors or unsightly deposits on the surface of the water. (Note, however, that this case was decided in 1921. Its importance today may be historical rather than representative of current judicial thought on present issues of environmental law.)

In the New York City garbage litigation,[154] New Jersey enjoined New York City from dumping garbage into the ocean. Large quantities of this garbage were being deposited upon public and private beaches in New Jersey. However, New York was allowed to discharge garbage into the ocean until it completed certain incinerator plants.

In a later proceeding, the Court prohibited all garbage discharges on and after July 1, 1934, and attached a $5,000 per day penalty for noncompliance.[155] In a subsequent petition by New York City, the Court construed the decree as not prohibiting the dumping of sludge consisting of 90 percent water and 10 percent finely divided materials that would not float but would settle to the bottom of the water.[156]

Most recently, when the State of Ohio

sought an order to abate mercury pollution of Lake Erie by several Michigan and Canadian chemical companies, on the grounds that the pollution was a public nuisance, the Supreme Court declined to adjudicate the case, explaining that State courts were a more suitable and generally better equipped trial forum, and implying that current State, Federal, and international efforts to deal with mercury pollution were "a more practical basis" for solving the problem than a nuisance action in court.[157] In a statement that appears to synthesize its attitude with respect to adjudicating such disputes, at least when the dispute is between a State and a private party, the Court said: "To sum up, this Court has found even the simplest sort of interstate pollution case an extremely awkward vehicle to manage."[158]

2.2.6 Water Supply

Congress acknowledges statutorily that the primary responsibility for developing water supplies for domestic, municipal, industrial, and other purposes rests with the States and local interests. However, Congress also acknowledges that the Federal government should participate and cooperate with the States and local interests in developing water supplies.[1] To accomplish this policy, storage of water for water supply may be included in multiple purpose reservoirs pursuant to the Water Supply Act of 1958, as amended.[2] Such storage may be reserved entirely for water supply or may be provided by joint use of seasonal flood control or other storage. Costs allocated to water supply may not exceed 30 percent of the total project construction costs. The percentage of the construction cost, including interest during construction, allocated to water supply must be repaid by the water users within the life of the project but in no event not later than fifty years after the project is first used for the storage of water for water supply purposes.[3]

Congress earlier[4] made special provision for domestic water supply at flood control projects. That Act authorized the Secretary of the Army to receive funds from States and political subdivisions and expend them in connection with funds appropriated by the United States for any authorized flood control work, whenever, on recommendation of the Chief of Engineers, he deems such work and expenditure advantageous in the public interest. The same Act provides that, on recommendation of the Chief of Engineers, the Secretary of the Army may modify the plans of any reservoir project to provide additional storage capacity for domestic water supply or other conservation storage. The cost of such increased storage capacity must be contributed by local agencies. The local agencies must also agree to use the storage in a manner consistent with Federal uses and purposes.

The Secretary of the Army is also authorized to make contracts with States, municipalities, private concerns, or individuals for domestic and industrial uses for surplus water that may be available at any reservoir under the control of the Department of the Army.[5]

The Water Resources Planning Act[6] provided for the creation of a Water Resources Council and assigned to the Council, as its primary task, the assessment of the adequacy of water supplies throughout the nation. (For a detailed analysis of the Act, including composition and functions of the Council, see Subsection 2.2.14, Planning.)

The Corps of Engineers' former responsibilities for scientific investigations of all aspects of limnology relating to development and utilization of water resources of the Great Lakes system, vested in the Great Lakes Research Center established by the Chief of Engineers in 1966, stemming from the lake survey operation initiated by Congress in 1841,[7] have now been transferred, along with the transfer of the Great Lakes Research Center, to the National Oceanic and Atmospheric Administration of the United States Department of Commerce.[8]

National forest lands covered by a cooperative agreement entered into between the Secretary of Agriculture and a municipality that obtains its water supply from a national forest for the protection of the watershed within the forest, may be reserved from location, entry, or appropriation by the President, upon application from the municipality approved by the Secretaries of Agriculture and Interior.[9]

Congress has also given its consent to compacts not in conflict with any law of the United States which are entered into by any State with any other State or States for the purpose of conserving the forests and the water supply of the compacting States.[10]

In view of the increasing shortage of usable surface and ground water in the United States, Congress declares that its policy is to provide for the development of practicable low-cost means for large-scale production of water of a quality suitable for municipal, industrial, agricultural, and other beneficial

uses from "saline water."[11] The term saline water is defined to include not only sea water, but also brackish water and other mineralized or chemically charged waters.[12]

To accomplish the policy expressed in that Act, the Secretary of the Interior is authorized:

(1) to conduct and promote fundamental scientific research and basic studies to develop economical processes and methods for converting for beneficial consumptive use[13]

(2) to conduct engineering research and technical development work to determine, by laboratory test bed, module, component, and pilot plant testing, the results of the basic research in order to develop processes and plant designs to a point where they can be demonstrated on a large and practical scale[14]

(3) to recommend to Congress authorizations for construction and operation for prototype plants for any process promising to accomplish the purpose of the Act[15]

(4) to study methods for recovery and marketing of by-products[16]

(5) to undertake economic studies and surveys on water production costs.[17]

These functions may be performed by contract with scientific and engineering personnel, and with educational institutions, scientific organizations, and industrial and engineering firms, by making research and training grants using scientific laboratories of other Federal agencies, and making onsite inspections of promising projects, domestic and foreign.[18]

Research and development activities undertaken by the Secretary of the Interior must be coordinated or conducted jointly with the Department of Defense so that developments of a civil nature will contribute to national defense and those primarily of a military nature will be available to the greatest extent compatible with military and security requirements. The Act provides for the fullest cooperation by and with the Atomic Energy Commission, the Department of Health, Education and Welfare, the Department of State, and other concerned agencies.[19]

The Secretary of Agriculture has broad powers to undertake activities directly or indirectly related to water supplies, such as the authority and mandate to conduct investigations, experiments, and tests,[20] as he deems necessary, in order to determine, demonstrate, and promulgate the best methods of reforestation and of growing, managing, and utilizing timber, forage, and other forest products, of maintaining favorable conditions of water flow and the prevention of erosion, of protecting timber and other forest growth from fire, insects, disease, or other harmful agencies, of obtaining the fullest and most effective use of forest lands; and to determine and promulgate the economic conditions which should underlie the establishment of sound policies for the management of forest lands and the utilization of forest products.[21] To carry out these duties, the Secretary is authorized to cooperate with individuals and public and private agencies, organizations, and institutions;[22] to receive money contributions from cooperators;[23] to establish and maintain regional forest experiment stations;[24] and to make funds available to States, to other public and private agencies, organizations, institutions, and to individuals for the purpose of fostering and stimulating participation with the Forest Service in research related to forest, range, and watershed management.[25]

The Secretary of Agriculture is further authorized to make matching fund grants to State colleges or universities certified for receipt of such funds for forestry research,[26] including investigations relating to the management of forest and related watershed lands undertaken for the purpose of improving conditions of waterflow and protecting resources against floods and erosion.[27]

The Secretary of Agriculture also has a general power to make grants, for periods not to exceed five years, to State colleges, universities, and other research organizations; to Federal and private organizations; and to individuals, for research to further programs of the Department of Agriculture.[28] He also has the authority to expend appropriations for the erection of buildings and other structures on land owned by non-Federal public entities or by individuals, provided the Federal government first obtains the right to use such land for the estimated life of or need for any such structure and the right to remove such structure after the government's right to use the land has terminated, including authority to expend appropriations and funds for expenses in connection with acquiring the land use right under long-term lease or other agreement.[29] In addition, he has the authority to transfer funds from any available appropriation to the benefit of any other appropriation, on a temporary basis, until the close of the fiscal year of such transfer.[30]

The President may, in accordance with such regulations as he may deem desirable, authorize prospecting for water resources and

the establishment and maintenance of reservoirs, water conservation works, power projects, transmission lines, and other facilities needed in the public interest within a specific area of wilderness areas in national forests designated by Congress.[31]

It is declared policy of the United States that the development, use, and control of atomic energy shall be directed to make the maximum contribution to the general welfare and to the common defense and security, to promote world peace, to increase the standard of living, and to strengthen free competition in private enterprise.[32]

The Atomic Energy Commission is authorized by the Atomic Energy Act of 1954, as amended, to provide and administer programs to encourage private participation in programs for research and development, international cooperation in the production of atomic energy and special nuclear materials, and the dissemination of scientific and technical information. Above all, the Commission has the responsibility to protect the health and safety of the public, and to regulate the control and use of source, byproduct, and special nuclear material.[33] Authority to set standards for the protection of the general environment from radioactive material has been transferred to the Environmental Protection Agency, but responsibility for implementation and enforcement of radiation standards is retained by the AEC through its licensing authority.[34]

The Atomic Energy Commission is already taking part in the development of water supplies. The United States government, as represented by the Atomic Energy Commission,[35] and the Department of the Interior[36] have been authorized to participate with the Metropolitan Water District of Southern California in the construction and operation of a dual-purpose nuclear power and desalting facility.

The National Oceanic and Atmospheric Administration of the Department of Commerce, created October 2, 1970,[37] will probably perform a larger role in water supply as more is learned about weather modification. Presently the functions delegated by the Secretary of Commerce to NOAA include forecasting of weather, taking meteorological observations necessary to establish and record climatic conditions, and issuing warnings and reporting meteorological information.[38] The National Oceanic and Atmospheric Administration is also authorized and directed to study the internal structure of thunderstorms, hurricanes, cyclones, and other severe atmospheric disturbances.[39]

Under other authority,[40] the Secretary of Commerce (NOAA) is authorized to establish and maintain the Hydroclimatic Network of recording and nonrecording precipitation stations whenever the Corps of Engineers or the Secretary of Commerce (NOAA) deems it advisable. The service provides current information on precipitation, flood forecasts, and flood warnings.[41]

The National Science Foundation Act of 1950 established the National Science Foundation which was authorized and directed to develop and encourage the pursuit of national policies for the promotion of basic research and education in the sciences and to support basic research and programs to strengthen scientific research potential. The Foundation is authorized to support research in the area of weather modification, to award scholarships and fellowships for scientific studies, to maintain a roster of the nation's scientists, and to promote the interchange and dissemination of scientific and technical information. To accomplish the purposes of the Act the Foundation has the power to make grants and acquire and dispose of property.[42]

The Demonstration Cities and Metropolitan Development Act of 1966[43] authorizes the Secretary of Housing and Urban Development to make supplementary grants to State and local public bodies and agencies carrying out or assisting in carrying out areawide development projects meeting the requirements of the Act. The term areawide development includes projects or programs for the acquisition, use, and development of water supply and distribution facilities and waste treatment works and sewerage facilities.[44]

The Housing and Urban Development Act of 1965[45] authorizes the Secretary of Housing and Urban Development to make grants to local public bodies and agencies to finance specific projects for water facilities (including works for the storage, treatment, purification, and distribution of water), and for public sewer facilities other than "treatment works." The term treatment works is defined to mean various devices used in the treatment of sewage or industrial wastes of a liquid nature.[46] The grant must not exceed 50 percent of the development cost of the project—unless the recipient community has no existing adequate water or sewer facility and a high rate of unemployment, in which case the grant may be increased to 90 percent of the development cost.[47]

The Economic Development Administration of the Department of Commerce also administers a program of grants and loans under the Public Works and Economic Development Act of 1965[48] for aid to economically distressed regions with substantial and persistent unemployment problems. Such aid may be used for sewer or waste disposal facilities if the Administrator of the Environmental Protection Agency[49] certifies to the Secretary of Commerce that any waste material carried by such facilities will be adequately treated before being discharged into any public waterway.[50]

The Secretary of Agriculture, through the Farmers Home Administration, may make loans and grants for the construction of water and sewage systems to rural communities that need water and waste disposal projects and have populations of up to 5,500.[51]

The Housing and Home Finance Administrator is authorized to make loans and grants and offer other assistance to provide "public works" to an area that the President determines to have an acute shortage of public works necessary to the health, safety, or welfare of persons engaged in national defense activities where such shortage would impede national defense activities.[52] The term public work means any facility necessary for carrying on community life substantially expanded by the national defense program, primarily schools, waterworks, sewers, public sanitary facilities, works for the treatment and purification of water, and sewage, garbage, and refuse disposal facilities.[53]

The Secretary of Agriculture was authorized to formulate and carry out a program during calendar years 1965 through 1970 to reduce farm costs, to assist farmers in the nonagricultural uses of their land, and to promote the development and conservation of the nation's soil, water, forest, wildlife, recreation resources, and open space. The program is carried out through agreements entered into with the producers for not less than five nor more than ten years. The producer must agree to carry out, on designated acreage, practices, in such manner as the Secretary prescribed, which will conserve soil, water, forest resources, open space, wildlife, recreation resources, or prevent air or water pollution.[54]

Congress has given its consent to each of the States to enter into any agreement or compact, not in conflict with any law of the United States, with any other State or States for the purpose of conservation of forests and water supply.[55]

Whenever a municipality obtains its water supply from a national forest and has entered into a cooperative agreement with the Secretary of Agriculture for the protection of the watershed, the President of the United States may, upon appropriate application by the municipality, reserve from all forms of entry or appropriation any national forest lands covered by the agreement.[56]

Another act provides that any person, livestock company, or transportation corporation engaged in breeding, grazing, driving, or transporting livestock, may construct reservoirs upon unoccupied public lands of the United States, not mineral or otherwise reserved, for the purpose of furnishing water to such livestock so long as the reservoir is controlled according to regulations prescribed by the Secretary of the Interior and open to the free use of any person desiring to water animals of any kind.[57]

The Secretary of the Interior may grant certain rights-of-way over public lands for ditches, canals, or reservoirs to be used for purposes of transportation of water for domestic uses.[58]

In the discussion of the Federal Power Act[59] in Subsection 2.2.1, Energy, it was pointed out that the Act sets a basic standard for licensing. That standard is that the project adopted must be such as in the judgment of the Commission will be best adapted to a comprehensive plan for improving or developing a waterway for commerce, water power development, and "other beneficial public uses."[60] The Act also prohibits interference with State laws relating to control, appropriation, use, or distribution of water used in irrigation or for municipal or other uses.[61]

The Secretary of the Interior, through the Fish and Wildlife Service and the Bureau of Mines, is authorized to make investigations of the effects on wildlife of domestic sewage, mine, petroleum, and industrial wastes, erosion silt, and other pollutants. It is provided that these investigations include the determination of standards of water quality for methods of abating and preventing pollution, and that the data from such investigations be distributed for the use of Federal, State, and municipal agencies, and private persons and organizations.[62]

In order to control and prevent pollution from sediment and other pollutants in areas of rapidly changing uses, the Secretary of Agriculture, upon the request of a State or a public agency, has the authority to make studies for the classification and interpretation of kinds of soil, to furnish technical and other

service for use of soil surveys, and to coordinate with other Federal agencies participating or assisting in the planning and development of such areas.[63]

The purpose of the Water Resources Research Act of 1964, as amended, is to stimulate, sponsor, provide for, and supplement present programs for the conduct of research, investigations, experiments, and the training of scientists in the fields of water and of resources which affect water.[64]

The Act provides for specific grants to all the States to assist each participating State in establishing and carrying on the work of a competent and qualified water resources research institute at one college or university in each State. Such research includes supply and demand for water; conservation and best use of available supplies of water; methods of increasing such supplies; and economic, legal, social, engineering, recreational, biological, geographic, ecological, and other aspects of water problems.[65]

The Act also authorizes the Secretary of the Interior to make grants to and finance contracts and matching or other arrangements with educational institutions, private foundations or other institutions; with private firms and individuals whose training, experience, and qualifications are adequate for the conduct of water research projects; and with local, State, and Federal government agencies, to undertake research into any aspect of water problems related to the mission of the Department of the Interior.[66]

The Act provides for the establishment of a water resources scientific information center in such agency and location as the President determines to be desirable. The center shall classify and maintain for general use a catalog of water resources research and investigation projects in progress or scheduled by all Federal agencies and by such non-Federal agencies as voluntarily may make such information available.[67]

The Secretary of the Interior is vested with the responsibility of administering the Act. He shall require a showing of capability by institutions designated to receive funds. He shall furnish advice and assistance. He shall encourage the establishment and maintenance of cooperation between the institutes, other research organizations, and other Federal establishments.[68]

The responsibility is vested in the Department of Health, Education and Welfare to conduct and coordinate research and studies relating to cause, diagnosis, treatment, control, and prevention of physical and mental diseases and impairments of man, including health related aspects of resources of particular concern such as recreational uses of water, disease vector control, and marine food-growing water.[69] Certain other functions relating to water pollution, formerly assigned to HEW, were transferred to the Environmental Protection Agency.[70]

The Public Health Service has also been given the responsibility for preparing plans to assure provision of usable public water supplies for community use in an emergency. Its activities include inventorying existing supplies, developing new sources, performing research, setting standards, and planning distribution.[71]

The Solid Waste Disposal Act[72] formerly authorized the Secretary of Health, Education and Welfare to conduct, cooperate with, and offer financial and other assistance to appropriate public authorities, agencies, and institutions, private agencies, and institutions and individuals in research, training, demonstrations and studies relating to the operation and financing of solid waste disposal programs, the development and application of new and improved methods of solid waste disposal, and the reduction of the amount of such waste.[73] Those functions have also now been transferred to the Environmental Protection Agency.[74]

The Bureau of Indian Affairs, under the supervision of the Secretary of the Interior, is authorized to spend money for extension, improvement, operation, and maintenance of existing Indian irrigation systems and for development of water supplies.[75]

Since the supply of water for municipal, industrial, or rural uses is dependent upon water quality, some Federal authority dealing with the quality of water has been mentioned here. However, a more inclusive coverage of the subject of water quality can be found in Subsection 2.2.5, Water Pollution.

All provisions of Executive Order Number 11514[76] and Number 11507,[77] the National Environmental Policy Act of 1969[78] (Subsection 2.2.2), and the Federal Water Pollution Control Act[79] (Subsection 2.2.5), are fully applicable to the subject area of water supply.

2.2.6.1 Decisions

In *Wyoming* v. *State of Colorado* it was held that the contention of Colorado that as a State it might rightfully divert and use, as it chose,

the waters of an interstate stream flowing within its boundaries regardless of the rights of other States, could not be maintained.[80] Moreover, the State to which a stream flows is not entitled to have the stream flow as it would in nature regardless of need or use.[81]

The establishment of rights as between States to divert and use waters of interstate streams may be accomplished by voluntary agreement or compact, by Supreme Court adjudication or by an act of Congress.

The United States Supreme Court has expressly recommended the compact as a mode of settlement of controverted rights.[82] However, the Constitution forbids any State to enter into any agreement or compact with another State without the consent of Congress.[83]

In *Hinderlider* v. *La Plata River & C. Creek Ditch Co.*, it was held that an apportionment of water of an interstate stream made by compact between Colorado and New Mexico with the consent of Congress is binding upon the citizens of each State, even where water rights had been granted by the State before it entered into the compact.[84]

In *Petty* v. *Tennessee-Missouri Bridge Commission*[85] it was held that the Commission waived its sovereign immunity from suit in Federal courts granted by the Eleventh Amendment[86] in view of a provision in the interstate compact giving the Commission authority to sue and be sued, and a condition imposed by Congress, when it gave its consent to the compact, that the compact was not to impair jurisdiction of the United States courts over navigable waters and interstate commerce. The Court reasoned that the construction of the compact was a matter of Federal law, over which the Supreme Court has the final say.[87] The Court also said that the States that are parties to the compact by accepting it and acting under it assume the conditions that Congress, under the Constitution, attached.

The Supreme Court has original and exclusive jurisdiction in all controversies between two or more States.[88] This original jurisdiction extends to the adjudication of the relative rights of States and their respective inhabitants as to the diversion and use of waters of interstate streams.[89] The cases that follow will point out that to a large degree the disposition of these controversies concerning the diversion of water from interstate streams has been based upon the principles of equitable apportionment.

The doctrine of equitable apportionment, which fits the Court's decision to the facts of the controversy without adherence to any particular formula, stems from the opinion in *Kansas* v. *Colorado*.[90]

In *Connecticut* v. *Massachusetts*,[91] a controversy over the diversion of water involved two States that recognized the common-law doctrine that riparian owners have the right to the undiminished flow of the stream free from contamination. The court, negating any suggestion that the relative rights of contending States must depend upon the rule of law applied in such States, said:

> For the decisions of suits between States, federal, state and international law are considered and applied by this Court as the exigencies of the particular case may require. The determination of the relative rights of contending States in respect of the use of streams flowing through them does not depend upon the same considerations and is not governed by the same rules of law that are applied in such States for the solution of similar questions of private right. . . . And, while the municipal law relating to like questions between individuals is to be taken into account, it is not to be deemed to have controlling weight. As was shown in *Kansas* v. *Colorado*, . . . such disputes are to be settled on the basis of equality of right. But this is not to say that there must be an equal division of the waters of an interstate stream among the States through which it flows. It means that the principles of right and equity shall be applied having regard to the "equal level or plane on which all the States stand, in point of power and right, under our constitutional system" and that, upon a consideration of the pertinent laws of the contending States and all other relevant facts, this Court will determine what is an equitable apportionment of the use of such waters.[92]

In *New Jersey* v. *New York*,[93] the rule of equitable apportionment was used to limit the extent of diversions of waters of the Delaware River by New York. The Court granted an injunction to restrain New York or New York City from diverting more than 440 million gallons daily from the Delaware River or its tributaries.

More recently the Supreme Court in *Arizona* v. *California* stated that the doctrine of equitable apportionment is that doctrine with which "this Court in the absence of statute resolves interstate claims according to the equities."[94]

Recognizing that the Court has used the doctrine of equitable apportionment to decide river controversies between States, the Court in *Arizona* v. *California*[95] pointed out that in those cases Congress had not made any statutory apportionment of the water. The Court held that Congress, in passing the Boulder Canyon Project Act,[96] intended to and did create its own comprehensive scheme for apportionment; that it is the Boulder Canyon

Project Act and the Secretary of the Interior's contracts thereunder, and not the law of prior appropriation or the doctrine of equitable apportionment, which govern the apportionment of the water; and that Congress gave to the Secretary authority to distribute water to individual users according to principles of allocation that he might determine notwithstanding State laws governing distribution of water.

2.2.7 Recreation

The Bureau of Outdoor Recreation of the Department of the Interior serves as the focal point for outdoor recreational activities. Legislative sanction for the Bureau of Outdoor Recreation was provided in the Organic Act of 1963.[1] Through the Bureau, liaison is maintained with all levels of government and private interests for the purpose of developing and executing a coordinated effort to provide adequate outdoor recreation resources for the present and future. To carry out these responsibilities the Secretary of the Interior, through the Bureau of Outdoor Recreation, has the following authority:

(1) to prepare and maintain a continuing inventory and evaluation of outdoor recreation needs and resources

(2) to prepare a system for classification of outdoor recreation resources

(3) to formulate and maintain a comprehensive nationwide outdoor recreation plan

(4) to provide technical assistance and advice to and cooperate with States, political subdivisions, and private interests with respect to outdoor recreation

(5) to encourage interstate and regional cooperation in the planning, acquisition, and development of outdoor recreation resources

(6) to sponsor, engage in, and assist in research relating to outdoor recreation

(7) to undertake studies and assemble information concerning outdoor recreation

(8) to cooperate in the establishment of educational programs

(9) to provide technical assistance to Federal departments and agencies and promote interdepartmental cooperation

(10) to accept and use donations for outdoor recreation.

The Bureau of Outdoor Recreation also carries out most of the responsibilities delegated to the Secretary of the Interior under the Land and Water Conservation Fund Act of 1965,[2] and a number of the Secretary's functions under the Federal Water Project Recreation Act.[3]

The Land and Water Conservation Fund Act of 1965[4] creates a land and water conservation fund to assist the States in planning, acquisition, and development of needed land and water areas and facilities, and to assist in Federal acquisition and development of recreational areas.

This conservation fund derives its revenue from the sale of surplus Federal real property and from the motorboat fuels tax. In addition, provision is made for an annual appropriation of 200 million dollars for five years beginning July 1, 1968. The Act permits allocation of outer continental shelf oil and mineral leasing revenues to the fund in amounts required to bring the fund's revenues up to the 200 million dollar annual allotment.[5]

The Act provides that sixty percent of annual appropriations from the fund will be available for State purposes and forty percent will be available for Federal purposes unless the President varies the percentages. The President may only vary the percentages during the first five years in which appropriations are made from the fund, and then he may only vary the percentages by fifteen points.[6]

The payments to any State shall not cover more than fifty percent of the cost of planning, acquisition, or development of projects.[7] Before a State may receive funds it must submit a comprehensive Statewide outdoor recreation plan and then payments will only be made on approval of the Secretary of the Interior.[8]

The sixty percent of the fund available to the States is apportioned as follows:

(1) two-fifths shall be apportioned equally among States

(2) three-fifths shall be apportioned on the basis of need as determined by the Secretary of the Interior.[9]

The Federal Water Project Recreation Act of 1965[10] establishes uniform policies and procedures relating to benefits and costs of recreation and enhancement of fish and wildlife in connection with Federal multi-purpose water resource projects other than small reclamation projects, small watershed projects, and projects of the Tennessee Valley Authority.

The Act provides:

(1) full consideration shall be given to recreation and fish and wildlife enhancement as purposes in Federal water resource projects

(2) planning with respect to the recreational potential of any project is to be coordinated with existing and planned Federal,

State, and local public recreation developments

(3) non-Federal administration of the recreation and fish and wildlife enhancement features of most Federal water projects is to be encouraged by Federal agencies.

The uniform procedure established to comply with the policy of the Act is as follows with respect to non-Federal public bodies: if, before authorization of the project, the non-Federal public bodies indicate in writing their intent to agree to administer project land and water areas for recreation or fish and wildlife enhancement or for both, to bear not less than one-half the separable costs of the project allocated to such recreational or fish enhancement purposes, and to bear all the costs of operation, maintenance, and replacement therefor; then, the benefits to the project of recreation and fish and wildlife enhancement shall be taken into account in determining the economic benefits of the project and the Federal government will bear the joint costs allocated to those purposes and up to one-half of the costs of lands, facilities, and project modifications for such purposes. Projects authorized in 1965 do not have to show their intent in writing to include recreation and fish and wildlife benefits.

The non-Federal share of the costs of the project allocated to fish and wildlife enhancement may be paid in either of the following ways: payment of cash, lands, or facilities for the project; or repayment with interest within 50 years with authority to designate fees collected by non-Federal bodies at such areas as the source of funds for such repayments, provided the fee schedule and the portion earmarked for such repayment, are subject to review and renegotiation at intervals of not more than five years.[11]

If there is no pre-authorization indication of intent of non-Federal cost sharing, but within ten years after initial operation of the project, non-Federal interests desire to develop the recreation or fish and wildlife potential and agree to bear one-half the cost of the land, facilities, and any project modification for these purposes, and all costs of operation, maintenance, and replacement; then the development of the recreation and fish and wildlife enhancement potential will be undertaken pursuant to a plan of development. The Federal government would then bear up to one-half the costs of the land, facilities, and project modifications for those purposes but there would be no reallocation of joint costs. If no agreement is obtained, the head of the agency having jurisdiction over the project may utilize the lands for any lawful purpose within the jurisdiction of his agency, may offer the land for sale to its immediate prior owner, may transfer it to another Federal agency, may lease it to a non-Federal agency, or may dispose of it through the surplus property laws of the United States.[12]

To encourage non-Federal administration of the recreation and fish and wildlife enhancement features at Federal water resources projects that had commenced construction by or were completed by July 9, 1965, the Act authorizes Federal water resource agencies to lease recreation and fish and wildlife enhancement facilities and appropriate project lands to non-Federal public bodies which agree to administer the facilities and to bear the costs of operation, maintenance and replacement of such lands and facilities.[13]

The Act also gives the Secretary of the Interior authority with respect to existing projects under his control to investigate, plan, construct, operate, maintain, or otherwise provide for public outdoor recreation and fish and wildlife enhancement facilities and acquire the necessary lands therefor. However, non-Federal bodies must agree to administer such facilities, pay one-half the cost of lands and facilities involved and all the cost of operating, maintaining, and replacing such facilities.[14]

The Wild and Scenic Rivers Act of 1968,[15] instituting a national wild and scenic rivers system,[16] enunciates and implements the policy of Congress to preserve certain selected rivers of the nation in free-flowing condition; to protect these rivers and their immediate environments which possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values; to protect the water quality of these rivers; and to fulfill other vital national conservation purposes.[17] The system is composed of rivers authorized for inclusion therein by an act of Congress, or designated as wild, scenic, or recreational rivers by State legislation, which are administered as wild, scenic, or recreational rivers by the concerned State or States without expense to the Federal government, and approved for inclusion in the system by the Secretary of the Interior.[18]

Wild river areas are those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America.[19]

Scenic river areas are those rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.[20]

Recreational river areas are those rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past.[21]

The Secretary of the Interior, or where national forest lands are involved, the Secretary of Agriculture, or where appropriate, both Secretaries jointly, shall study and, from time to time, submit to the President and the Congress proposals for addition to the system those rivers designated by Congress as potential additions to the system. Such proposed additions would be administered wholly or partially by an agency of the United States. Each such study and plan must be coordinated with any water resources planning involving the same river which is being conducted pursuant to the Water Resources Planning Act. Each proposal must also be accompanied by a report conforming to statutory specifications.[22] Prior to its submission to the President and the Congress, copies of any such report must, unless prepared jointly, be submitted by the Secretary of the Interior to the Secretary of Agriculture and by the Secretary of Agriculture to the Secretary of the Interior; and copies must also be submitted to the Secretary of the Army; the Chairman of the Federal Power Commission; the head of any other affected Federal department or agency; and the appropriate State governor or governors if non-Federally owned lands are involved. Recommendations of the foregoing officials, submitted within 90 days to the Secretary or Secretaries and his or their comments thereon must be included with the transmittal to the President and the Congress.[23] The study of any river is to be pursued cooperatively with the affected State;[24] and studies and reports in general are to be completed within ten years following date of enactment of the Wild and Scenic Rivers Act.[25] The Secretary of the Interior must follow similar procedures prior to approving or disapproving for inclusion in the national wild and scenic rivers system, any river designated by a State legislature; and if the Secretary approves a proposed inclusion, he must publish notice thereof in the Federal Register.[26]

The Secretaries of Interior and Agriculture are authorized to acquire land and interests in land within the authorized boundaries of any component of the national wild and scenic rivers system, but limited in the case of fee title acquisitions to an average of not more than 100 acres per mile on both sides of the river. Lands owned by a State may be acquired only by donation and lands owned by an Indian tribe or political subdivision, where the land is being protected and used consistently with the Act, may be acquired only with the consent of the Indian tribe or political subdivision. Money appropriated from the land and water conservation funds may be used to acquire property for the national wild and scenic river system.[27] The Secretaries' power to acquire land by condemnation is curtailed, however, where more than 50 percent of the entire acreage within a Federally administered wild, scenic or recreational river area is publicly owned;[28] or where such lands are located in urban areas covered by valid and satisfactory zoning ordinances.[29]

The Federal Power Commission is prohibted from licensing the construction of any dam, water conduit, reservoir, powerhouse, transmission line, or other project works under the Federal Power Act, as amended, on or directly affecting any river that is a component of the system; nor shall any department or agency of the United States assist by loan, grant, license, or otherwise in the construction of any water resources project that would have a direct and adverse effect on the values for which such river was established.[30]

Each component of the national wild and scenic rivers system shall be administered so as to protect and enhance the values which caused it to be included in the system;[31] and any portion of a component of the system that is within the national wilderness preservation system shall be subject to the provisions of both the Wilderness Act and the Wild and Scenic Rivers Act.[32] The Federal agency charged with the administration of any component of the system may enter into written cooperative agreements with a State or local government for participation in its administration.[33]

The Secretaries of the Interior, of Agriculture, and of Health, Education and Welfare shall encourage and assist States to consider needs and opportunities for establishing State and local wild, scenic, and recreational areas, in formulating and carrying out their comprehensive Statewide outdoor recreation plans and proposals for financing assistance for State and local projects submitted pursuant to the Land and Water Conservation

Fund Act of 1965.[34] The Secretaries of Interior and Agriculture and the heads of other Federal agencies shall also review administrative and management policies, regulations, contracts, and plans affecting lands under their respective jurisdictions which include, border upon, or are adjacent to rivers designated by Congress for potential addition to the national system in order to determine what actions should be taken to protect such rivers during the period that they are being considered for potential addition to the national system.[35]

The National Trails System Act establishes a national system of recreation and scenic trails for the purposes of providing for the increasing outdoor recreation needs of an expanding population and promoting public access to, travel within, and enjoyment and appreciation of the open-air outdoor areas of the nation. Trails are to be established primarily near the urban areas of the nation, and secondarily within established scenic areas more remotely located.[36] The Secretary of the Interior, or the Secretary of Agriculture where lands administered by him are involved, may establish and designate national recreation trails within park, forest, and other recreation areas, with the consent of the Federal or State or local authority having jurisdiction over the lands involved, upon finding such trails are reasonably accessible to urban areas and meet the criteria set forth by Congress and supplementary criteria prescribed by the authorizing Secretary.[37]

National scenic trails can be authorized and designated only by act of Congress.[38] The Secretary of the Interior, and the Secretary of Agriculture where lands administered by him are involved, shall make additional studies, as authorized by Congress, for the purpose of determining the feasibility and desirability of designating other trails as scenic trails.[39] Three such routes involving Great Lakes Basin States have been authorized for study by Congress:

(1) the North Country Trail, which spans approximately 3,200 miles from its point of origin at the Appalachian Trail in Vermont to its termination at the Lewis and Clark Trail in North Dakota, and traverses the States of New York, Pennsylvania, Ohio, Michigan, Wisconsin, and Minnesota[40]

(2) the Kittanning Trail, which is contained entirely within the State of Pennsylvania[41]

(3) the Potomac Heritage Trail, an 825-mile trail extending generally from the mouth of the Potomac River to its sources in Pennsylvania and West Virginia, and includes the 175-mile Chesapeake and Ohio Canal towpath.[42]

Connecting or side trails within park, forest, and other recreational areas administered by the Secretary of the Interior or the Secretary of Agriculture may also be established, designated, and marked as components of a national recreation or national scenic trail.[43]

National forests may be established, controlled, and administered for the purpose of "securing favorable conditions of water flows."[44] It is also the declared policy of Congress that "the national forests are established and shall be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes."[45] The Forest Service is authorized to investigate and establish water rights, "including the purchase thereof or of lands or interests in lands or rights-of-way for use and protection of water rights necessary or beneficial in connection with the administration and public use of the national forests."[46]

In order to preserve the shorelines, rapids, waterfalls, beaches, and other natural features of the region in an unmodified state of nature, no further alteration of the natural water level of any lake or stream within or bordering upon a statutorily designated area of public lands in northern Minnesota[47] can be authorized by any permit, license, lease, or other authorization granted by any official or commission of the United States which will result in flooding lands of the United States within or immediately adjacent to the Superior National Forest, unless and until specific authority for granting such permit, license, lease, or other authorization shall have been first obtained by special act from Congress covering each such project. However, reservoirs not exceeding 100 acres in area may be constructed and maintained with the written approval and consent of the Forest Service for the transportation of logs or in connection with authorized recreational uses of national forest lands. Also, maximum water levels not higher than the normal high-water mark may be maintained temporarily in the streams between lakes by the construction and operation of small temporary dams where essential strictly for logging purposes.[48]

The National Park Service Act[49] created the National Park Service in the Department of the Interior for the purpose of promoting and regulating use of the Federal areas known as national parks, monuments, and reservations by such means and measures as will conserve

the scenery, the natural and historic objects, and wildlife therein.

The Secretary of the Interior may dispose of any public lands to a State, territory, county, municipality or subdivision thereof for any public purpose, or to a non-profit corporation or non-profit association for any recreational or public purpose consistent with its articles of incorporation.[50]

The Secretary of the Interior, through the National Park Service, is given certain powers to preserve historic American sites, buildings, objects, and objects of national significance.[51] Provision is also made for expansion of historical properties.[52]

Federal Power Commission licenses are issued on certain conditions for a comprehensive plan that may require consideration of recreation facilities.[53]

The Secretary of the Interior is authorized to cause the National Park Service to make a study of the public park, parkway, and recreational area programs of the United States and its political subdivisions.[54] The Outdoor Recreation Resources Review Commission was created to aid in this study.

The Secretary of the Interior, through the Bureau of Sport Fisheries and Wildlife, is authorized to provide aid to the States for wildlife restoration projects.[55] Provision is also made for conservation of native species of fish and wildlife, including certain migratory birds.[56]

The Surplus Property Act of 1944, as amended,[57] provides for disposal of government surplus property to any State or subdivision thereof which is suitable for a public park, public recreation area, or historical monument.

The Multiple Use Sustained Yield Act of 1960[58] states that it is the policy of Congress that the national forests be established and administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes.

Furthermore, the Secretary of Agriculture should cooperate with the States and their political subdivisions in the planning and development of works for the utilization and development of water.[59]

The act establishing the National Wilderness Preservation System[60] authorizes the designation of certain areas as wilderness areas. Areas so designated will remain unimpaired for future use and enjoyment as wilderness.

A wilderness is statutorily defined as

> an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain . . . an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may contain ecological, geological, or other features of scientific, educational, scenic or historical value.[61]

The Secretary of Agriculture is authorized to develop a program of land conservation and land utilization to assist in controlling soil erosion, reforestation, preserving natural resources, protecting fish and wildlife, and developing and protecting recreation facilities.[62] The Secretary of Agriculture was also authorized to enter into agreements during the calendar years 1965 through 1970 for the purpose of promoting the development and conservation of the nation's soil, water, forest, wildlife, and recreational resources and establishing, protecting, and conserving open spaces and natural beauty.[63]

The Chief of Engineers is authorized to construct, maintain, and operate public park and recreational facilities at water resource development projects under the control of the Department of the Army. He is also authorized to permit the construction of such facilities by local interests and to permit maintenance and operation of these facilities by the local interests. Furthermore, he is authorized to grant leases of land, including structures or facilities, at water resource projects. The act also provides that the water areas of all such projects shall be open to public use generally for boating, swimming, bathing, fishing and other recreational purposes,[64] under rules and regulations deemed necessary by the Secretary of the Army—including but not limited to prohibitions of dumping and unauthorized disposal in any manner of refuse, garbage, rubbish, trash, debris, or litter of any kind at such water resource development projects, either into the waters of such projects or onto any land Federally owned and administered by the Chief of Engineers. Violations of such rules and regulations are punishable by a fine of not more than $500 or imprisonment for not more than six months, or both; and arrest, trial, and sentencing procedures are authorized for the enforcement of the Secretary's rules and regulations.[65]

The Water Resources Planning Act[66] provides for the optimum development and conservation of the nation's natural resources through coordinated planning by Federal, State, local, and private entities. (See detailed analysis of the Act in Subsection 2.2.14.)

The Federal Water Pollution Control Act, as amended,[67] provides that in the development of a comprehensive water pollution control program due regard shall be given to the improvements which are necessary to conserve waters for public water supplies, propagation of fish and aquatic life, and for wildlife and recreational purposes. The Act provides a variety of grants to States, municipalities, or intermunicipal or interstate agencies and authorizes the establishment of water quality standards which take into consideration the value of public water supplies, propagation of fish and wildlife, and recreation. Authorizations, responsibilities, and grant provisions under that Act are covered in detail in Subsection 2.2.5 of this appendix. One specific example of Federal assistance authorized by the 1970 amendments to the Act of special importance here provides that, in the selection of watersheds for projects demonstrating elimination or control of acid or other mine water pollution, preference must be given to areas which have the greatest present or potential value for public use for recreation, fish and wildlife, water supply, and other public uses.[68]

All federal agencies having jurisdiction over any real property or facility or engaged in any Federal public works activity must insure compliance with applicable water quality standards in the administration of such property, facility, or activity;[69] and the summary of conference discussions prepared following any conference called to discuss abatement of pollution of interstate or navigable waters, pursuant to 33 U.S.C. 1160(d)(4), shall include references to any discharges allegedly contributing to pollution from any Federal property, facility, or activity. Copies of such summary, and notice of any hearing involving the alleged pollution, must be given to the Federal agency having jurisdiction over the property, facility, or activity involved.[70]

The National Environmental Policy Act of 1969[71] and Executive Order Number 11514[72] and Number 11507 [73] apply fully to Federal recreation projects. (See detailed discussion of these directives in Subsection 2.2.2 of this appendix.)

The Department of Transportation Act[74] establishes the Department of Transportation and states that with respect to the development of national transportation policies and programs, it is a national policy that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites.

Congress also has declared that the general welfare and security of the nation and the health and living standards of its people require suitable housing and living environment. Water that is qualitatively and quantitatively adequate is, of course, basic to any living environment. Governmental assistance is authorized to accomplish these housing and environmental goals,[75] under the administration of the Department of Housing and Urban Development.[76]

Section 701 of the Housing Act of 1954, as amended,[77] provides for planning grants to cities and other municipalities having a population of less than 50,000.

The Housing Act of 1961, as amended,[78] provides for funds for parks and other open space areas and for better coordinated local efforts to beautify and improve open space and other public land throughout urban areas.

The Demonstration Cities and Metropolitan Development Act[79] provides additional financial assistance and technical assistance to all cities to enable them to plan, develop and carry out locally prepared and scheduled comprehensive city demonstration programs to enhance recreational and cultural opportunities.

2.2.7.1 Decisions

The Supreme Court has held that the Federal Power Act requires the Federal Power Commission to insure that any project for which it issues a license will be adapted to a comprehensive plan that includes conservation of natural resources and maintenance of natural beauty.[80]

Federal courts of appeals have held that the Federal Power Commission must consider the impact of a power plant upon the scenic beauty of a river;[81] and that the Atomic Energy Commission must conduct an environmental review of a nuclear plant under construction, for which a license had been granted, so as to give full consideration to environmental factors beyond radiological health and safety.[82]

2.2.8 Fish and Wildlife

In the Fish and Wildlife Act,[1] Congress established a comprehensive policy for fish,

shellfish, and wildlife resources for the nation.[2] The Act established within the Department of the Interior the United States Fish and Wildlife Service consisting of two separate agencies, the Bureau of Commercial Fisheries and the Bureau of Sport Fisheries and Wildlife. The Bureau of Commercial Fisheries' authority relates primarily to commercial fisheries, whales, seals, and sea lions, as well as related matters. That Bureau in part—and excluding the Great Lakes Fisheries Commission, the Missouri River Reservoir work programs, the Gulf Breeze Biological Laboratory in Florida, and trans-Alaskan pipeline investigations—was transferred on October 2, 1970, from the Department of the Interior, to the National Oceanic and Atmospheric Administration of the Department of Commerce.[3] The Gulf Breeze Biological Laboratory was transferred to the Environmental Protection Agency.[4] The Bureau of Sport Fisheries and Wildlife retained its responsibilities following the President's Reorganization Plan Number 3 and Number 4 of 1970, for migratory birds, game, and wildlife management and for the preservation of sport fisheries, and sea mammals other than whales, seals, and sea lions,[5] except that its marine sport fishing program was transferred on October 2, 1970, to the new subagency within the Department of Commerce, the National Oceanic and Atmospheric Administration.[6] The transfer involved five supporting laboratories, and three ships engaged in activities to enhance marine sport fishing opportunities.

To implement the comprehensive policy established by Congress,[7] the Secretary of the Interior is given a number of powers. The Secretary is given the power to conduct continuing investigations,[8] prepare and disseminate information,[9] study the effects of pollutants,[10] determine the policies and procedures needed to carry out the laws,[11] and make loans.[12] The Secretary of the Interior is also given consulting authority with respect to international agreements relating to fishing.[13]

Furthermore, the Fish and Wildlife Act established an advisory committee[14] and transferred to the Secretary of the Interior all functions of the Secretary of Agriculture, the Secretary of Commerce, and those of the head of any other department or agency relating to the development, advancement, management, conservation, and protection of commercial fisheries (but did not modify the Department of State's authority with respect to international agreements concerning fisheries or wildlife resources).[15] Those functions were transferred again to the National Oceanic and Atmospheric Administration, in the Department of Commerce, on October 2, 1970.[16]

Under the Fish and Wildlife Act,[17] the Secretary of the Interior has a broad policymaking role and is authorized to take required steps for the development, management, advancement and protection of fish and wildlife resources through research, acquisition of refuge lands, development of existing facilities and other means.[18]

Under the Fish and Wildlife Coordination Act,[19] the Secretary of the Interior is authorized to provide assistance to and cooperate with, Federal, State, and public or private agencies and organizations in the development, protection, rearing, and stocking of all species of wildlife and their habitat; to make surveys and investigations of the wildlife, including lands and waters controlled by any agency of the United States; to accept donations of land and contributions of funds.[20]

The Fish and Wildlife Coordination Act[21] also provides that whenever any Federal agency or private agency under Federal license or permit impounds, diverts or otherwise controls any waters, such agency shall consult the United States Fish and Wildlife Service, Department of the Interior, and the head of the State agency having administration over the affected resource.[22] Reports and recommendations of the Secretary of the Interior and the head of the State agency involved shall be made an integral part of any report prepared or submitted by any agency of the Federal government responsible for engineering surveys and construction of water control or use projects.[23] Furthermore, the cost of planning for and construction or installation and maintenance of facilities and means for the protection of fish and wildlife shall be an integral part of the cost of the projects provided that such cost does not exceed that of land acquisition, modification of the project, and modification of project operations.[24] Moreover, whenever waters are controlled or modified by the United States, adequate provision, consistent with the primary purpose of such control or modification, shall be made "for the conservation, maintenance, and management of wildlife resources."[25]

The Fish and Wildlife Coordination Act also provides that the rules and regulations adopted for the maintenance of wildlife resources shall not be inconsistent with the laws for the protection of fish and game of the States in which the areas are located.[26]

Federal cooperation with the States with re-

spect to projects for the restoration and management of all fish species for sport and recreational fishing is authorized by the Act of August 9, 1950.[27]

The Secretary of the Interior possesses certain authority to conserve fish and wildlife such as the protection and conservation of species of fish and wildlife which are threatened by extinction;[28] and the authorization and direction of the Director of the Fish and Wildlife Service to study the diminution in the number of food fishes in the lakes of the United States and measures that should be adopted to abate such diminution.[29]

In the Federal Aid in Wildlife Restoration Act, the Secretary of the Interior is authorized to cooperate with the States in wildlife restoration projects. The Act establishes a fund[30] which will not be expended upon any State until its legislature passes certain laws for the conservation of wildlife, and its State fish and game department submits to the Secretary of the Interior a wildlife restoration project plan which meets standards set by the Secretary.[31]

Under the Anadromous Fish Conservation Act of 1965,[32] the Secretary of the Interior has special, temporary authority to conserve, develop, and enhance fish in the Great Lakes that ascend streams to spawn, i.e., authority for the following species of Great Lakes fish: brook trout, brown trout, rainbow trout, walleye, turbot, Kokanee salmon, sturgeon, smelt, and alewife.

The Secretary is authorized by the Act to enter into cooperative agreements with one or more States, acting jointly or severally, and, whenever he deems appropriate, with other public and private non-Federal interests,[33] for the purpose of

(1) conducting investigations, engineering and biological surveys, and research he determines desirable to carry out the program

(2) carrying out stream clearance activities

(3) constructing, installing, maintaining, and operating devices and structures for the improvement of feeding and spawning conditions, for the protection of fishery resources, and for facilitating the free migration of fish

(4) conducting, operating, and maintaining fish hatcheries wherever necessary to accomplish the purposes of the Act

(5) conducting such studies and making such recommendations as he determines appropriate regarding the development and management of any stream or other body of water for the conservation and enhancement of anadromous fishery resources and the fish in the Great Lakes that ascend streams to spawn. This includes reporting on such studies and recommendations to the State, the Congress, and the Federal water resources construction agencies for their information, provided that the Act is not construed as authorizing the formulation or construction of water resources projects, except that such projects as are determined by the Secretary to be needed solely for the conservation, protection, and enhancement of fish covered by the Act may be planned and constructed, with funds made available by the Secretary under this Act subject to cost sharing and appropriation provisions of the Act, by the Bureau of Reclamation within its currently authorized geographic area of responsibility, by the Department of the Army's Corps of Engineers, by the Department of Agriculture, and by the States.[34] The Secretary also has general powers to purchase, lease, exchange, dispose of, and accept donations of lands and interests in lands and to manage and administer such lands and interests, in accordance with any agreement entered into with States or other non-Federal interests, for the purposes of the Act.[35]

The cooperative agreements entered into by the Secretary with one or more States or other non-Federal interests are the basis for carrying out a joint conservation-development-enhancement effort for these fish resources. Agreements must describe the actions to be taken by each party, the benefits expected to be derived for each, the estimated cost of such actions and the share of costs to be borne by each party, and other terms and conditions as prescribed by the Secretary of the Interior.[36] (The Secretary is also authorized to enter into cooperative agreements with States for the operation of any facilities and management and administration of any lands or interests in lands acquired or facilities constructed under the Act.[37])

The Federal share of costs for authorized activities is generally limited to 50 percent, including the operation and maintenance costs of facilities constructed by the Secretary pursuant to the Act which he annually determines to be a proper Federal cost, but excluding the value of any Federal land involved. The non-Federal share may be in the form of real or personal property, the value of which is to be determined by the Secretary, as well as money.[38] The Federal share of program costs may be increased to a maximum of 60 percent where two or more States having a common interest in any basin (as defined by the Act)

jointly enter into a cooperative agreement with the Secretary. However, structures, devices, or other facilities, including fish hatcheries, constructed by these Basin States under such a cooperative agreement must be operated and maintained without cost to the Federal government.[39]

The Secretary, on the basis of studies authorized by this Act and the Fish and Wildlife Coordination Act, must also submit recommendations to the Administrator of the Environmental Protection Agency concerning elimination of polluting substances detrimental to fish and wildlife in interstate or navigable waters or tributaries thereof. These recommendations, and any enforcement measures initiated pursuant to them by the Administrator, must be designed to enhance the quality of such waters and must take into consideration all other legitimate uses of such waters.[40]

The original Act authorized $25 million to be appropriated for a five-year period.[41] In 1970, the Act was amended so as to extend its authority for another four fiscal years, ending on June 30, 1974. An additional total of $32 million was authorized to be appropriated for this extended period, as follows: $6 million for fiscal year ending June 30, 1971; $7.5 million for fiscal year ending June 30, 1972; $8.5 million for fiscal year ending June 30, 1973; and $10 million for fiscal year ending June 30, 1974.[42] Not more than $1 million of funds appropriated may be obligated in any one State in any one fiscal year.[43]

Under other authority, the Secretary of the Interior also recommends certain lands or waters to the Migratory Bird Conservation Commission for purchase or rental for use as inviolate sanctuaries for migratory birds. The Commission approves such recommendations and establishes prices for the lands or waters.[44]

The Director of the Fish and Wildlife Service of the Department of the Interior is authorized and directed to investigate the abundance, distribution, and deleterious effects of sea lampreys in the Great Lakes.[45] The Secretary of the Interior may transfer any lamprey control project to the United States section of the Great Lakes Fisheries Commission.[46] The Secretary of the Interior is also authorized to investigate the abundance of food fishes in the Great Lakes.[47]

The Act of August 25, 1916,[48] provides that one of the fundamental purposes of the National Park Service of the Department of the Interior in its promotion and regulation of national parks, monuments, and reservations, is the conservation of wildlife. Department of Interior regulations[49] prohibit hunting, killing, wounding, frightening, or capturing of any wildlife in natural and historical areas and national parkways.

Other Federal departments share conservation and protection responsibilities for fish and wildlife with the Department of the Interior. The Environmental Protection Agency, as part of its responsibility to achieve a comprehensive water pollution program, is mandated to cooperate with other Federal agencies and State water pollution control agencies to conserve water for propagation of fish and wildlife.[50] The 1970 amendments to the Federal Water Pollution Control Act provided that in the selection of watersheds for projects demonstrating the elimination or control of acid or other mine water pollution, preference is to be given to areas which have the greatest present or potential value for public use for recreation, fish and wildlife, water supply, and other public uses.[51]

The Federal Water Pollution Control Act, as amended, also provides for cooperation with the Secretary of the Army, the Secretary of Agriculture, the Water Resources Council, and other appropriate bodies in research concerning the effect of pollution on fish and wildlife, on sport and commercial fishing, on recreation, on water supply and water power and other beneficial purposes.[52] To carry out such research the Secretary of the Interior may enter into contracts with educational institutions, public or private agencies or organizations, or other persons.[53] The Secretary of the Interior in addition to his authority to establish and enter into cooperative agreements with respect to species of fish in the Great Lakes that ascend streams to spawn,[54] may undertake research on fish species and fish resources for sport and commercial fishing[55] and fish migrations.[56]

The Federal Water Pollution Control Act,[57] particularly the 1970 amendments to that Act,[58] has general applicability to, and overlap with, fish and wildlife considerations. In summary, the 1970 amendments to the Act regulate pollution of navigable waters of the United States by sewage from vessels,[59] by oil,[60] or other hazardous substances;[61] authorize Federal-State cooperation for the elimination or control of acid or other mine water pollution within watersheds,[62] and Federal-State cooperation for the elimination or control of pollution within watersheds of the Great Lakes;[63] and substantially expand

Federal aid programs to States, local governments, interstate agencies, public or private organizations and individuals.[64] (See Subsection 2.2.5 of this appendix for detailed treatment of the 1970 amendments to the Federal Water Pollution Control Act.)

The Water Quality Improvement Act of 1970, amending the Federal Water Pollution Control Act, directs the President in establishing regulations for permissible discharges of oil into or upon the navigable waters of the United States, to include fish, shellfish, and wildlife, as well as public and private property, shorelines and beaches, in his determination as to what discharges will be harmful to the public health or welfare of the United States. An exception exists for oil discharges into or upon the waters of the contiguous zone, where only those discharges which threaten the fishery resources of the contiguous zone or threaten to pollute or contribute to the pollution of the territory or the territorial sea of the United States may be determined by the President to be harmful.[65]

Under the Sikes Act,[66] the Secretary of Defense is authorized to carry out a program of planning, development, maintenance and coordination of wildlife, fish and game conservation and rehabilitation in military reservations in accordance with a cooperative plan mutually agreed upon by the Secretary of Defense, the Secretary of the Interior and the appropriate State agency designated by the State in which the reservation is located.

Under the Act of August 11, 1888,[67] the Secretary of the Army has discretionary authority to construct practical and sufficient fishways whenever river and harbor improvements shall be found to operate as obstructions to the passage of fish.

Further, the Act of June 20, 1938,[68] provides that Federal investigations and improvements of rivers, harbors, and other waterways made by the Department of the Army "shall include a due regard for wildlife conservation."

The Act of December 22, 1944,[69] which authorizes the Chief of Engineers to construct, maintain, and operate public park and recreational facilities at water resource development projects under the control of the Department of the Army contains the special limitation that no use of such facility is permitted which is inconsistent with the laws for the protection of fish and game of the State in which the project is situated.

The Federal Power Act,[70] requires licensees of the Federal Power Commission to construct, maintain and operate such "fishways as may be prescribed by the Secretary of the Interior."

The Secretary of Agriculture is authorized by the Food and Agriculture Act of 1965,[71] to transfer funds to any other Federal agency, States, and local government agencies for the purpose of establishing, protecting, and conserving wildlife.

Broad congressional directives for the nation's water resource also frequently include fish and wildlife conservation and protection measures. The Federal Water Project Recreation Act[72] establishes that it is the policy of Congress that in investigating and planning any Federal navigation, flood control, reclamation, hydroelectric, or multiple-purpose water resource project, full consideration shall be given to outdoor recreation and for fish and wildlife enhancement.

The Water Resources Planning Act[73] provides for the optimum development and conservation of the nation's natural resources through coordinated planning by Federal, State, local, and private entities. (See a detailed analysis of the Act in Subsection 2.2.14.)

The Watershed Protection and Flood Prevention Act[74] authorizes certain fish and wildlife improvement activities at small watershed projects, including

(1) surveys, investigations and reports with recommendations concerning the conservation and development of fish and wildlife resources, by the Secretary of the Interior

(2) the inclusion in project work plans of such works of improvement for fish and wildlife resources as are recommended by the Secretary of the Interior and agreed to by the local organization and the Secretary of Agriculture

(3) cost sharing by the Secretary of Agriculture of lands, easements, or rights-of-way acquired by the local organization for any reservoir or other area operated and managed by such organization as public fish and wildlife or recreational developments

(4) cost sharing by the Secretary of Agriculture for installation of works of improvement for certain project purposes including fish and wildlife developments.

The Water Resources Research Act[75] authorizes Federal financial assistance to the States in establishing water resources research and training programs, and authorizes financial assistance to individuals and private and public agencies.

The Land and Water Conservation Fund Act of 1965[76] creates a Land and Water Conserva-

tion Fund from which Congress may appropriate funds for various purposes, including the acquisition of lands and waters for any national area which may be authorized for the preservation of species of fish or wildlife that are threatened with extinction.

The Wetlands Loan Act[77] authorizes an appropriation of $105 million for a 15-year period beginning in 1962 in order to promote the conservation of migratory waterfowl and to offset or prevent the serious loss of important wetlands and other waterfowl habitat essential to the preservation of such waterfowl.

The Sea Grant College Act,[78] formerly administered by the National Science Foundation, and now transferred to the National Oceanic and Atmospheric Administration of the Department of Commerce,[79] provides broad authority for research, education, and training of skilled scientific, engineering, and technical manpower in the area of marine resources.

In contrast to these broad decrees, other congressional directives concerning fish and wildlife are very specific in scope, such as the Great Lakes Fishing Act, which implements the Convention on Great Lakes Fisheries.[80]

The Migratory Bird Conservation Act,[81] mentioned earlier, creates the Migratory Bird Conservation Commission which considers and passes upon areas of land and water recommended for migratory bird refuges.

The Migratory Bird Hunting Stamp Act[82] provides revenue for the acquisition of migratory bird refuges authorized by the Migratory Bird Conservation Act. The acquisition of waterfowl production areas is also authorized by this Act.

The Endangered Species Preservation Act[83] deals with conservation of native species of fish and wildlife threatened with extinction through land acquisition, research, and propagation.

Evidencing increased recognition of an interdependence upon the survival of all plant and animal life if mankind itself is to survive, Congress declared a sweeping national policy of environmental protection, and made that policy explicitly applicable to all policies, regulations and public laws of the United States and to all Federal agencies, in the National Environmental Policy Act of 1969.[84] (See Subsection 2.2.2 for detailed discussion of the National Environmental Policy Act of 1969 and two Executive Orders related to it, Executive Order Number 11514 and Number 11507.)

2.2.8.1 Decisions

Ecology achieved preeminence in a mid-1970 decision from the Federal Court of Appeals for the Fifth Circuit which held that environmental preservation, including ecological conservation, must be a paramount consideration in the granting of permits for projects located in tidelands (*Zabel* v. *Tabb*[85]). (See discussion of decision in Subsection 2.2.2 of this appendix.)

In another contest, one of Federal versus State regulatory powers, it has been held that the Secretary of the Interior may destroy animals in a national park without obtaining a State permit.[86]

The Supreme Court, holding that the Federal Power Commission must insure that any project for which it issues a license is adapted to a comprehensive plan that includes conservation of natural resources, overturned a license issued by the Commission for the High Mountain Sheep Dam on the Snake River for failure to consider, among other things, impact of the dam on fish and wildlife.[87]

Very recently, a Federal appellate court ordered the Atomic Energy Commission to conduct an environmental review, giving full consideration to factors beyond radiological health and safety, of a nuclear plant under construction for which a license had been granted.[88]

2.2.9 Mineral Resources

The Submerged Lands Act of 1953[1] confirms the following in the States, with certain exceptions:

(1) title to and ownership of the lands beneath navigable inland waters within their boundaries, and the natural resources within such lands and waters

(2) the right and power to manage, administer, lease, develop and use such natural resources in accordance with applicable State law and the provisions of the Act.

The Act recognizes for the original States, and authorizes for other States, boundaries at the International Boundary in the Great Lakes.[2] The Federal government still retains responsibilities in these waters and lands for matters related to international affairs, defense, commerce, including navigation, flood control, and the production of power.

The Exploration Program for Discovery of Minerals Act of 1958[3] authorizes the Secre-

tary of the Interior, in order to provide for the discovery of new or unexplored deposits of minerals, to establish and maintain a program for mineral exploration by private industry. To carry out the purposes of the Act, the Secretary is authorized to enter into exploration contracts with individuals, partnerships, corporations, or other legal entities. The Secretary is also given the authority to certify, after analysis and evaluation, that mineral production from an area covered by a contract may be possible. Upon such certification provision is made for payment of royalties.

The Geological Survey Act of 1879[4] provides that the Director of the Geological Survey, in the Department of the Interior, shall classify public lands and examine geological structure, mineral resources, and products of the national domain.

The Mineral Lands and Mining Act of 1910[5] establishes the Bureau of Mines in the Department of the Interior, and provides that it is the duty of the Bureau of Mines to conduct inquiries and scientific and technological investigations concerning mining and the preparation, treatment, and utilization of mineral substances. Elements of that responsibility, those concerned with the development of marine mining technology, were transferred on October 2, 1970 with the transfer of the Marine Minerals Technology Center from the Bureau of Mines to the National Oceanic and Atmospheric Administration in the Department of Commerce.[6]

The Public Lands Act of 1875[7] authorizes the Secretary of the Interior to perform all executive duties appertaining to the surveying and sale of public lands and private lands, and to the issuing of patents for all grants of land under the authority of the government.

Under the mining laws, claimants can acquire certain mineral rights on public lands by staking a claim and recording that claim with the county recorder. If desired, the claim can be perfected by securing a patent. Other minerals can be acquired by lease. The Bureau of Land Management administers a program of development, conservation, and utilization of mineral resources through the leasing of minerals on public lands and on lands in other ownership on which the mineral rights are Federally owned.[8]

The Water Research Development Act of 1952 defines saline water to include sea water, brackish water, and other mineralized or chemically charged water. The Act provides that the Secretary of the Interior shall study methods for the recovery and marketing of commercially valuable byproducts resulting from conversion of saline water.[9]

The National Science Foundation, established by the National Science Foundation Act of 1950,[10] was given additional authority by the National Defense Education Act of 1958[11] and the Sea Grant College and Program Act of 1966.[12] The fundamental purpose of the National Science Foundation is to strengthen basic research and education in the sciences in the United States.

The Sea Grant College and Program Act of 1966 provides broad authority for grants to selected academic institutions for the purpose of strengthening and supporting research, education, and training of skilled scientific, engineering, and technical manpower in the field of marine resources. Originally, the National Science Foundation administered the Act, but effective October 2, 1970, the Office of Sea Grant Programs was transferred to the National Oceanic and Atmospheric Administration in the Department of Commerce.[13] The term "development of marine resources" includes exploration and research in the recovery of natural resources from the marine environment. The term "marine environment" is defined to include the Great Lakes.[14]

The Administrator of a new Federal agency, the Environmental Protection Agency (EPA), is authorized, in cooperation with other Federal departments, agencies, and instrumentalities, to enter into Federal-State agreements to carry out demonstration projects for the elimination or control of acid or other mine water pollution within all or part of a watershed,[15] subject to the conditions that the appropriate State or interstate agency shall pay not less than 25 percent of the actual project costs, which payment may be in any form; and that the State or interstate agency shall provide legal and practical protection to the project area to insure against any activities which will cause future acid or other mine water pollution.[16]

Provisions of the National Environmental Policy Act of 1969[17] are fully applicable to mining and mineral exploration. Federal agencies must

(1) utilize a systematic, interdisciplinary approach to insure the integrated use of natural and social sciences and the environmental design arts in environmental-impact planning and decision-making

(2) identify and develop methods and procedures, in consultation with the Council on Environmental Quality, that will give appropriate consideration in decision-making to en-

vironmental amenities and values along with economic and technical considerations

(3) develop and describe alternatives in any proposal that involves unresolved conflicts concerning alternative uses of available resources

(4) support international cooperation in environmental preservation efforts, where consistent with the foreign policy of the United States

(5) make available to State and local governments, institutions, and individuals, useful advice and information for environmental enhancement

(6) initiate and utilize ecological information in the planning and development of resource-oriented projects

(7) assist the Council on Environmental Quality[18]

(8) review their present statutory authority, administrative regulations, and current policies and procedures, to determine whether there are any deficiencies or inconsistencies that would prohibit full compliance with the National Environmental Policy Act of 1969

(9) propose to the President by July 1, 1971 necessary measures to bring their authority and policies into conformity with the intent, purposes, and procedures of the Act.[19]

In addition, all Federal agencies, after consultation with and comments from any Federal agency having jurisdiction or special expertise with respect to any environmental impact, must include in their every recommendation or report on proposals for legislation "and other major Federal actions significantly affecting the quality of the human environment," a detailed five-part statement on the following:

(1) the environmental impact of the proposed action

(2) any adverse environmental effects which cannot be avoided should the proposal be implemented

(3) alternatives to the proposed action

(4) the relationship between local short-term uses of man's environment and the maintenance of enhancement of long-term productivity

(5) any irreversible and irretrievable commitment of resources which would be involved in the proposed action should it be implemented.

Copies of that statement, and the comments and views of Federal, State and local agencies authorized to develop and enforce environmental standards, must be made available to the President, the Council on Environmental Quality, and to the public.[20]

Heads of all agencies of the Executive branch are required by Executive Order Number 11514, dated March 5, 1970, and Executive Order Number 11507 to take additional measures designed to protect and enhance the environment and to abate pollution. (See detailed analysis of these Executive Orders in Subsection 2.2.2.)

All Federal agencies having jurisdiction over any real property or facility or engaged in any Federal public works activity must insure compliance with applicable water quality standards in the administration of such property, facility, or activity;[21] and the summary of conference discussions prepared following any conference called to discuss abatement of pollution of interstate or navigable waters, pursuant to 33 U.S.C. 1160 (d) (4), shall include references to any discharges allegedly contributing to pollution from any Federal property, facility, or activity. Copies of such summary, and notice of any hearing involving the alleged pollution, must be given to the Federal agency having jurisdiction over the property, facility, or activity involved.[22]

2.2.9.1 Decisions

The power to dispose of any kind of property belonging to the United States is vested in Congress.[23] When a State is admitted to the Union, the title of the United States to tidelands (the shore between high- and low-water lines) and lands under navigable inland waters, up to the ordinary highwater line, passes to the State,[24] except where withheld for some Federal purpose.[25] On tidal waters, the line of ordinary high water is a line at the average elevation of ordinary high tides over a complete tidal cycle of 18.6 years.[26] On nontidal waters, it is a line physically impressed on the shore by the presence of water with sufficient frequency and duration to affect its character and vegetation.[27]

The States' ownership of lands under navigable waters, confirmed or granted by the Submerged Lands Act, remains subject to the Federal navigational servitude and Federal regulation and control for purposes of commerce, navigation, national defense, and international affairs.[28] In the exercise of that authority, Congress has forbidden any alteration in the beds, banks, or navigable capacity of navigable waters of the United States without a permit from the Secretary of the Army,[29]

and such permit may be withheld not only for navigational reasons but for any public interest, such as ecological reasons.[30]

2.2.10 Lake Levels and Flows

This section will present the international ramifications of unnatural changes in the levels of boundary waters such as the Great Lakes. For a more complete understanding of the legal implications involved in regulating construction works in the navigable waters of the United States, refer to Subsection 2.2.2 of this appendix.

The Great Lakes system is comprised of a chain of lakes connected by rivers and related waterways. The uppermost Lake in the chain, Lake Superior, discharges at its eastern end through the St. Marys River into Lake Huron. Water moves from Lake Michigan into Lake Huron through the Straits of Mackinac. However, since the slope between Lake Michigan and Lake Huron is imperceptible and the monthly average levels of the two Lakes are the same, they are treated for hydraulic purposes as though they were one lake. Lake Huron discharges into Lake Erie through the St. Clair River, Lake St. Clair, and finally the Detroit River. Lake Erie discharges at its eastern end through the Niagara River into Lake Ontario. Lake Ontario discharges at its eastern end through the St. Lawrence River.

The level of each of the Great Lakes depends upon the balance between the quantities of water being received by the Lake and the quantities of water being removed or discharged from the Lake. Thus, greater stabilization of fluctuations in Great Lakes levels can be accomplished through regulation of the amount of water flowing into and out of a particular Lake. However, since the International Boundary passes through four of the Great Lakes, any modification of the levels of these Lakes affects both the United States and Canada.

Under the Constitution of the United States, the President has power "by and with the Advice and Consent of the Senate, to make Treaties, provided two-thirds of the Senators present concur. . . ."[1] Furthermore, the Constitution provides that treaties made under the authority of the United States "shall be the supreme Law of the Land; and the Judges in every State shall be bound thereby, any thing in the Constitution or laws of any State to the contrary notwithstanding."[2]

In order to prevent disputes regarding the use of boundary waters and to make provision for the adjustment and settlement of all such questions as may arise, the United States and Great Britain entered into the Boundary Waters Treaty of 1909.[3] This Treaty created the International Joint Commission with the authority to approve ". . . uses, obstructions, and diversions of boundary waters on either side of the line, affecting the natural level or flow of boundary waters on the other side of the line,"[4] and ". . . construction or maintenance on their respective sides of the boundary of any remedial or protective works or any dams or other obstructions in waters flowing from boundary waters or waters at a lower level than the boundary in rivers flowing across the boundary, the effect of which is to raise the natural level of waters on the other side of the boundary."[5]

The International Joint Commission is a permanent body consisting of six members, three from the United States and three from Canada.[6]

In the exercise of its authority the Commission must observe the following order of precedence with respect to various uses of the boundary waters:

(1) uses for domestic and sanitary purposes
(2) uses for navigation, including the service of canals for the purposes of navigation
(3) uses for power and for irrigation purposes.[7]

The 1909 Treaty also provides that either government may refer to the Commission any matters of difference arising between them involving their respective rights, obligations, or interests for the Commission to investigate and report on.[8] Similarly, with consent of both governments, like matters may be referred to the Commission for decision.[9]

Projects may be brought before the International Joint Commission by what are termed "applications" filed by interested persons—public agencies, private corporations, or individuals. Examples in the Great Lakes system include the regulatory works at Sault Ste. Marie and those on the St. Lawrence River. In the case of an application for Commission approval, the burden is on the applicant to furnish all necessary information and data required.

The second general responsibility of the International Joint Commission is to investigate and make recommendations on specific problems referred to it by either or both governments. It is under this provision of the Treaty that requests or "references" by the

two governments have been made on such subjects as regulation of the levels of the Great Lakes, water pollution, and preservation of the American Falls at Niagara. In the case of references, the Commission appoints an international technical board which is directed to make a thorough investigation of the facts involved and file a written report with the Commission. In all cases the Commission holds public hearings, normally one in each country in the areas affected, at which any person is given an opportunity to comment on the findings and recommendations. Public hearings may also be held in advance of an investigation to determine problem areas and areas affected.

Subsequent to completion of control works in the St. Marys River at Sault Ste. Marie, in August 1921, the outflows from Lake Superior have been completely regulated. The regulation is in accordance with the Orders of Approval of the International Joint Commission (issued May 26 and 27, 1914), and under the direct supervision of the Commission's International Lake Superior Board of Control.

Lake Ontario has been regulated since 1960 in accordance with the International Joint Commission's Orders of Approval (dated October 29, 1952, and July 2, 1956), and under the direct supervision of the Commission's International St. Lawrence River Board of Control. Regulation of the outflow from Lake Ontario is provided for by a control dam which spans the St. Lawrence River near Iroquois, Ontario, and a powerhouse and dam at Barnhart Island, a few miles downstream.

The International Joint Commission issued an Order of Approval, dated December 31, 1968, allowing the diversion of approximately 25 cubic feet per second of water from Lake St. Lawrence in the St. Lawrence River into the Raisin River watershed for a period of 100 days to augment the natural low summer flows in the Raisin River for a period not to exceed four years. This will provide a reliable source of water for farms and villages, an improved environment for fish and wildlife, and an increase in the recreational and aesthetic values of the Raisin River. The diversion would be made at two locations on Lake St. Lawrence, one near the Village of Long Sault and the other about 2½ miles west of that point; and the diverted water would be returned to the St. Lawrence River at the mouth of the Raisin River, near the Village of Lancaster.

In order to preserve and enhance the scenic beauty of the Niagara Falls and the Niagara River and to provide for the most beneficial use of Niagara River waters, the United States and Canada entered into the Niagara River Water Diversion Treaty of 1950.[10] The Treaty concerns the quantity of water which may be diverted from the Niagara River for power purposes. This Treaty terminates the third, fourth, and fifth paragraphs of Article V of the 1909 Treaty and also replaces provisions embodied in notes exchanged between the United States and Canada.[11] The amount of water available for power purposes shall be the total outflow from Lake Erie to the Welland Canal and the Niagara River (including the Black Rock Canal), less the amount of water used and necessary for domestic and sanitary purposes and for the service of canals for the purposes of navigation.[12] As to this outflow, the Treaty provides that no diversions "shall be made for power purposes which will reduce the flow over Niagara Falls to less than 100,000 cubic feet per second each day between the hours of 8 a.m., EST, and 10 p.m., EST, during the period of each year beginning April 1 and ending September 15, both dates inclusive, or to less than 100,000 cubic feet per second each day between the hours of 8 a.m., EST, and 8 p.m., EST, during the period of each year beginning September 16 and ending October 31, both dates inclusive, or to less than 50,000 cubic feet per second at any other time."[13]

The International Joint Commission, through the International Niagara Board of Control, maintains supervision over the control works to insure satisfactory levels above the Falls and has since approved other measures such as extension of the control structure, shoal removal and an ice boom to facilitate maintenance of satisfactory levels and flows at and above the Falls under the currently authorized schedule of power operations.

The Commission has also established the International Great Lakes Levels Board to study factors which affect the fluctuations in lake levels, and to determine if there is any practicable action that can be taken to bring about a more beneficial range of stage in the interests of water supply, sanitation, navigation, power, flood control, agriculture, fish and wildlife, recreation, and other beneficial public purposes. This study was scheduled to be completed by October 1973.

2.2.10.1 Decisions

Treaties constitute a source for limitation of uses within the United States of waters of international streams[14] and lakes;[15] and provisions of valid treaties become the supreme law of the land to which other provisions of Federal and State law are subordinated.[16]

In a suit by the United States to enjoin the Sanitary District of Chicago from diverting more water than was authorized by the Secretary of War, the Court said with respect to the standing of the government to sue:

> This is not a controversy between equals. The United States is asserting its sovereign power to regulate commerce and to control the navigable waters within its jurisdiction. It has a standing in this suit not only to remove obstruction to interstate and foreign commerce, the main ground, which we will deal with last, but also to carry out treaty obligations to a foreign power bordering upon some of the Lakes concerned, and, it may be, also on the footing of an ultimate sovereign interest in the Lakes. The Attorney General by virtue of his office may bring this proceeding and no statute is necessary to authorize the suit. . . . With regard to the second ground, the Treaty of January 11, 1909, with Great Britain, expressly provides against uses "affecting the natural level or flow of boundary waters" without the authority of the United States or the Dominion of Canada within their respective jurisdictions and approval of the International Joint Commission agreed upon therein. As to its ultimate interest in the Lakes the reasons seem to be stronger than those that have established a similar standing for a State, as the interests of the nation are more important than those of any State. . . .[17]

However, it is interesting to note that the waters of Lake Michigan do not come within the definition of boundary waters as defined in the Preliminary Article of the Boundary Waters Treaty of 1909. Furthermore, Lake Michigan is covered by a special provision in Article I.[18]

On June 12, 1967, the Supreme Court decreed that the State of Illinois and its municipalities, political subdivisions, agencies, and instrumentalities are enjoined from diverting any of the waters of Lake Michigan or its watershed into the Illinois waterway, whether by way of domestic pumpage (including water supplied to commercial and industrial establishments), storm runoff, or direct diversion in excess of an average of 3,200 cubic feet per second for all of the above uses combined. For flexibility the decree provides for a five-year moving average, consisting of the current annual accounting period and the previous four such periods (all after the effective date of the decree, March 1, 1970), but the average diversion in any annual accounting period must not exceed 110 percent of the maximum permitted amount.[19]

2.2.11 Diversions

This subsection brings together what has already been discussed in this appendix on the subject of diversions. See the subsections on navigation, water pollution, water supply, lake levels and flows, and planning.

The National Water Commission Act[1] established the National Water Commission to make a comprehensive review of national water resource problems and programs and to make recommendations in light of broad national interests. The Commission is made up of seven members appointed by the President. The Act provides that no member of the Commission is to hold any other position as an officer or employee of the United States; however, a retired officer or a retired civilian employee may be appointed to membership.

The Act directs the Commission to review present and anticipated national water resources problems, making such projections of water requirements as may be necessary and identifying alternative ways of meeting these requirements—giving consideration among other things to interbasin transfers of water.[2]

The National Water Commission will exist only until its study and report are completed and no longer than five years from the effective date of the Act, which was September 26, 1968.

The Water Resources Planning Act also established the Water Resources Council, composed of the Secretaries of Agriculture, Interior, Army, Transportation; the Secretary of Health, Education and Welfare; and the Chairman of the Federal Power Commission.[3] The Act also authorizes the President to establish river basin commissions to coordinate and keep up-to-date regional plans including an evaluation of all reasonable alternative means of achieving optimum development of the basin. However, it is provided that studies will be concerned only with the intraregional water and related land resources and their uses except where natural interregional hydrologic connections are involved.[4]

2.2.11.1 Decisions

In *Wyoming* v. *State of Colorado* it was held that the contention of Colorado that, as a State, it may rightfully divert and use, as it may choose, the waters of an interstate stream flowing within its boundaries, regardless of the rights of other States, cannot be maintained.[5] Moreover, the State to which a

stream flows is not entitled to have the stream flow as it would in nature regardless of need or use.[6]

The establishment of rights as between States to divert and use waters of interstate streams may be accomplished by voluntary agreement or compact, by Supreme Court adjudication, or by an act of Congress.

The United States Supreme Court has expressly recommended the compact as a mode of settlement of controverted rights.[7] However, the Federal Constitution forbids any State of the Union to enter into any agreement or compact with another State without the consent of Congress.[8]

In *Hinderlider* v. *La Plata River & C. Creek Ditch Co.* it was held that an apportionment of water of an interstate stream made by compact between Colorado and New Mexico with the consent of Congress is binding upon the citizens of each State, even where water rights had been granted by the State before it entered into the compact.[9]

In *Petty* v. *Tennessee-Missouri Bridge Commission*[10] it was held that the Commission waived its sovereign immunity from suit in Federal courts granted by the Eleventh Amendment[11] in view of a provision in the interstate compact giving the Commission authority to sue and be sued and a condition imposed by Congress, when it gave its consent to the compact, that the compact was not to impair jurisdiction of United States courts over navigable waters and interstate commerce. Noting that the construction of the compact was a matter of Federal law, over which the Supreme Court has the final say, the Court held that the States who are parties to the compact, by accepting it and acting under it, assume the conditions that Congress attached.[12]

The Supreme Court has original and exclusive jurisdiction of all controversies between two or more States.[13] This original jurisdiction extends to the adjudication of the relative rights of States and their respective inhabitants as to the diversion and use of waters of interstate streams.[14] To a large degree the disposition of controversies concerning the diversion of water from interstate streams has been based upon the principles of equitable apportionment.

The doctrine of equitable apportionment fits the Court's decision to the facts of the particular controversy, without adherence to any particular formula, "upon the basis of equality of rights."[15]

In *Connecticut* v. *Massachusetts*[16] a controversy over the diversion of water was between two States, both of which recognized the common-law doctrine that riparian owners have the right to the undiminished flow of the stream free from contamination. The Court, negating any suggestion that the relative rights of contending States must depend upon the rules of law applied in such States, said:

> For the decisions of suits between States, Federal, state and international law are considered and applied by this Court as the exigencies of the particular case may require. The determination of the relative rights of contending States in respect of the use of streams flowing through them does not depend upon the same considerations and is not governed by the same rules of law that are applied in such states for the solution of similar questions of private right. . . . And, while the municipal law relating to like questions between individuals is to be taken into account, it is not to be deemed to have controlling weight. As was shown in *Kansas* v. *Colorado*, . . . such disputes are to be settled on the basis of equality of right. But this is not to say that there must be an equal division of the waters of an interstate stream among the States through which it flows. It means that the principles of right and equity shall be applied having regard to the "equal level or plane on which all the States stand, in point of power and right, under our constitutional system" and that, upon a consideration of the pertinent laws of the contending States and all other relevant facts, this Court will determine what is an equitable apportionment of the use of such waters.[17]

In *New Jersey* v. *New York*,[18] the rule of equitable apportionment was used to limit the extent of diversions of waters of the Delaware River by New York. The Court granted an injunction to restrain New York or New York City from diverting more than 440 million gallons daily from the Delaware River or its tributaries.

More recently the Supreme Court in *Arizona* v. *California* stated that the doctrine of equitable apportionment is that doctrine with which "this Court in the absence of statute resolves interstate claims according to the equities."[19]

Recognizing that the Court has used the doctrine of equitable apportionment to decide river controversies between States, the Court in *Arizona* v. *California*[20] pointed out that in such cases Congress had not made any statutory apportionment of the water. The Court found the doctrine to be inapplicable there, and held that Congress, in passing the Boulder Canyon Project Act,[21] intended to and did create its own comprehensive scheme for apportionment; that it is the Boulder Canyon Project Act and the Secretary of the Interior's contracts thereunder, and not the law of prior

appropriation or the doctrine of equitable apportionment, which govern the apportionment of the water; and that Congress gave to the Secretary authority to distribute water to individual users according to principles of allocation he might determine, notwithstanding State law rules governing distribution of water.

2.2.12 Drainage

While drainage is interrelated with the subject areas already discussed, it has sufficient identity to warrant its separate consideration here.

An 1850 Federal statute[1] granted "swamp and overflowed lands" to the "several States" (not including Kansas, Nebraska, and Nevada) for the purpose of providing funds to reclaim lands. The act provides that the proceeds from sale or by direct appropriation in kind shall be applied "exclusively" as far as necessary, to the purpose of reclaiming said lands by means of levees and drains.[2]

Following major floods in 1935 and 1936, Congress authorized flood-control projects throughout the United States by enacting the Flood Control Act of 1936.[3] In 1944, Congress provided that the words "flood control" as used in the 1936 Act shall be construed to include "channel and major drainage improvements."[4] Thus, drainage functions would come within the flood control jurisdiction of the Department of the Army under the direction of the Secretary of the Army and supervision of the Chief of Engineers.[5]

The Corps of Engineers' Engineering Manual for Civil Works Construction[6] states that the following are considered major drainage improvements:

(1) improvements of a natural waterway including its tributaries

(2) improvements of existing artificial waterways

(3) construction of new artificial drainage channels if such would be more effective and economical than the improvement of existing drainage courses

(4) construction of outlets for water collected or to be collected by the drainage works of organized districts or municipalities.

More recently, in the interest of drainage as well as other related purposes, a comprehensive program has been authorized to provide for control and progressive eradication of noxious aquatic plant growth from the navigable waters, tributary streams, connecting channels, and other allied waters of the United States. This program is to be administered by the Chief of Engineers under the direction of the Secretary of the Army and in cooperation with other Federal and State agencies.[7]

Federal drainage responsibilities are also vested in the Department of Agriculture's Soil Conservation Service. In a 1935 act to prevent soil erosion, Congress declared that its policy is to provide for the permanent control and prevention of soil erosion in order to preserve natural resources, control floods, prevent impairment of reservoirs and maintain the navigability of rivers and habors.[8] The act also authorized the Secretary to conduct investigations and research concerning soil erosion and carry out measures to prevent soil erosion.[9] To carry out certain powers conferred on the Secretary, the act directed him to establish the Soil Conservation Service.[10]

Furthermore, the 1938 and 1944 Flood Control Acts provide that the Secretary of Agriculture shall prosecute "Federal investigations of watersheds and measures for run-off and waterflow retardation and soil-erosion prevention on watersheds."[11]

2.2.12.1 Decisions

The term "overflowed" as used in the Swamp Land Act[12] has been defined by the Supreme Court as follows: "It has reference to those lands which are overflowed, and will remain so without reclamation or drainage."[13]

The Court also pointed out that the question of whether or not lands are "swamp and overflowed" is a question of fact properly determinable by the land department.

2.2.13 Geology and Ground Water

Ground water is usually divided into two classes:

(1) underground bodies or streams of water flowing in defined channels[1]

(2) waters which filter or seep through the ground and are not part of a watercourse or an underground flowing stream.[2]

Presently the rights, duties and liabilities with respect to ground water are regulated almost entirely by State law. For an overview of the Federal authority dealing with ground water as a subject of pollution and source of water supply, refer to Subsections 2.2.5 and 2.2.6 of this appendix, entitled Water Pollution and Water Supply, respectively.[3]

The Federal authority discussed in this subsection is concerned with collection of information on geology and ground water.

The principal Federal agency involved with collection of data on geology and ground water is the Department of the Interior's Geological Survey.

The Geological Survey was established by the Organic Act of 1879[4] which provides for ". . . the classification of the public lands and examination of the geological structure, mineral resources, and products of the national domain." As a part of its function, the Geological Survey investigates the quantity, distribution, chemical quality, sediment content, availability, and utilization of the surface and underground water supplies of the United States.[5]

The Secretary of the Interior may acquire lands by donation or when funds have been appropriated by Congress, by purchase, or condemnation, for use by the Geological Survey in gaging streams and underground water resources. The Secretary may also obtain easements, licenses, rights-of-way, and leases for such period required for the gaging of streams and underground water resources.[6]

It is also provided that the Geological Survey shall not share more than 50 percent of the cost of any topographic mapping or water resources investigation carried on in cooperation with a State or municipality.[7]

2.2.14 Planning

Federal legislation enacted over the years by the Congress established the role and responsibility of the Federal government to plan and develop the nation's water and related land resources in cooperation with the States and other interests, culminating in 1965 with enactment of the Water Resources Planning Act.[1] This Act declares that in order to meet the rapidly expanding demands for water throughout the nation, it is the policy of the Congress to encourage the conservation, development, and utilization of water and related land resources of the United States on a comprehensive and coordinated basis by the Federal government, States, localities, and private enterprise, with the cooperation of all affected Federal agencies, States, local governments, individuals, corporations, business enterprises, and others concerned.

The Water Resources Planning Act[2] also established the Water Resources Council, composed of the Secretaries of Agriculture, the Army, Interior, and Transportation; the Secretary of Health, Education and Welfare; and the Chairman of the Federal Power Commission. By action of the Council, the Administrator of the Environmental Protection Agency and the Secretaries of Commerce and Housing and Urban Development have become associate members.[3] The Council is charged with maintaining a continuing study and the preparation of biennial assessments of the adequacy of supplies of water necessary to meet the water requirements in each water resource region of the United States. The Council also has the responsibility of maintaining a continuing study of the relation of regional or river basin plans and programs to the requirements of larger regions of the nation. Furthermore, the Council is to appraise the adequacy of administrative and statutory means for coordination and implementation of the water and related land resources policies and programs of the several Federal agencies and make recommendations to the President with respect to Federal policies and programs.[4]

Other functions of the Council include:

(1) to establish, after consultation with appropriate interested Federal and non-Federal entities, and with approval of the President, principles, standards, and procedures for Federal participation in the preparation of comprehensive regional or river basin plans, and the formulation and evaluation of Federal water and related land resources projects

(2) to coordinate schedules, budgets, and programs of Federal agencies in comprehensive interagency, regional, or river basin planning

(3) to carry out responsibilities regarding creation, operation, and termination of Federal-State river basin commissions

(4) to receive and review plans or revisions thereof submitted by river basin commissions and transmit them, together with the Council's recommendations, to the President[5]

(5) to administer a grant program to assist the States financially in developing and participating in the development of comprehensive water and related land resources plans. The authorization ceiling is $5,000,000 per year for each of the next ten fiscal years beginning after July 22, 1965.[6]

The Water Resources Planning Act also authorizes the President to establish river basin commissions to coordinate and keep up-to-date regional plans including "an evaluation of all reasonable alternative means of achieving optimum development of . . . the basin."[7]

The President is to appoint as commissioners a civilian chairman, representatives of each appropriate Federal agency, each affected State, and a representative from appropriate interstate and international agencies.

Each commission is to:

(1) serve as the principal agency for the coordination of Federal, State, interstate, local, and nongovernmental plans for the development of water and related land resources in its area, river basin or group of river basins

(2) prepare and keep up-to-date, to the extent practicable, a comprehensive, coordinated joint plan for Federal, State, interstate, local, and nongovernmental development of water and related land resources

(3) recommend long-range schedules of priorities for the collection and analysis of basic data and for investigation, planning, and construction of projects

(4) foster and undertake such studies of water and related land resources problems in its area, river basin, or group of river basins as are necessary in the preparation of the comprehensive, coordinated joint plan

(5) submit to the Council and the governor of each participating State a report on its work at least once a year

(6) submit to the Council a comprehensive, coordinated joint plan, or any major portion thereof or necessary revisions thereof, for water and related land resources development in the area for which such commission was established

(7) submit to the Council, at the time of submitting such plan, any recommendations it may have for continuing the functions of the commission and for implementing the plan, including means of keeping the plan up to date.[8]

A subsequent act, enacted the same year as the Water Resources Planning Act, authorizes the Secretary of the Army, acting through the Chief of Engineers, to prepare plans in cooperation with Federal, State and local agencies to meet the long-range water needs of the northeastern United States. The plans may provide for the construction, operation, and maintenance by the United States of

(1) a system of major reservoirs to be located within those river basins of the northeastern United States which drain into Lake Ontario and the St. Lawrence River

(2) major conveyance facilities by which water may be exchanged between these river basins

(3) major purification facilities.[9]

More recently, the National Water Commission was established by the National Water Commission Act[10] to make a comprehensive review of national water resource problems and programs and to make recommendations in light of broad national interests. This Commission should not be confused with the Water Resources Council created by the Water Resources Planning Act.[11] There are four main differences between the Council and the Commission:

(1) The Water Resources Council is composed of the heads of agencies, while the Commission is composed of seven members appointed by the President. No member of the Commission is to hold any other position as an officer or employee of the United States except as a retired officer or a retired civilian employee.

(2) The Water Resource Council is a permanent body, while the National Water Commission will exist only until its study and report is completed and no longer than five years from the effective date of its creating act which was September 26, 1968.

(3) The National Water Commission acts in a purely advisory capacity while the Water Resources Council acts in both an advisory and functional capacity.

(4) The National Water Commission is to consider interbasin transfers as a way of meeting water resource requirements. The Water Resources Council does not have this authority.

Closely related to the functions of the Water Resources Council are the water pollution control responsibilities of the new Federal agency, the Environmental Protection Agency (EPA)[12] and, to a lesser degree, functions performed by the Geological Survey.[13] The Environmental Protection Agency develops and conducts comprehensive programs for eliminating and reducing pollution in interstate waters and their tributaries.[14] It also has authority to make planning grants to States or interstate groups to assist in the development of comprehensive and effective river basin quality control and pollution abatement plans.[15] Furthermore, the Administrator of the Environmental Protection Agency is authorized to encourage uniform State laws for water pollution control and compacts between States for the prevention and control of water pollution.[16]

The Geological Survey may engage in cooperative surveys and may share the cost of any topographical mapping or water resources investigation carried on in cooperation with a State or a municipality.[17]

Also noteworthy is the Federal Water Proj-

ect Recreation Act[18] which establishes that it is the policy of Congress that in investigating and planning any Federal navigation, flood control, reclamation, hydroelectric, or multiple-purpose water resource project, full consideration shall be given to outdoor recreation and for fish and wildlife enhancement. The new Environmental Protection Agency has also been given the responsibility, formerly assigned to the Public Health Service, of preparing plans to assure provision of usable public water supplies for community use in emergency, including such activities as inventorying existing supplies, developing new sources, performing research, setting standards, and planning distribution.[19]

Furthermore, the Flood Control Act of 1917, as amended, requires all examinations and surveys relating to flood control to include a comprehensive study of the watershed or watersheds.[20] The Secretary of the Army can request the assistance of other agencies in the study and examination of such watersheds.

Under the Flood control Act of 1965, the Secretary of the Army has specific authority to cooperate with the State of New York, political subdivisions thereof, and appropriate agencies and instrumentalities of the United States, in the preparation of comprehensive plans for the development, utilization, and conservation of the waters and related resources of drainage basins within the State of New York, and to submit reports and recommendations to Congress with respect to the Army's participation in carrying out such plans.[21]

There are a number of Federal grant-in-aid programs which provide States with water management and planning assistance. These are administered largely by the Department of the Interior, the Department of Commerce, the Department of Housing and Urban Development, the Department of Agriculture, and the Department of Health, Education, and Welfare.

Within the Department of the Interior, planning assistance is available to the States for water resources development under the Fish and Wildlife Coordination Act,[22] and for water resources research institutes.[23] Outdoor recreation planning is authorized under the Land and Water Conservation Fund Act of 1965,[24] and cooperative Federal-State programs are provided for in the Bureau of Sport Fisheries.[25]

Within the Department of Commerce, the principal programs of planning assistance are provided for by the Economic Development Act of 1965[26] and the State Technical Services Act of 1965.[27] Grants under the Economic Development Act permit and encourage State agencies to plan for comprehensive economic development and redevelopment in their depressed areas. The State Technical Services Act provides a national program of incentives and support for the States individually and in cooperation with each other in establishing and maintaining State and interstate technical service programs designed to achieve wider diffusion, and more effective application, of science and technology in business, commerce, and industry.

There are several programs of the Department of Housing and Urban Development that either require or encourage comprehensive planning. These include programs of community renewal,[28] model cities,[29] urban beautification,[30] and urban planning assistance (701 grants).[31]

The Administrator of the Environmental Protection Agency is authorized by the Solid Waste Disposal Act[32] and by the President's Reorganization Plan Number 3 of 1970,[33] transferring these responsibilities from the Secretary of Health, Education and Welfare to the Administrator, to conduct, cooperate with, and offer financial and other assistance to appropriate public authorities, agencies, and institutions; to private agencies and institutions; and to individuals in research, training, demonstrations, and studies relating to the operation and financing of solid waste disposal programs, the development and application of new and improved methods of solid waste disposal, and the reduction of the amount of such waste.[34] Grants for water supply planning and activities are also available under the Comprehensive Health Planning Act of 1966, as amended.[35] This Act provides for formula grants to States for comprehensive State health planning, project grants to public or private nonprofit applicants for areawide health planning and project grants for training, studies, and demonstrations in effective comprehensive health planning.

Assistance is also provided within the Department of Agriculture. The Consolidated Farmers Home Administration Act of 1961, as amended,[36] authorizes the Secretary of Agriculture to make or insure loans to associations not operated for profit, and to public and quasi-public agencies, to provide for application of soil conservation practices, shifts in land use, the conservation, development, use, and control of water, and the installation or improvement of drainage or waste disposal

facilities and recreational developments primarily serving rural residents. The Secretary is also authorized to make grants to associations to finance specific projects for works for the development, storage, treatment, purification or distribution of water or the collection, treatment, or disposal of waste in rural areas. The Act defines "rural areas" as areas not having a population in excess of 5,000.[37]

Pollution control has begun to receive increased attention as a critical facet of planning. All projects or installations owned by or leased to the Federal government, for example, have been ordered to be designed, operated, and maintained so as to conform with air and water quality standards—present and future—which are established under Federal legislation.

Specific performance requirements for each facility for both air and water pollution control will be set by agency heads with the approval of the Administrator of the Environmental Protection Agency. All existing facilities were to have complied with the order by December 31, 1972. The order establishes a $359 million program for achieving this objective, and prohibits the transfer of these funds to other programs. The order also provides that all facilities which are built in the future must be pollution-free, and that budget requests for new facilities must include all necessary funds for pollution control.

Heads of agencies, may, however, in consultation with the Administrator, identify facilities or uses thereof which are to be exempted from the provisions of the order in the interest of national security or in extraordinary cases where it is in the national interest.

The term "facilities" is defined to mean the buildings, installations, structures, public works, equipment, aircraft, vessels, and other vehicles and property, owned by or constructed or manufactured for the purpose of leasing to the Federal government.[38]

All Federal agencies having jurisdiction over any real property or facility or engaged in any Federal public works actitivy must insure compliance with applicable water quality standards in the administration of such property, facility, or activity;[39] and the summary of conference discussions prepared following any conference called to discuss abatement of pollution of interstate or navigable waters, pursuant to 33 U.S.C. 1160(d)(4), shall include references to any discharges allegedly contributing to pollution from any Federal property, facility, or activity. Copies of such summary, and notice of any hearing involving the alleged pollution, must be given to the Federal agency having jurisdiction over the property, facility, or activity involved.[40]

Then, in the recent National Environmental Policy Act of 1969[41] Congress declared that it is the continuing policy of the Federal government, in cooperation with State and local governments, and other concerned public and private organizations, to use all practicable means and measures to promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans. (For broad congressional directive as to how this policy is to be carried out, see Subsection 2.2.2.)

The National Environmental Policy Act[42] requires the President to transmit to Congress an annual environmental quality report, setting forth the conditions of the nation's environmental classes and current and foreseeable trends in the management and utilization of such environments. The Act also creates in the Executive Office of the President a Council on Environmental Quality, composed of three members appointed by the President with the advice and consent of the Senate.[43]

The Council is authorized and directed to assist and advise the President in the preparation of the environmental quality report, to gather information concerning conditions and trends in environmental qualities, to appraise the various Federal programs and activities, to develop and recommend to the President national policies to foster and promote the improvement of environmental quality, and to make such studies, reports, and recommendations with respect to the matters of policy and legislation as the President may request. The Council acts independently of the mission-oriented agencies within the Executive branch.

To coordinate and resolve internal policy disputes between different Executive agencies of the government, the President, by Executive Order Number 11472, dated May 29, 1969, created an interdepartmental body known as the Environmental Quality Council, which was given its present designation, the Cabinet Committee on the Environment, by Executive Order Number 11514, dated March 5, 1970. The Cabinet Committee consists of the Secretaries of Interior, Agriculture, Health, Education and Welfare, Transportation, Housing and Urban Development, and Com-

merce, the Vice President, and the President, as Chairman.

Another agency having a major role in the planning, management, and coordination of the nation's water resources program is the Office of Management and Budget. That office is the primary management agency of the Executive branch with plenary authority "to assemble, correlate, revise, reduce, or increase the requests for appropriations of the several departments or establishments."[44]

The Office's planning role is set forth in Executive Order Number 9384, which reads in part:

> In order to facilitate budgeting activities, all departments and establishments of the Executive Branch of the Federal government, authorized by law to plan, propose, undertake, or aid public works and improvement projects financed in whole or in part by the Federal government, shall prepare and keep up-to-date, by means of at least an annual revision, carefully planned and realistic long-range programs of such projects (all such programs being hereinafter referred to as "advance programs").
>
> Whenever any estimate of appropriation is submitted . . . by such departments and establishments for the carrying out of any public works and improvement project or projects or for examinations, surveys, investigations, plans and specifications, or other planning activities, whether preliminary or detailed, for any such projects, the advance program or programs relating to the proposed work or expenditure shall be submitted . . . as an integral part of the justification of the estimates presented.
>
> The Director . . . [of the Office], upon the basis of the estimates and advance programs submitted in accordance with the provisions of paragraph 2 of this order shall report to the President from time to time, but not less than once a year, consolidated estimates and advance programs in the form of an over-all advance program for the Executive Branch of the Government.
>
> Before any department or establishment shall submit to the Congress, or to any committee or member thereof, a report relating to, or affecting in whole or in part, its advance programs, or the public works and improvement projects comprising such programs, or the results of any plan preparation for such program or programs or projects, such report shall be submitted to the . . . [Office] for advice as to its relationship to the program of the President. When such report is thereafter submitted to Congress, or to any committee or member thereof, it shall include a statement of the advice received from the . . . [Office].[45]

2.2.14.1 Decisions

The National Environmental Policy Act (NEPA)[46] has generated an extraordinary volume of litigation since its enactment on January 1, 1970. Judicial determinations in these cases will affect, inestimably, all future planning activities for water and other natural resources.

NEPA suits are, typically, of two types, both deriving from the environmental impact statement required by Section 102(2)(C) of the Act:

(1) challenges to Federal actions based upon failure of the responsible Federal agency to prepare the impact statement

(2) challenges to Federal actions alleging inadequacy or insufficiency of the impact statement prepared.

Although the Supreme Court has yet to deliver its first opinion directed to the issues of the applicability and requisites of NEPA,[47] an indication of what is likely to be forthcoming from the Court is manifest in the most recent opinions from Federal courts of appeals concerning NEPA.[48]

Paramount among these decisions is one from the Court of Appeals for the District of Columbia ordering the Atomic Energy Commission to conduct an environmental review of a nuclear plant under construction on Chesapeake Bay, for which a license had been granted, and holding that the AEC's procedural rules violated NEPA in four broad respects:

(1) in requiring consideration of environmental issues only when raised by a party to a proceeding

(2) in prohibiting a party from raising nonradiological environmental issues at any hearing officially noticed before March 4, 1971, despite the fact that NEPA became effective on January 1, 1970

(3) in refusing to examine any environmental issue if a State or another Federal agency certifies that a project complies with its environmental standards

(4) in refusing to consider environmental impact review of projects granted construction permits before the effective date of NEPA until such construction would be completed—i.e., at the time of proceedings for its operating license.[49]

The court charged the AEC with a "crabbed interpretation of NEPA [which] makes a mockery of the Act,"[50] and remanded the proceedings to the AEC for further rulemaking, saying:

> We find the policies embodied in NEPA to be a good deal clearer and more demanding than does the Commission.
>
> . . . It is not only permitted, but compelled, to take environmental values into account.
>
> . . . the Section 102 duties are not inherently flexible. They must be complied with to the fullest extent unless there is a clear conflict of *statutory* authority. Considerations of administrative difficulty, delay or economic cost will not suffice to strip the section of its fundamental importance.[51]

As to the first area in which it found the Commission's rules deficient under NEPA, the court said that providing only for environmental data to "accompany" an application through the agency review process without consideration from a hearing board violates the NEPA mandate to Federal agencies to consider environmental effects of their actions "to the *'fullest'* possible extent."[52] Saying that "NEPA was meant to do more than regulate the flow of papers in the federal bureaucracy," [53] the court directed that the AEC rules must provide for independent, substantive review of environmental values in all applications for facilities.

As to the second area of deficiency, the court found that the time lag for implementation of NEPA provided by the AEC rules (from January 1, 1970, to March 4, 1971), was "shocking;" and directed to the Commission to apply NEPA environmental considerations—i.e., to give full consideration to environmental factors beyond radiological health and safety—to all nuclear power licensing actions which took place after January 1, 1970, the date NEPA became effective.[54]

> The delayed compliance date of March 4, 1971, then, cannot be justified. . . . Before the enactment of NEPA, the Commission already had regulations requiring that hearings include health, safety and radiological matters. The introduction of environmental matters cannot have presented a radically unsettling problem.
>
> . . . [t]he very purpose of NEPA was to tell federal agencies that environmental protection is as much a part of their responsibility as is protection and promotion of the industries they regulate.[55]

As to the third area of deficiency, the court held that NEPA requires the AEC to evaluate and balance economic, technical benefits against environmental costs for each proposed facility, that the AEC cannot substitute another agency's evaluation and analysis for its own, and that the AEC rules must provide for such evaluation and analysis.

> The sweep of NEPA is extraordinarily broad, compelling consideration of any and all types of environmental impact of federal action.[56]
>
> . . . The Atomic Energy Commission, abdicating entirely to other agencies' certifications, neglects the [NEPA] mandated balancing analysis (benefits vs. costs). Concerned members of the public are thereby precluded from raising a wide range of environmental issues. . . . And the special purpose of NEPA is subverted.[57]

With respect to the last area of deficiency, the Court directed that the AEC rules must provide for environmental review in those proceedings in which construction permits for facilities were issued before NEPA became effective but in which operating licenses had not yet been issued, pointing out that:

> Although these projects in question may have been commenced and initially approved before January 1, 1970, the Act clearly applies to them since they must still pass muster before going into full operation.
>
> . . . By refusing to consider requirement of alterations until construction is completed, the Commission may effectively foreclose the environmental protection desired by Congress. It may also foreclose rigorous consideration of environmental factors at the eventual operating license proceedings.
>
> . . . [n]o action which might minimize environmental damage may be dismissed out of hand. Of course, final operation of the facility may be delayed thereby. But some delay is inherent whenever the NEPA consideration is conducted—whether before or at the license proceedings. It is far more consistent with the purposes of the Act to delay operations at a stage where real environmental protection may come about than at a stage where corrective action may be so costly as to be impossible.
>
> . . . All we demand is that the environmental review be as full and fruitful as possible.[58]

Subsequent decisions by Federal courts of appeals derive much of their rationale from the explication of NEPA given by the Court of Appeals for the District of Columbia in the foregoing decision.

The Federal Court of Appeals for the Fourth Circuit held that the Law Enforcement Assistance Administration of the United States Department of Justice must comply with the procedural requirements of NEPA and must file the required impact statement as to potential harm that could result to local ecology from construction of a prison reception and medical center in a scenic and historic area. The court held that NEPA and the National Historic Preservation Act, the applicability of which was also an issue in the case, are not irreconcilable with the Safe Streets Act, the enabling legislation for LEAA. The court further held that compliance with NEPA is not discretionary, but that the Act (as well as the National Historic Preservation Act) is applicable only to Federal agencies, not to State officials, and also rejected an attempt to impose constitutionally premised environmental obligations on States.[59]

Earlier, the Court of Appeals for the Fourth Circuit affirmed the preliminary injunction of the district court against mining or timber-cutting activity in a national forest for failure to submit the NEPA impact statement.[60]

The Federal Court of Appeals for the Ninth Circuit vacated the order of the district court denying a preliminary injunction to halt all further acquisitions of land for an interstate highway to be built in a corridor between particular interchanges of two existing interstate

highways, part of which corridor would run through a densely populated, low-income, inner-city area of Seattle, and remanded the case to the district court. The court of appeals directed the district court, on the issue of the applicability of NEPA, to order the Secretary of Transportation and the other Federal defendants to prepare and submit to the court "forthwith" a proposed schedule setting forth the dates on which and the manner in which they will prepare and submit the environmental impact statement required by NEPA.

The court rejected the contention that an environmental impact statement was not required until the final stage of Federal approval of highway design or construction plans, saying that, at that point "it could well be too late to adjust the formulated plans so as to minimize adverse environmental effects."

The court reasoned that:

> Given the purpose of NEPA to insure that actions by federal agencies be taken with due consideration of environmental effects and with a minimum of such adverse effects, it is especially important with regard to federal-aid highway projects that the § 102(2) (C) statement be prepared early.
>
> . . . Once the highway-planning process has reached these latter stages [of final Federal approval], flexibility in selecting alternative plans has to a large extent been lost, . . . there is likely to be an "irreversible and irretrievable commitment of resources," which will inevitably restrict the [highway officials'] options.

The court directed the district court to enjoin all further acquisitions of land excepting, possibly, court-approved hardship acquisitions, until the proposed schedule for the environmental impact statement, and a counterpart schedule pertaining to relocation, would be submitted to the court.[61]

In another case presenting the issue of when an impact statement must be prepared, the Federal Court of Appeals for the Second Circuit held that it was error for the Federal Power Commission to have conducted formal authorization hearings for construction of one of three high voltage transmission lines, part of a power project licensed by the FPC, prior to preparation of its environmental impact statement, notwithstanding that the State agency licensee for the project had prepared its own environmental statement for the line which contained "information comparable" to that required by NEPA. The court rejected the Commission's argument that it was not required to prepare and submit its statement until it filed its final decision and set forth its view of Section 102(2) of NEPA as "a mandate to consider environmental values at every distinctive and comprehensive stage of the [agency's] process." The court found that "[t]he primary and nondelegable responsibility for fulfilling that function lies with the Commission . . . [which] abdicated a significant part of its responsibility by substituting the statement of [the State agency] for its own," and ordered the FPC to prepare and submit the required statement "subject to the full scrutiny of the hearing process" before issuance of an initial decision as to construction of the line in question.

Construction was not ordered halted on the other two approved transmission lines of the project. No protests or petitions had been filed concerning the two lines, and their construction was 80% completed. Although the FPC had also failed to file an impact statement for these lines, the court found that there was "no indication . . . of obstinate refusal to comply with NEPA," as was the case with respect to the third line. Finding "no compelling basis for halting construction of the lines so far advanced . . ." the court declined to reopen the authorization proceedings for the two lines.[62]

Three months earlier the same court had upheld the Federal Power Commission's license for the Storm King pumped storage power plant, finding that the Commission had considered all relevant factors as required by NEPA and that its findings were supported by substantial evidence.[63]

The Court of Appeals for the District of Columbia, in its latest NEPA decision, a case involving sale of offshore oil leases, located primarily off eastern Louisiana, in an area adjacent to the greatest estuarine coastal marsh complex in the nation, ordered that bids for the leases be permitted to be received on condition they remain unopened pending further order of the court. In its further order, the court denied the motion for summary reversal of the preliminary injunction ordered by the district court, enjoining sale of the leases pending compliance with NEPA, and held, on the merits, that the impact statement prepared by the Department of the Interior with respect to its proposal for sale of these leases failed to provide sufficient information to permit a reasoned choice of alternatives. The court, anticipating that the impact statement would be supplemented or modified, set forth in detail the scope of the NEPA requirement that alternatives to the proposed action must be discussed:

> A sound construction of NEPA, . . . requires a presentation of the environmental risks incident to reasonable alternative courses of actions. The agency

may limit its discussion of environmental impact to a brief statement, when that is the case, that the alternative course involves no effect on the environment, or that their effect, briefly described, is simply not significant. A rule of reason is implicit in this aspect of the law, as it is the requirement that the agency provide a statement concerning those opposing views that are responsible.

. . . While the consideration of pertinent alternatives requires a weighing of numerous matters, such as economics, foreign relations, [and] national security, the fact remains that, as to the ingredient of possible adverse environmental impact, it is the essence and thrust of NEPA that the pertinent Statement serve to gather in one place a discussion of the relative environmental impact of alternatives.

. . . The Statement must set forth the material contemplated by Congress in form suitable for the enlightenment of others concerned.[64]

. . . the discussion of environmental effects of alternatives need not be exhaustive. What is required is information sufficient to permit a reasoned choice of alternatives so far as environmental aspects are concerned. As to alternatives not within the scope of authority of the responsible official, reference may of course be made to studies of other agencies—including other impact statements. Nor is it appropriate, as Government counsel argues, to disregard alternatives merely because they do not offer a complete solution to the problem. If an alternative would result in supplying only part of the energy that the lease sale would yield, then its use might possibly reduce the scope of the lease sale program and thus alleviate a significant portion of the environmental harm attendant on offshore drilling.

. . . the requirement in NEPA of discussion as to reasonable alternatives does not require a "crystal ball" inquiry. Mere administrative difficulty does not interpose such flexibility into the requirements of NEPA as to undercut the duty of compliance "to the fullest extent possible." But if this requirement is not rubber, neither is it iron. The statute must be construed in the light of reason. . . .

The mere fact that an alternative requires legislative implementation does not automatically establish it as beyond the domain of what is required for discussion, particularly since NEPA was intended to provide a basis for consideration and choice by the decision-makers in the legislative as well as the executive branch. But the need for an overhaul of basic legislation certainly bears on the requirements of the Act. We do not suppose Congress intended an agency to devote itself to extended discussion of the environmental impact of alternatives so remote from reality as to depend on, say, the repeal of the antitrust laws.

In the last analysis, the requirement as to alternatives is subject to a construction of reasonableness, and we say this with full awareness that this approach necessarily has both strengths and weaknesses. Where the environmental aspects of alternatives are readily identifiable by the agency, it is reasonable to state them—for ready reference by those concerned with the consequences of the decision and its alternatives. . . .

There is reason for concluding that NEPA was not meant to require detailed discussion of the environmental effects of "alternatives" put forward in comments when these effects cannot be readily ascertained and the alternatives are deemed only remote and speculative possibilities, in view of basic changes required in statutes and policies of other agencies—making them available, if at all, only after protracted debate and litigation not meaningfully compatible with the time-frame of the needs to which the underlying proposal is addressed.

Section 3

PUBLIC INSTITUTIONAL ARRANGEMENTS

3.1 Arrangements Between Federal Departments and Agencies

3.1.1 Environmental Protection Agency—Department of Transportation (Coast Guard)

The Administrator of the Environmental Protection Agency, in enforcing the provisions of the Water Quality Improvement Act of 1970, amending the Federal Water Pollution Control Act, 33 U.S.C. 1151–1175 (prohibiting discharge of sewage, of oil, or of other hazardous substances, into or upon navigable waters of the United States), is authorized to make use of the personnel, services, and facilities of other Federal departments, agencies, and instrumentalities [33 U.S.C. 1163(k)]. The Department of Transportation may, specifically, authorize anyone to board and inspect any vessel upon the navigable waters of the United States and to execute any warrant or other process, in enforcement of the prohibition against discharge of sewage from a vessel into or upon the navigable waters of the United States [33 U.S.C. 1163(l)]. Anyone authorized by the Administrator of the Environmental Protection Agency, as the President's delegee, has similar powers with respect to enforcement of the prohibition against discharge of oil from a vessel; and arrest authority is additionally authorized in that instance [33 U.S.C. 1161(m)].

3.1.2 Environmental Protection Agency—Department of Defense (U.S. Army Corps of Engineers)—Department of Agriculture—The Water Resources Council

The Federal Water Pollution Control Act, as amended, provides for cooperation between the Environmental Protection Agency and the Department of the Army, the Department of Agriculture, the Water Resources Council and other appropriate bodies for research into the effect of pollution on fish and wildlife, on sport and commercial fishing, on recreation, on water supply and water power and on other beneficial purposes [33 U.S.C. 1155(m)].

3.1.3 Environmental Protection Agency—Department of Defense (U.S. Army Corps of Engineers)—Any Other Federal Agency Issuing Licenses or Permits Affecting Navigable Waters of the United States

A number of new provisions, binding upon any applicant for a Federal license or permit for any facility or activity which may result in any discharge into navigable waters of the United States, were added by the Water Quality Improvement Act of 1970 [Pub. L. 91–224, 84 Stat. 91 (1970)], amending the Federal Water Pollution Control Act (33 U.S.C. 1151–1175). An applicant for such a license or permit must now show a certificate of compliance with applicable water quality standards for construction or operation of the facility or activity when applying for the license or permit and must otherwise conform to the new Federal provisions [33 U.S.C. 1171(b)(1)]. Procedures for public notice of all applications for certification by a State or interstate agency, and for public hearings, in connection with applications must now be established by State and interstate agencies.

The Federal licensing or permitting agency must immediately notify the Administrator of the Environmental Protection Agency upon receipt of application and certification. Thereafter, the Administrator must notify any other State if he determines that the discharge that would result from the licensed or permitted facility or activity may adversely affect the quality of water in any such other State. Upon subsequent determination by such other State that the discharge will affect its waters deleteriously, the affected State may request a public hearing, with notice to Federal and State or interstate agencies. The licensing or permitting agency must then hold

a hearing, and either condition any license or permit to be issued so as to insure compliance with applicable water quality standards, or refuse to issue the license or permit [33 U.S.C. 1171(b)(2)].

Federal licenses or permits, with respect to which certification has been obtained, may also be suspended or revoked by the Federal licensing or permitting agency upon the entry of a judgment that the facility or activity has been operated in violation of applicable water quality standards [33 U.S.C. 1171(b)(5)]. Suspension of a Federal license or permit is also authorized for failure to comply with applicable water quality standards following notice of the adoption of such standards, and a reasonable time, of not less than 6 months, within which to comply [33 U.S.C. 1171(b)(8)(B)].

All Federal facilities, activities, projects, plans, or programs are also subject to the requirements of the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.), that Federal agencies must consider environmental consequences in their decision-making; and that in pursuit of that objective, all Federal agencies must include a detailed five-part statement concerning environmental impacts, alternative actions, and resource costs, for every recommendation or report on proposals for legislation and other major actions significantly affecting the quality of the human environment.

Federal departments, agencies, and establishments within the Executive branch are further required to conduct their facilities, activities, plans, programs, policies, and procedures so as to prevent, control, and abate air and water pollution (Executive Order Number 11507, dated February 4, 1970, and Executive Order Number 11514, dated March 5, 1970); to consult with the Administrator of the Environmental Protection Agency concerning the best techniques and methods for the protection and enhancement of air and water quality. In turn, the Administrator must provide leadership in implementing the President's directives, and the Council on Environmental Quality must maintain continuing review of agencies' implementation and report thereon from time to time to the President. All water resource projects of the Departments of Agriculture, Interior, and Army, of the Tennessee Valley Authority, and of the United States Section of the International Boundary and Water Commission are specifically ordered to comply with the President's directives for air and water quality at such projects, and must present all such projects to the Administrator of the Environmental Protection Agency, for his consideration, if they involve authorization or construction of any Federal water resource projects within the United States. The Administrator must review and report back to the responsible agency, within 90 days, on the potential impact of the project on water quality, including his recommendations for change or other necessary measures. His report, or a statement that he failed to report within 90 days, must accompany any report proposing authorization or construction, or a request for funding for any water resource project.

3.1.4 Environmental Protection Agency—Department of Defense (U.S. Army Corps of Engineers)—Local Governments

The Secretary of the Army, acting through the Chief of Engineers, after obtaining written agreements from appropriate local governments in compliance with statutory requirements, and after considering the views and recommendations of the Administrator of the Environmental Protection Agency, is authorized to construct, operate, and maintain contained spoil disposal facilities for a period not to exceed ten years for the Great Lakes and their connecting channels (33 U.S.C. 1165a).

3.1.5 Environmental Protection Agency—Other Federal Agencies—State Agencies

The Environmental Protection Agency, as part of achieving a comprehensive water pollution control program, is mandated to cooperate with other Federal agencies, and with State water pollution control agencies, to conserve water for the propagation of fish and aquatic life and wildlife [33 U.S.C. 1153(a)].

3.1.6 Environmental Protection Agency—Other Federal Agencies—State and Interstate Agencies—Municipalities—Involved Industries

The Administrator of the Environmental Protection Agency is authorized to prepare, in cooperation with other Federal agencies (with

State, interstate agencies, municipalities and involved industries), comprehensive programs for reducing pollution of interstate waters and tributaries thereof and improving the sanitary condition of surface and underground waters [33 U.S.C. 1153(a)].

3.1.7 Federal Power Commission—Department of Defense (U.S. Army Corps of Engineers)—Environmental Protection Agency and Other Federal, State, or Interstate Departments and Agencies

The Federal Power Commission, established by the Federal Power Act (16 U.S.C. 791 et seq.) is authorized by that Act as follows:

(1) to make investigations and collect data concerning the utilization of water resources of any region to be developed and the development of water power, and to cooperate with the Executive department and other agencies of State or national governments in these investigations

(2) to issue licenses for production of power on river sites by private companies or by State and municipal agencies, on certain conditions as part of a comprehensive plan.

If the license affects the navigability of any navigable water, its issuance depends upon approval of structure plans that fulfill requirement for construction of booms, sluices, or other structures for navigation purposes by the Chief of Engineers and the Secretary of the Army (16 U.S.C. 797). In the event that such structures for navigation purposes are not made part of the original construction at the expense of the licensee, then the Federal Power Act provides that whenever the United States desires to complete such facilities, the licensee shall convey to the United States, free of cost, land and rights-of-way, and control of pools as may be required to complete such navigation facilities.

Under other authority (33 U.S.C. 609), the Secretary of the Army, upon recommendation of the Chief of Engineers, may provide, in the permanent parts of any dam authorized at any time by Congress for the improvement of navigation, such foundations, sluices, and other works as may be considered desirable for the future development of its water power. Likewise, penstocks or other similar facilities for future development of water power are authorized to be provided in flood control projects (33 U.S.C. 701j).

3.1.8 Federal Power Commission—Department of Transportation

The Federal Power Commission must also require the construction, maintenance, and operation by a licensee at his own expense of such lights and signals as may be directed by the Secretary of Transportation (16 U.S.C. 811).

3.1.9 Federal Power Commission—Department of the Interior

Federal Power Commission licensees must construct, maintain, and operate "fishways as may be prescribed by the Secretary of the Interior" (16 U.S.C. 811).

3.1.10 Department of Agriculture—Other Federal Agencies

The Secretary of Agriculture has the authority to coordinate the control and prevention of pollution from sediment and other pollutants with other Federal agencies participating or assisting in the planning and development of areas of rapidly changing uses (42 U.S.C. 3271 et seq.).

3.1.11 Department of Defense (U.S. Army Corps of Engineers)—Department of Agriculture (U.S. Soil Conservation Service)—Department of the Interior (U.S. Geological Survey)—Tennessee Valley Authority—Department of Housing and Urban Development

The Secretary of Housing and Urban Development uses the services of the other four agencies to conduct rate-making studies, which must be completed before a community can be declared eligible for flood insurance (42 U.S.C. 4001 et seq.).

3.1.12 Department of Defense (Department of the Army)—Department of the Treasury (Customs)—Department of Transportation (Coast Guard)

Department of the Army personnel and officers of the Customs and Coast Guard are empowered to arrest and take into custody any person who, in their presence, violates one of the provisions of the act that makes it unlaw-

ful (as a misdemeanor, punishable by a fine not exceeding $1,000) to discharge refuse matter of any kind, other than that flowing in a liquid state from streets and sewers, into Lake Michigan at any point opposite or in front of the County of Cook, in the State of Illinois, or the County of Lake, in the State of Indiana, within eight miles of the shore (33 U.S.C. 421, 436).

3.1.13 Department of Defense (U.S. Army Corps of Engineers)—Department of Commerce (National Oceanic and Atmospheric Administration, Environmental Science Services Administration)

The Chief of Engineers is authorized to allot funds, out of flood control and rivers and harbors appropriations, for the establishment and operation of the Hydroclimatic Network of recording and non-recording precipitation stations, by the Weather Bureau of the Environmental Science Services Administration, National Oceanic and Atmospheric Administration, whenever the Corps of Engineers or the Weather Bureau deems it advisable, in connection with flood control surveys and improvement works, to provide current information on precipitation, flood forecasts and flood warnings (33 U.S.C. 706).

3.1.14 Department of Defense (U.S. Army Corps of Engineers)—Other Federal Agencies

In making the comprehensive study and examination of watershed or watersheds, required to be included with all examinations and surveys relating to flood control, the Secretary of the Army can request the assistance of other Federal agencies under the Flood Control Act of 1917, as amended (33 U.S.C. 701).

3.1.15 Department of Defense (U.S. Army Corps of Engineers)—Any Agency of Government

Whenever the Chief of Engineers determines, during construction or reconstruction of any navigation, flood control, or related water development project under the direction of the Secretary of the Army, that any structure or facility owned by an agency of government and utilized in the performance of a government function should be protected, altered, reconstructed, relocated, or replaced to meet the requirements of navigation or flood control, or to preserve the safety or integrity of such facility when its safety or usefulness is determined by the Chief of Engineers to be adversely affected or threatened by the project, the Chief of Engineers may enter into a contract providing for the payment from appropriations made for the construction or maintenance of such project, or the reasonable cost of replacing, relocating, or reconstructing such facility, or the payment of a lump sum representing the estimated reasonable cost thereof (33 U.S.C. 633).

3.1.16 Department of Defense (U.S. Army Corps of Engineers)—Other Federal Agencies—State Agencies

A comprehensive program to provide for control and progressive eradication of noxious aquatic plant growth from the navigable waters, tributary streams, connecting channels, and other allied waters of the United States, in the interest of drainage and related purposes, is authorized to be administered by the Chief of Engineers, under the direction of the Secretary of the Army and in cooperation with other Federal and State agencies (33 U.S.C. 610).

3.1.17 Department of Defense (U.S. Army Corps of Engineers)—Department of Transportation—Department of the Interior—Department of Commerce—Environmental Protection Agency—Other Interested Federal Agencies—Non-Federal Public and Private Interests

The Secretary of the Army, acting through the Chief of Engineers, is authorized and directed, in cooperation with the above agencies and interests, to undertake a program to demonstrate the practicability of extending the navigation season on the Great Lakes and St. Lawrence Seaway to include ship voyages extending beyond the normal navigation season, observation and surveillance of ice conditions and ice forces, environmental and ecological investigations, collection of technical data related to improved vessel design, ice control facilities, aids to navigation, physical model studies and coordination of the collection and dissemination of information to shippers on weather and ice conditions. The Secretary of the Army, acting through the Chief of En-

gineers, was directed to submit a report describing the program results to the Congress on or before July 30, 1974 (Sec. 107(b) of the Act of December 31, 1970, the River and Harbor Act of 1970, Title I of Publ L. 91–611, 84 Stat. 1818).

3.1.18 Department of the Interior—Department of Agriculture

The Watershed Protection and Flood Prevention Act authorizes the inclusion in project work plans at small watershed projects of such works of improvement for fish and wildlife resources recommended by the Secretary of the Interior as are agreed to by the Secretary of Agriculture (and the local organization) (16 U.S.C. 1001–1009).

3.1.19 Department of the Interior—Department of Defense—Atomic Energy Commission—Department of Health, Education and Welfare—Department of State—Other Agencies

Research and development activities for the conversion of saline water undertaken by the Secretary of the Interior must be coordinated or conducted jointly with the Department of Defense so that developments of a civil nature will contribute to national defense, and those primarily of a military nature will be available to the greatest extent compatible with military and security requirements. Such research and development is also to be undertaken by the Secretary with the fullest cooperation by and with the Atomic Energy Commission, the Department of Health, Education and Welfare, the Department of State, and other concerned agencies (42 U.S.C. 1954).

3.1.20 Department of the Interior—Other Federal Agencies

The Secretary of the Interior is authorized to provide assistance to and cooperate with Federal agencies (and with State and public or private agencies and organizations) in the development, protection, rearing, and stocking of all species of wildlife and their habitat; and to make surveys and investigations of the wildlife, including lands and waters controlled by any agency of the United States, under the Fish and Wildlife Coordination Act (16 U.S.C. 661).

Further, whenever any Federal (or private) agency, under Federal license or permit, impounds, diverts or otherwise controls any waters, such agency shall consult the United States Fish and Wildlife Service, Department of the Interior, and the head of the State agency having administrative jurisdiction over the affected resource. Reports and recommendations from both Federal and State sources shall be made an integral part of any report prepared or submitted by any Federal agency responsible for engineering surveys and construction of water control or use projects [16 U.S.C. 661, 662(a), (b)].

3.1.21 Department of Commerce (Maritime Administration)—Other Federal Agencies—Merchant Marine—Insurance Companies—Industry—Other Interested Organizations

The Secretary of Commerce, acting through the Maritime Administration, in consultation with the above agencies, organizations, and interests, shall conduct a study of ways and means to provide reasonable insurance rates for shippers and vessels engaged in waterborne commerce on the Great Lakes and the St. Lawrence Seaway beyond the present navigation season, and shall report results thereon and legislative recommendations to Congress on or before June 30, 1971 [Sec. 107(c) of the Act of December 31, 1970, the River and Harbor Act of 1970, Pub. L. 91–611, 84 Stat. 1818].

3.1.22 Office of Emergency Preparedness—All Federal Agencies

Federal agencies are to cooperate to the fullest extent possible with each other (and with States and local governments, relief agencies, and the American National Red Cross) in providing disaster assistance under the direction of the Director of the Office of Emergency Preparedness (42 U.S.C. 1855–1855d).

3.1.23 Office of Management and Budget—All Executive Departments, Agencies

The Office of Management and Budget is the primary management agency of the Executive branch. It has plenary authority "to assemble, correlate, revise, reduce, or increase the re-

quests for appropriations of the several departments or establishments" (31 U.S.C. 16). In the exercise of that authority, the Office imposes certain obligations upon departments or establishments of the Executive branch. One such obligation is the requirement that — prior to the submission to Congress or to a congressional committee or to a member of Congress, of any report by any Executive department or establishment that relates to or affects its advance programs, or the public works and improvement projects comprising such programs, or the results of any plan preparation for such programs or projects— the report be submitted to the Office for its advice as to its relationship to the program of the President, and that thereafter when such report is submitted to Congress it shall include a statement of the advice received from the Office of Management and Budget (Executive Order Number 9384, dated October 4, 1943, 8 F.R. 13782).

3.1.24 All Federal Agencies

In the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.), Congress declared that it is the continuing policy of the Federal government, in cooperation with State and local governments and other concerned public and private organizations, to use all practicable means and measures to promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and to fulfill the social, economic, and other requirements of present and future generations of Americans.

To carry out that policy, Congress authorizes and directs that to the fullest extent possible

(1) the policies and regulations, and public laws of the United States must be interpreted and administered in accordance with the policy set forth above

(2) all agencies of the Federal government must

(a) utilize a systematic, interdisciplinary approach to insure integrated use of sciences and arts in any official planning or decision-making that may have an impact on the environment

(b) in consultation with the Council on Environmental Quality, identify and develop methods and procedures to insure that unquantified environmental amenities will be considered in the agency decision-making process, along with economic and technical considerations

(c) include in every recommendation or report on proposals for legislation or other major Federal actions, a detailed statement by the responsible official on the environmental impact of the proposed action, any adverse environmental effects which cannot be avoided should the proposal be adopted, alternatives to the proposed action, the relationship between the short-term uses of the environment and the maintenance and enhancement of long-term productivity, and any irreversible and irretrievable commitments of resources which would be involved. Prior to preparing any such detailed statement, the responsible Federal official must consult with and obtain the comments of any Federal agency having jurisdiction with respect to any environmental impact involved, and the comments of any such agency, together with the comments and views of appropriate State and local agencies shall thereafter be made available to the President, the Council on Environmental Quality and the public, and shall accompany the proposal through the subsequent review process.

(d) study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources

(e) recognize the worldwide and long-range character of environmental problems, and, where consistent with the foreign policy of the United States, lend appropriate support to initiatives, resolutions, and programs designed to maximize international cooperation in anticipating and preventing a decline in the quality of mankind's world environment

(f) make available to States, counties, municipalities, institutions, and individuals advice and information useful in restoring, maintaining, and enhancing the quality of the environment

(g) initiate and utilize ecological information in the planning and development of resource-oriented projects

(h) assist the Council on Environmental Quality.

3.1.25 All Federal Agencies Having Jurisdiction over Any Real Property or Facility or Engaged in Any Federal Public Works Activity

All Federal agencies having jurisdiction over any real property or facility or engaged in any Federal public works activity must insure compliance with applicable water quality

standards in the administration of such property, facility, or activity [33 U.S.C. 1171(a)]. The summary of conference discussions prepared following any conference called to discuss abatement of pollution of interstate or navigable waters, pursuant to 33 U.S.C. 1160(d)(4), shall include references to any discharges allegedly contributing to pollution from any Federal property, facility, or activity. Copies of such summary, and notice of any hearing involving the alleged pollution, must be given to the Federal agency having jurisdiction over the property, facility, or activity involved [33 U.S.C. 1171(a)].

3.1.26 All Executive Agencies Responsible for the Construction of Federal Buildings, Structures, Roads, and Other Facilities; the Administration of Federal Grant, Loan, or Mortgage Insurance Programs Involving the Construction of Buildings, Structures, Roads, or Other Facilities; the Disposal of Federal Lands or Properties; and the Planning of Land Use

All such agencies were ordered by the President to make evaluations of flood hazards to prevent uneconomic use and development of the nation's flood plains and to lessen the risk of flood losses (Executive Order Number 11296, 31 F.R. 10663).

3.1.27 All Executive Departments, Agencies, or Establishments That Own or Lease Projects or Installations—Environmental Protection Agency

All projects or installations owned by or leased to departments, agencies, or establishments of the Executive branch are required to be designed, operated, and maintained to conform with air and water quality standards, present and future, created pursuant to Federal legislation (Executive Order Number 11507, dated February 4, 1970, reported in 116 Congressional Record, Senate, S. 1170, February 4, 1970).

By the terms of that Executive Order, specific performance requirements for air and water pollution controls at each facility will be set by agency heads with the approval of the Administrator of the Environmental Protection Agency. All existing facilities must comply with the order by December 31, 1972. The order establishes a $359-million program for achieving this objective and prohibits the transfer of these funds to other programs. The order also requires that all facilities built in the future must be pollution-free, and that budget requests for new facilities must include all necessary funds for pollution control.

The order further provides that the heads of agencies, in consultation with the Administrator, may identify facilities or uses thereof which are to be exempted from the provisions of the order in the interest of national security or in extraordinary cases where it is in the national interest.

The term facilities is defined to mean the buildings, installations, structures, public works, equipment, aircraft, vessels, and other vehicles and property, owned by or constructed or manufactured for the purpose of leasing to departments, agencies, or establishments of the Executive branch.

3.1.28 Water Resources Scientific Information Center

Such a center is authorized to be established in such agency and location as the President determines desirable. The center shall classify and maintain for general use a catalogue of water resources research and investigation projects in progress, or scheduled by, all Federal agencies and by such non-Federal agencies as may make such information available voluntarily (42 U.S.C. 1961c–4).

3.2 Selected Federal Boards, Councils, and Commissions

3.2.1 Federal Boards

3.2.1.1 Board of Engineers

The Board of Engineers was established by 33 U.S.C. 541 in the office of the Chief of Engineers, United States Army. All reports on examinations and surveys provided for by Congress and all projects or changes in projects for works or river and harbor improvement must be offered to the Board for consideration and recommendation. The Board, in turn, must submit to the Chief of Engineers its recommendations as to the desirability of commencing or continuing any and all improvements upon which reports are required. In making its recommendations, the Board

must consider the benefit to commerce, the cost of construction and maintenance, and the public necessity for the work. All special reports ordered by Congress, may, in the discretion of the Chief of Engineers, be reviewed by the Board, as authorized by 33 U.S.C. 542.

Another function of the Board is to consider such modifications in plan and location as are necessary to provide adequate facilities for existing navigation and that may be included in the reconstruction of any lock, canal, or canalized river or other work for the use and benefit of navigation belonging to the United States—the reconstruction of which is determined to be absolutely essential to efficient and economical maintenance of the work—where the modifications are also necessary to make the reconstructed work conform to similar works previously authorized by Congress and if modifications form a part of the same improvement. The Board's approval of the modifications and its recommendation by the Chief of Engineers must be given before construction is begun (33 U.S.C. 5).

3.2.1.2 Board on Coastal Engineering Research

The Board on Coastal Engineering Research is appointed by the Chief of Engineers, U.S. Army, to guide and advise the Coastal Engineering Research Center established under the Chief of Engineers, and to plan and carry out research and development studies, investigations, and projects concerning shore processes, winds, waves, tides, surges, and currents as applied to navigation improvements, flood and storm protection, beach erosion control, and coastal engineering works (33 U.S.C. 426–2).

3.2.1.3 Federal Water Pollution Control Board

The Federal Water Pollution Control Board, a permanent advisory body, was transferred on December 2, 1970, to the new Federal agency, the Environmental Protection Agency, by Reorganization Plan Number 3 of 1970. It was established originally in the Public Health Service by the Water Pollution Control Act of 1948 (33 U.S.C. 1159), and then was transferred to the Department of the Interior and given its present basic composition and duties by the Water Pollution Control Act amendments of 1956 (P.L. 84–660, Ch. 518, Sec. 1, 70 Stat. 503).

The Administrator of the Environmental Protection Agency serves as Chairman of the Board, a post formerly held by the Secretary of the Interior. There are nine other Board members, appointed by the President from among representatives of various State, interstate, and local governmental agencies, representatives of public or private interests that contribute to, are affected by, or are concerned with water pollution, and representatives of other public and private agencies, organizations, or groups that demonstrate an active interest in the field of water pollution prevention and control as well as other individuals who are experts in this field. No Federal officer or employee may be appointed to the Board.

The Board functions to advise, consult with, and make recommendations to the Administrator of the Environmental Protection Agency on matters of policy relating to his activities and functions under the Federal Water Pollution Control Act.

The Board is provided with clerical and technical assistance, as necessary, from the personnel of the Environmental Protection Agency.

Members generally hold office for a term of three years, with exceptions provided for vacancy appointments, hold-over extensions, and rotating expiration dates of membership for the years immediately following the restructuring of the Board in 1956.

3.2.1.4 Advisory Board on National Parks, Historic Sites, Buildings, and Monuments

The Advisory Board on National Parks, Historic Sites, Buildings, and Monuments, established by the Act of August 21, 1935 (49 Stat. 667, 16 U.S.C. 463), advises on matters relating to national parks and other items upon request of the Secretary of the Interior. The Board may also recommend policies pertaining to national parks and to restoration, reconstruction, conservation, and general administration of archaeologic sites and historic sites, buildings, and properties. Membership of the Board is composed of eleven persons, citizens of the United States, including representatives competent in the fields of history, archaeology, architecture, and human geography, appointed by the Secretary of the Interior to serve at his pleasure.

3.2.2 Federal Councils

3.2.2.1 Water Resources Council

The Water Resources Council, a permanent body which is both an advisory and functional agency, was established by the Water Resources Planning Act (42 U.S.C. 1962 et seq.). The Council has broad powers to coordinate water resources planning and an overall objective of encouraging the conservation, development, and utilization of water and related resources. The Council is to appraise the adequacy of administrative and statutory means for coordination and implementation of water and related land resources policies and programs of the several Federal agencies and make recommendations to the President with respect to Federal policies and programs. It has the following specific responsibilities:

(1) of continuing studies and biennial assessments of the adequacy of regional water supplies throughout the United States

(2) of maintaining a continuing study of the relation of regional or river basin plans to the requirements of larger regions of the nation

(3) of establishing, with approval of the President, principles, standards, and procedures for Federal participants in the preparation of comprehensive regional or river basin plans for the formulation and evaluation of Federal water and related land resources projects

(4) of reviewing river basin commission plans

(5) of transmitting its recommendations to the President for his review and transmittal to Congress

(6) of administering a program of grants to the States for water resources planning purposes.

The Council is composed of the Secretaries of Interior, Agriculture, and the Army, the Secretary of Health, Education and Welfare, the Chairman of the Federal Power Commission, and the Secretary of Transportation, who was added as a Council member on matters pertaining to navigation features of water resource projects [49 U.S.C. 1656(s)]. The Secretaries of Commerce and of Housing and Urban Development and the Administrator of the Environmental Protection Agency are associate members.

3.2.2.2 Council on Environmental Quality

The Council on Environmental Quality, created in the Executive Office of the President by Title II of the National Environmental Policy Act (42 U.S.C. 4341 et seq.), and Executive Order Number 11514, dated March 5, 1970, is the foremost policy-making body for the environment as a whole within the Federal government. The Council is composed of three members only, appointed by the President to serve at his pleasure, by and with the advice and consent of the Senate.

The Council is authorized and directed to assist and advise the President in the preparation of the comprehensive annual Environmental Quality Report in accordance with statutory specifications, thereafter to be transmitted by the President to Congress. Following its transmittal to Congress, the report must be referred to each standing committee having jurisdiction over any part of its subject matter (42 U.S.C. 4373). The Council is further authorized and directed to gather information concerning conditions and trends in environmental qualities, to appraise the various Federal programs and activities, to develop and recommend to the President national policies to foster and promote the improvement of environmental quality, and to make such studies, reports, and recommendations with respect to matters of policy and legislation as the President may request.

In the exercise of its functions, the Council must consult with the Citizens Advisory Committee on Environmental Quality established by Executive Order Number 11472, and with respresentatives of such other groups as it deems advisable. The Council must utilize, to the fullest extent possible, services, facilities, and information from other sources in order to avoid duplication of effort and expense and unnecessary overlap or conflict with similar activities authorized by law and performed by established agencies.

The Council is assisted by the Environmental Protection Agency in developing and recommending to the President new policies for the protection of the environment. The Council acts independently of the mission-oriented agencies with the Executive branch. It functions as a top-level advisory group with respect to all Federal programs related to environmental quality. It is concerned with all aspects of environmental quality, such as wildlife preservation, park lands land use, population growth and pollution. The focus of the Council is upon broad environmental

policies. Although specific authority to perform studies and research relating to ecological systems was transferred from the Council to the Environmental Protection Agency on December 2, 1970, the Council retains its authority to conduct studies and research relating to overall environmental quality (Reorganization Plan Number 3—Message from the President, H. Doc. No. 91–364, and Environmental Protection—Message from the President, H. Doc. No. 91–366, July 9, 1970).

The Council is also assisted by the Office of Environmental Quality, established in the Executive Office of the President by the Environmental Quality Improvement Act of 1970 (42 U.S.C. 4371 et seq.). The primary purpose of Title II of the 1970 Act was to assure implementation of environment-enhancing policies established under existing law by each Federal department and agency conducting or supporting public works activities which affect the environment. The Act declares a national policy of environmental quality enhancement, states that State and local governments have the primary responsibility for implementing that policy, and that the role of Federal government is to encourage and support implementation through appropriate regional organizations established under existing law.

The Chairman of the Council on Environmental Quality is also the Director of the Office. He is to be assisted by a Deputy Director, appointed by the President, by and with the advice and consent of the Senate, and necessary staff [42 U.S.C. 4372(c)]. The Director advises the President on Federal policies and programs affecting environmental quality by the following:

(1) providing professional and administrative staff and support for the Council

(2) assisting Federal departments and agencies in appraising existing and proposed Federal facilities, activities, programs, policies, and specific major projects which affect the environment, in developing Federal environmental quality criteria and standards, and in coordinating programs and activities which affect, protect and improve environmental quality

(3) reviewing the adequacy of existing environmental monitoring systems

(4) promoting advancement of scientific knowledge concerning the effects of technology upon the environment

(5) collecting and analyzing data on environmental quality and ecological matters.

3.2.2.3 Cabinet Committee on the Environment

The Cabinet Committee on the Environment, formerly known as the Environmental Quality Council, an interdepartmental body, was created originally by the President by Executive Order Number 11472, dated May 29, 1969, and given its present designation in Executive Order Number 11514, dated March 5, 1970. It was established for the purpose of coordinating and resolving internal policy issues among departments and agencies of the Executive branch. The Cabinet Committee also has specific responsibilities with regard to outdoor recreation and natural beauty. Membership is composed of the President as Chairman; the Vice President; and the Secretaries of Agriculture, Commerce, Interior, and Transportation, the Secretary of Health, Education and Welfare, and the Secretary of Housing and Urban Development. The Chairman of the Council on Environmental Quality assists the President in directing the affairs of the Cabinet Committee. Heads of other offices within the Executive branch, or of other affected or interested Federal agencies, may also participate in Cabinet Committee deliberations, in a limited manner, or fully, under certain circumstances.

3.2.2.4 Federal Council for Science and Technology

The Federal Council for Science and Technology is composed of a chairman designated by the President, and officers of policy rank from eleven departments and agencies plus designated representatives of seven other departments and agencies who attend meetings as observers. The Council was established by Executive Order Number 10807, dated March 13, 1959, and amended by Executive Order Number 11381, dated November 8, 1967. It is responsible for promoting closer cooperation among Federal agencies, facilitating resolution of common problems, improving planning and management in science and technology, and advising and assisting the President regarding Federal programs affecting more than one agency. The Council has created several committees for the purpose of coordinating selected activities involving a number of agencies, including a Committee on Water Resources Research and a Committee on Environmental Quality. (There is also a President's Science Advisory Committee established by

the President in 1951 within the Office of Defense Mobilization, and transferred to the White House in 1957, which advises the President in matters relating to science and technology.)

3.2.2.5 National Industrial Pollution Control Council

The National Industrial Pollution Control Council, a permanent advisory body, is composed of a Chairman, a Vice-Chairman, and an unspecified number of members who are to be "other representatives of business and industry," all appointed by the Secretary of Commerce to serve for unspecified terms. It was created by Executive Order Number 11523, dated April 9, 1970. The Industrial Council, as it is called, advises the President and the Chairman of the Council on Environmental Quality, through the Secretary of Commerce, on programs of industry relating to the quality of the environment. Specifically, it may do the following:

(1) survey and evaluate the plans and actions of industry in the field of environmental quality

(2) identify and examine problems of the effect on the environment of industrial practices and the needs of industry for improvements in the quality of the environment, and recommend solutions to those problems

(3) provide liaison among members of the business and industrial community on environmental quality matters

(4) encourage the business and industrial community to improve the quality of the environment

(5) advise on plans and actions of Federal, State, and local agencies, involving environmental quality policies affecting industry which are referred to it by the Secretary of Commerce or by the Chairman of the Council on Environmental Quality through the Secretary.

The Industrial Council is directed to have an Executive Director, appointed by the Secretary of Commerce with the concurrence of the Chairman; and it may establish, with the concurrence of the Secretary, subordinate committees as appropriate to assist in the performance of its functions.

3.2.2.6 Advisory Council on Historic Preservation

The Advisory Council on Historic Preservation, established by the Act of October 15, 1966 (80 Stat. 915, as amended, 16 U.S.C. 470i–470m), advises the President, the Congress, and Federal agencies on matters concerning historic preservation, and cultural or historic properties of the nation. The Council is composed of the Secretaries of Commerce, Interior, and Treasury, the Secretary of Housing and Urban Development, the Administrator of the General Services Administration, the Attorney General, the Chairman of the National Trust for Historic Preservation, and ten additional members appointed by the President for terms of five years.

3.2.2.7 Federal Advisory Council on Regional Economic Development

The Federal Advisory Council on Regional Economic Development was established by Executive Order Number 11386, dated December 28, 1967, to promote coordination of activities of the Federal government relating to regional economic development and to provide coordination, guidance, and review for the regional commissioners under Title V of the Public Works and Economic Development Act of 1965 (42 U.S.C. 3121 et seq.).

3.2.3 Federal Commissions

3.2.3.1 National Water Commission

The National Water Commission was established by the National Water Commission Act of 1968 (42 U.S.C. 1962a note), as a purely advisory body, to make a comprehensive review of present and anticipated national water resource problems and programs, including consideration of interbasin transfers as a way of meeting water resource requirements, and to make recommendations in the light of broad national interest. The Commission is composed of seven members appointed by the President. No member of the Commission is to hold any other position as an officer or employee of the United States except as a retired officer or a retired civilian employee. The Commission will last only until its study and report is completed and no longer than five

years from the effective date of the Act, September 26, 1968.

3.2.3.2 Outdoor Recreation Resources Review Commission

The Outdoor Recreation Resources Review Commission was created by P.L. 85–470, June 28, 1958, 72 Stat. 238, as amended by P.L. 86–6, March 25, 1959, 73 Stat. 14, and P.L. 87–12, March 29, 1961, 75 Stat. 19, for the purpose of aiding in the study, authorized by 16 U.S.C. 17k, to be made by the National Park Service, of the public park, parkway, and recreational area programs of the United States and its political subdivisions.

3.2.3.3 Migratory Bird Conservation Commission

The Migratory Bird Conservation Commission, a permanent body, was created by 16 U.S.C. 715a for the purpose of considering and passing upon any area of land, water, or land and water recommended by the Secretary of the Interior for purchase or rental for use as a migratory bird refuge, and for fixing the purchase or rental price of such areas. The Commission's seven-man membership is composed of the Secretary of the Interior, as Chairman; the Secretaries of Transportation and Agriculture; two members of the Senate, selected by the President of the Senate; and two members of the House of Representatives, selected by the Speaker. The ranking officer of the branch of State government which administers the State game laws, or if none, then the governor of that State is an ex officio member of the Commission for the purpose of considering and voting on all questions relating to the acquisition of land, water, or land and water areas in this State.

3.2.3.4 Citizens Advisory Committee on Environmental Quality

The Citizens Advisory Committee on Environmental Quality was established by Executive Order Number 11472, dated May 29, 1969, as amended by Executive Order Number 11514, dated March 5, 1970, for the purpose of advising the President and the Council on Environmental Quality on matters assigned to the Council. The Citizens Committee, a successor to the former Citizens Advisory Committee on Recreation and Natural Beauty, established by Executive Order Number 11278, and terminated by Executive Order Number 11472, is composed of a Chairman and not more than fourteen other members, all appointed by the President, for staggered terms, except that the Chairman shall serve until a successor is appointed.

3.2.3.5 National Advisory Committee on the Oceans and Atmosphere

The National Advisory Committee on the Oceans and Atmosphere, a permanent advisory body composed of 25 members appointed for terms of three years (except that at the time initial appointments are made to the Committee, nine members are to be appointed for a term of one year; eight members for a term of two years; and eight members for a term of three years). The Committee was authorized to be established on August 16, 1971, by P.L. 92–125 for the purpose of advising the Secretary of Commerce, and through him the President, on the oceans and atmosphere. The Committee must submit a comprehensive annual report to the President and to Congress on the status of the nation's marine and atmospheric activities. Formerly, these concerns were the responsibilities of two temporary bodies:

(1) the Commission on Marine Science, Engineering and Resources, a 15-member body created in 1966, for a two-year period, for the purpose of investigating, reviewing, and analyzing the marine environment and submitting to the President and to Congress a final report of its findings and recommendations (33 U.S.C. 1104)

(2) the National Council on Marine Resources and Engineering Development, established in the Executive Office of the President in 1966, and having a nine-man membership, composed of the Vice-President, as Chairman of the Council; the Secretaries of State, Navy, Interior, Commerce, and Transportation and the Secretary of Health, Education and Welfare; the Chairman of the Atomic Energy Commission; and the Director of the National Science Foundation

Its primary responsibilities were to survey marine science activities and to develop a coordinated Federal program. The Council was terminated on June 30, 1971 [33 U.S.C. 1102–1102(f)].

3.2.3.6 Great Lakes Basin Commission

The Great Lakes Basin Commission was established by Executive Order Number 11345, dated April 20, 1967, as amended by Executive Order Number 11646, dated February 8, 1972, under authority of Title II of the Water Resources Planning Act (42 U.S.C. 1962b). That Act authorizes the President to establish regional river basin commissions, such as this one, to coordinate and keep up to date regional plans which are to include an evaluation of all reasonable alternative means of achieving optimum development of the basin. However, studies are to be concerned only with the intraregional water and related land resources and their uses except where natural interregional hydrologic connections are involved (propounded in Water Resources Council "Guidelines for Framework Studies", October, 1967).

The President appoints the following as (regional) commissioners: a civilian chairman, representatives of each appropriate Federal agency and of each affected State, and a representative from appropriate interstate and international agencies.

Membership of the Great Lakes Basin Commission is composed of one member from each of ten Federal agencies: the Departments of State, Agriculture, Army, Commerce, Interior, Justice, and Transportation, the Department of Health, Education and Welfare, the Department of Housing and Urban Development, and the Federal Power Commission; one member from each of eight States: Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania, and Wisconsin; and one member from each interstate agency created by an interstate compact to which Congress has consented and whose jurisdiction extends to the Great Lakes waters, as specified in Section 2 of Executive Order Number 11345, over which waters and the land areas drained by those waters the jurisdiction of the Commission itself extends.

The Water Resources Council and the Department of State are required to consult as appropriate on matters under consideration by the Commission which relate to the areas of interest and jurisdiction of the International Joint Commission, United States and Canada, and the Great Lakes Fishery Commission.

The Great Lakes Basin Commission, and each such regional commission, is directed to do the following by 42 U.S.C. 1962b(b) and 1962b–3:

(1) serve as the principal agency for the coordination of Federal, State, interstate, local, and nongovernmental plans for the development of water and related land resources in its area, river basin or group of river basins

(2) prepare and keep up to date, to the extent practicable, a comprehensive, coordinated joint plan for Federal, State, interstate, local, and nongovernmental development of water and related land resources

(3) recommend long-range schedules of priorities for the collection and analysis of basic data and for investigation, planning, and contruction of projects

(4) foster and undertake such studies of water and related land resources problems in its area, river basin, or group of river basins as are necessary in the preparation of the comprehensive, coordinated joint plan

(5) submit to the Council and the governor of each participating State a report on its work at least once a year

(6) submit to the Council a comprehensive, coordinated joint plan, or any major portion thereof or necessary revisions thereof, for water and related land resources development in the area for which such Commission was established

(7) submit to the Council, at the time of submitting such plan, any recommendations it may have for continuing the functions of the Commission and for implementing the plan, including means of keeping the plan up to date.

3.2.3.7 Upper Great Lakes Regional Commission

The Upper Great Lakes Regional Commission was formed under authority of Title V of the Public Works and Economic Development Act of 1965 (42 U.S.C. 3121), which authorizes the Secretary of Commerce to designate economic development regions. Following such designation, the Secretary invites the States of the region to establish a regional commission. The Upper Great Lakes Regional Commission, consisting of 119 counties in Michigan, Minnesota, and Wisconsin, was designated on March 3, 1966, and formally organized on April 11, 1967. Members are the Federal co-chairman and the upper Great Lakes States governors. The governors elect one of their members to be the Commission State co-chairman.

The purpose of the Commission is to develop long-range, comprehensive economic development programs for the region, to coordinate

Federal and State economic development activities in the region, and to promote increased private investment. Federal policy guidance is provided by the Secretary of Commerce and coordination of Commission and Federal agency plans and programs is achieved through the Federal Advisory Council on Regional Economic Development.

3.2.3.8 National Forest Reservation Commission

The National Forest Reservation Commission, a permanent body created in 1911 by the Weeks Act (16 U.S.C. 513 et seq.), is virtually identical to the Migratory Bird Conservation Commission in composition. Its membership consists of the Secretary of the Army (or as an alternate the Chief of Engineers), the Secretary of the Interior, the Secretary of Agriculture, two members of the Senate, selected by the President of the Senate, and two members of the House, selected by the Speaker. The Commission considers and passes upon forested, cut-over or denuded lands within watersheds of navigable streams recommended for purchase as necessary to the regulation of the flow of navigable streams or for timber production, and fixes the purchase price of such lands. No lands may be purchased until the Commission approves their purchase.

Two additional groups, concerned primarily with the allocation of Federal research grants for forestry research, are authorized by Federal law: a national advisory board for forestry research, composed of not less than seven officials of State college and university forestry schools, which consults with the Secretary of Agriculture prior to his determination of the apportionment of matching Federal funds and administrative expenses among participating States (16 U.S.C. 582a–4); and an advisory committee composed of an unspecified equal number of representatives from Federal and State agencies concerned with developing and utilizing the nation's forest resources, and from the forest industries, which counsels and advises, at least once each year, the Secretary of Agriculture and the above-mentioned national advisory board (16 U.S.C. 582a–5).

3.2.3.9 The Mississippi River Commission

The Mississippi River Commission was created by the Act of June 28, 1879 (21 Stat. 37, 33 U.S.C. 641), to coordinate planning and engineering for the improvement of the Mississippi River.

3.2.3.10 National Park Foundation

The National Park Foundation, a nonprofit, tax-exempt corporation, was established by the Act of December 18, 1967 (16 U.S.C. 19e–19n), to accept and administer gifts of any nature for the benefit of or in connection with the National Park Service, thereby furthering the conservation of natural, scenic, historic, scientific, educational, inspirational, or recreational resources of the nation.

3.2.3.11 Pictured Rocks National Lakeshore Advisory Commission and Indiana Dunes National Lakeshore Advisory Commission

The Pictured Rocks National Lakeshore Advisory Commission, established by 16 U.S.C. 460s–3, and the Indiana Dunes National Lakeshore Advisory Commission, established by 16 U.S.C. 460u–7, are both temporary Commissions, composed of local, State, and Federal representatives, which will terminate ten years after establishment of their respective national lakeshores. Members of both Commissions are appointed by the Secretary of the Interior for terms of two years.

3.2.3.12 General Advisory Committee and Advisory Committee on Reactor Safeguards

The General Advisory Committee, a permanent body authorized to be established by Congress in 1946 (42 U.S.C. 2036), for the purpose of advising the Atomic Energy Commission on scientific and technical matters relating to materials, production, and research and development, is composed of nine members appointed by the President from civilian life for terms of varying length.

The Advisory Committee on Reactor Safeguards was also authorized to be created by Congress in 1946 (42 U.S.C. 2039), for the purpose of reviewing safety studies and facility license applications referred to it, and advising the Atomic Energy Commission with regard to the hazards of proposed or existing reactor facilities and the adequacy of proposed reactor standards. A maximum of fifteen members are authorized for the Committee, to

be appointed by the Commission for terms of four years each.

Functions formerly assigned to the Federal Radiation Council were transferred to the Administrator of the Environmental Protection Agency by Reorganization Plan Number 3 of 1970 (35 F.R. 15623). These functions are to consult qualified scientists and experts in radiation matters, biology, medicine, and health physics, the President of the National Academy of Sciences and the Chairman of the National Committee on Radiation Protection and Measurement; and to advise the President with respect to radiation matters directly or indirectly affecting health, including guidance for all Federal agencies in the formulation of radiation standards and in the establishment and execution of cooperative programs with States. The Special Assistant to the President for Science and Technology, or his designee, is authorized to attend meetings with, participate in the deliberations of, and to advise the Administrator [42 U.S.C. 2021(h)].

The Atomic Energy Act of 1946 also authorized the Atomic Energy Commission to establish advisory boards to advise with and make recommendations to the Commission on legislation, policies, administration, research, and other matters, within the framework of Commission regulations [42 U.S.C. 2201(a)].

3.2.3.13 Advisory Council on Environmental Education

The Advisory Council on Environmental Education, established by the Environmental Education Act of 1970 [20 U.S.C. 1532(c)], is a permanent advisory body created for the purpose of advising the Commissioner of Education concerning the administration and operation of Federally funded environmental education programs; the allocation of Federal funds for such purposes; evaluation of assisted programs and projects; and development of review criteria to be used in approving applications for such assistance so as to insure an appropriate geographical distribution of such programs throughout the nation. The Council is composed of twenty-one members, from the public and private sector, appointed by the Secretary of Health, Education, and Welfare for indefinite terms. Council members are appointed by the Secretary "with due regard to their fitness, knowledge, and experience in matters of, but not limited to, academic, scientific, medical, legal, resource conservation and production, urban and regional planning, and information media activities as they relate to our society and affect our environment, and [with] due consideration to geographical representation. . . ." Council membership must include not less than three ecologists and three students.

3.3 International (Void of State Participation)

3.3.1 International Joint Commission

The International Joint Commission was created by the 1909 Boundary Waters Treaty between the United States and Great Britain (36 Stat. 2448), to prevent and settle disputes regarding the use of boundary waters. The Commission's jurisdiction includes authority to approve

> . . . uses, obstructions, and diversions of boundary waters on either side of the line, affecting the natural level or flow of boundary waters on the other side of the line, [and] construction or maintenance on their respective sides of the boundary of any remedial or protective works or any dams or other obstructions in waters flowing from boundary waters or waters at a lower level than the boundary in rivers flowing across the boundary, the effect of which is to raise the natural level of waters on the other side of the boundary (36 Stat. 2449-2450).

The Commission must observe the following order of precedence with respect to various uses of boundary water in the exercise of its above authority:

(1) uses for domestic and sanitary purposes
(2) uses for navigation, including the service of canals for the purpose of navigation
(3) uses for power and irrigation purposes.

The International Joint Commission is a permanent body consisting of six members, three from the United States and three from Canada. Either government may refer to the Commission any matters of difference arising between them involving their respective rights, obligations or interests, for the Commission to investigate and report on. Similarly, with consent of both governments, like matters may be referred to the Commission for decision.

Ministers of the United States and Canada met in June 1970 and agreed to set up a Joint Working Group to study ten major water quality problem areas in the Great Lakes. In April 1971, the Working Group issued a report containing its recommendations. That report urged the two governments to agree to adopt common water quality objectives for the Great Lakes, to agree to programs for attaining

these objectives, and to give the IJC authority to monitor these efforts.

On June 10, 1971, Ministers of the two governments agreed to adopt the report of the Joint Working Group and to complete a Great Lakes Water Quality Agreement by the end of calendar year 1971, embodying the recommendations made by the Working Group, and specifying measures to control Great Lakes pollution by 1975.

3.3.2 International Niagara Board of Control

The International Niagara Board of Control was established by the Niagara River Water Diversion Treaty of 1950, entered into by the United States and Canada for the purposes of preserving and enhancing the scenic beauty of the Niagara Falls and the Niagara River and to provide for the most beneficial use of waters for the Niagara River.

The 1950 Treaty concerns the quantity of water that may be diverted from the Niagara River for power purposes. The amount of water available for power purposes shall be the total outflow from Lake Erie to the Welland Canal and the Niagara River (including the Black Rock Canal) less the amount of water used and necessary for domestic and sanitary purposes and for the service of canals for the purposes of navigation. As to this outflow the Treaty provides that no diversions

> shall be made for power purposes which will reduce the flow over Niagara Falls to less than one hundred thousand cubic feet per second each day between the hours of eight a.m., EST, and ten p.m., EST, during the period of each year beginning April 1 and ending September 15, both dates inclusive, or to less than one hundred thousand cubic feet per second each day between the hours of eight a.m., EST, and eight p.m., EST, during the period of each year beginning September 16 and ending October 31, both dates inclusive, or to less than fifty thousand cubic feet per second at any other time.

This Treaty terminates the third, fourth, and fifth paragraphs of Article V of the 1909 Treaty and also replaces provisions embodied in notes exchanged between the United States and Canada.

The International Joint Commission, through the International Niagara Board of Control, maintains supervision over the control works to insure satisfactory levels above the Falls and has since approved other measures such as extension of the control structure, shoal removal, and installation of an ice boom to facilitate maintenance of satisfactory levels and flows at and above the Falls under the currently authorized schedule of power operations.

Representatives of the Board periodically inspect all power plants in service to obtain independent power output readings and provide checks of water level gages to compute flows and assure compliance with all provisions of the Treaty. Any discrepancies in recorded levels data between official gages and entities gages or operations by the power entities are investigated and reported to the two governments.

The activities of the Board are usually conducted through correspondence since they do not normally involve close time deadlines.

3.3.3 American Falls International Board

The American Falls International Board was appointed in accordance with a reference to the International Joint Commission from the two governments, dated March 31, 1967. The reference requested that the Commission investigate and report upon measures necessary to preserve and enhance the beauty of the American Falls at Niagara.

3.3.4 Great Lakes Fishery Commission

The Great Lakes Fishery Commission was established by the Convention on Great Lakes Fisheries between the United States and Canada at Washington in 1954. It is composed of two national sections, a Canadian Section and a United States Section, and each section has not more than three members. The Commission was created for the purpose of joining and coordinating efforts of the United States and Canada to determine the need for and the type of measures which would make possible the maximum sustained productivity in Great Lakes fisheries of common concern to both countries. At the time the Convention was signed, Great Lakes fisheries were seriously threatened both by decline and by damage caused by the parasitic sea lamprey.

The Commission is empowered and directed primarily as follows:

> (a) to formulate a research program or programs designed to determine the need for measures to make possible the maximum sustained productivity of any stock of fish in the Convention Area which, in the opinion of the Commission, is of common concern to the fisheries of the United States of America and Canada and to determine what measures are best adapted for such purposes; (b) to coordinate research made pursuant to such programs and, if necessary, to

undertake such research itself; (c) to recommend appropriate measures to the Contracting Parties on the basis of the findings of such research programs; (d) to formulate and implement a comprehensive program for the purpose of eradicating or minimizing the sea lamprey populations in the Convention Area; and (e) to publish or authorize the publication of scientific and other information obtained by the Commission in the performance of its duties.

In order to carry out those duties, the Commission may "(a) conduct investigations; (b) take measures and install devices in the Convention Area and the tributaries thereof for lamprey control, and (c) hold public hearings in the United States of America and Canada."

3.3.5 International Great Lakes Levels Board

The International Great Lakes Levels Board was also established by the International Joint Commission to study factors which affect the fluctuations in lake levels, and to determine if there is any practicable action that can be taken to bring about a more beneficial range of stage in the interests of water supply, sanitation, navigation, power, flood control, agriculture, fish and wildlife, recreation and other beneficial public purposes. This study is to be completed by October 1973.

3.3.6 International Lake Superior Board of Control

This two-member Board is responsible for the regulation of Lake Superior water levels and outflows. The Board prescribes the necessary gate settings each month at Sault Ste. Marie, Michigan, and Sault Ste. Marie, Ontario, depending on the requirements of the approved plan of regulation and consideration of the water level and supply situation prevailing throughout the basin. The Board meets at least annually at Sault Ste. Marie to jointly inspect the condition and maintenance program of the control works.

3.3.7 International Lake Erie Water Pollution Board and International Lake Ontario-St. Lawrence River Water Pollution Board

The International Joint Commission has established at least two other international boards, the International Lake Erie Water Pollution Board, and the International Lake Ontario-St. Lawrence River Water Pollution Board, for the purpose of organizing and carrying out the technical studies and field work required for matters referred to the Commission for investigation.

3.3.8 St. Lawrence Seaway Development Corporation

The St. Lawrence Seaway Development Corporation is authorized to construct, in the United States, subject to the direction and supervision of the Secretary of Transportation (49 U.S.C. 1651 note), deepwater navigation works in the International Rapids Section of the St. Lawrence River and to operate and maintain such works in coordination with the St. Lawrence Seaway Authority in Canada (33 U.S.C. 983). The Corporation was created originally by 33 U.S.C. 981 and Executive Order Number 10771, dated June 20, 1958, with supervision, initially, by the Secretary of Commerce.

SUMMARY—SUGGESTED INSTITUTIONAL ARRANGEMENTS

A July 1967 Memorandum from the Task Force on Institutional Arrangements for River Basin Management, to the Water Resources Council, "Alternative Institutional Arrangements for Managing River Basin Operations," summarized the types of institutional arrangements available for the management of river basins. The Memorandum set forth the basic conclusion that the Federal government should not, at least not at this time, take a position favoring a single institutional arrangement for managing river basin operations.

After reviewing existing and potential alternatives, this appendix reaches the same basic conclusion as the Task Force with regard to the Great Lakes: not to recommend at this time any single institutional arrangement as the one best suited to effectuate overall management objectives for the Great Lakes. It may be that more than one of the available alternative institutions should be utilized, perhaps at different times or different places, or that some combination of alternatives should be invoked as the preferred management device or devices for the Great Lakes, but to advocate such conclusions here would go beyond the scope of this appendix. Instead, what is required here is a summary presentation of the institutional alternatives available for consideration. A basic list of these alternatives, excerpted from the Memorandum to the Water Resources Council, cited above, follows:

(1) The Interstate Compact

This is a compact between two or more States to join in conducting one or more operations in which the States that are parties to the compact are jointly interested. An interstate compact to be valid must be consented to by Congress. The Federal Government is not a signatory party to such a compact. In most water resources interstate compacts, however, the Federal Government assists in the development of the compact and in the work of the compact-administering agency, through a Federal representative. There are many such compacts in effect.

(2) The Federal Interstate Compact

This differs substantially from an interstate compact, in at least two significant ways: (a) the Federal Government is a signatory party to the compact; and (b) it subjects the exercise of certain Federal powers in the planning, construction and operation of water resources projects to the compact commission. One such compact, the Delaware River Basin Compact, has been consented to by Congress, and is administered by the Delaware River Basin Commission of which the United States, Delaware, New Jersey, New York, and Pennsylvania are members. In granting consent to the compact, Congress attached reservations to prevent impairment of the future exercise of Federal powers, avoid limitations on Congressional power to pass laws inconsistent with the compact, and provide for certain other matters. The compact became effective in October 1961. A second Federal-Interstate Compact, the Susquehanna River Basin Compact, was consented to by Congress, Act of December 24, 1970, P.L. 91-575, 84 Stat. 1509. Other such compacts are under consideration.

(3) River Basin Commissions (Title II, Water Resources Planning Act)

The River Basin Commission is authorized to prepare and keep up-to-date a comprehensive program for water and related land resources development within the basin; to recommend priorities for data collection, and for investigation, planning, and construction of projects; and to submit to the Water Resources Council with its development program recommendations for implementing the program. It does not, however, have any authority to construct projects or operate them. The Water Resources Planning Act, with its formal establishment of basin planning activity and Title II commissions, is an outgrowth of past experience of Federal agency coordination and joint Federal-State planning committees. The participation by many agencies in joint program planning in itself produces, as a by-product, a great deal of coordination in management and administration. This concept is true of most of the patterns of management herein discussed.

(4) Basin Inter-Agency Committees

A Basin Inter-Agency Committee is not a legal entity created by statute, but a committee established by Federal interagency agreement in which State agencies may agree to participate in the assigned mission. The initial mission has been to coordinate planning; there has been some evolution on an informal and continuing basis for coordination and review of subsequent programs. The Committee itself cannot undertake either the construction of projects or their operation but can seek consensus on investigations and priorities for further attention. Five such Committees are now functioning as Field Committees of the Water Resources Council. . . .

(7) The Federal Regional Agency

The only existing instance is the Tennessee Valley Authority. Although the State and local governments have no legal powers in formulating or execut-

ing TVA policies or programs, TVA seeks and receives the cooperation of State and local governments and nongovernmental agencies as advisors and collaborators.

(8) The Single Federal Administrator

The administration of the Colorado River by the Secretary of the Interior is the only current example of the use of this arrangement. Established originally by a Federal enabling act, this arrangement incorporates provisions of a prior interstate compact.

The Memorandum set forth two additional alternatives: (5) The Regional Federal-State Commissions (e.g., the Appalachian Regional Commission), and (6) The Intra-State Special District (e.g., a water conservation district). It also contained the conclusion that neither was functionally adequate to administer a comprehensive river basin plan. Regional Federal-State Commissions were rejected for two reasons: first, their primary concern is economic growth and employment, not development of the water and related land resources of a river basin; and second, their boundaries are intended to be those of an economic area in which an intensive effort to achieve economic growth is needed rather than the physical boundaries of a river basin or basins. Intra-State Special Districts were rejected because their territorial jurisdiction and governmental powers appear to be much too limited to undertake the operation of a comprehensive plan for an entire river basin or basins.

The Task Force also concluded that alternatives (7) The Federal Regional Agency, and (8) The Single Federal Administrator, are "inter-governmentally unacceptable as a pattern for new institutional arrangements at this time," thereby rejecting both alternatives from present consideration.

The conclusion that a new management institution should not be established in advance of an agreed upon basin plan was supplemented by a separate conclusion setting forth the following guidelines for use in evaluating any proposal for the establishment of such a new institutional arrangement:

(a) Before a new institution is established there should be a demonstrated need to accomplish some functions not now being performed or now being inadequately performed. Normally, existing agencies that are adequate for the tasks should not be duplicated or superseded.

(b) Only those functions for which there is a present or clearly indicated future need for added attention should be assigned to the new institution. Responsibility for functions should not be assigned to an institution so far ahead of need as to foreclose future options.

(c) The geographic area covered by the new institution should be of such size as neither to expand unnecessarily the scope of the institution nor to engender a parochial viewpoint.

(d) The institution should be appropriately responsive to the needs of all interests, Federal, State, local, and nongovernmental.

(e) The institution should be able to consider all reasonable action alternatives, including those for which it does not have direct operating responsibility.

(f) Any recommendation to establish a new institutional arrangement should be accompanied by a justification showing that all reasonable alternative means for attaining the necessary objectives have been explored and evaluated, including combinations of institutional arrangements.

(g) The period of the institution should be long enough for reasonable continuity but should not be of such length as to restrict future changes as needed.

(h) From the Federal viewpoint, consideration should be given to the impact of adopting a particular institution, as a precedent, on national programs and existing institutions.

The foregoing conclusions and alternatives were advanced for river basins within the United States. International waters were not considered by the Task Force. Any management device decided upon for the Great Lakes must consider the international character of the Great Lakes, with the exception of Lake Michigan, and the existing institutions, most notably the International Joint Commission, established by the Boundary Waters Treaty of 1909. One step in that direction was taken with the decision of the Ministers of the United States and Canada to develop a comprehensive Great Lakes Water Quality Agreement by the end of calendar year 1971 (Subsection 3.3.1).

Whatever institutional management device is selected for the Great Lakes, it must be one that is able to deal with the particular and complex substantive problems such as water quality, adequate control of lake levels, commercial navigation, lakefront encroachment, water-based recreation, lake dredging, and the overall need for regulatory controls, in full comprehension of the fact that remedial work in any one problem area may adversely affect some other aspect of the whole.

REFERENCES AND NOTES

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2. 70 U.S. (3 Wall.) 713, 724–25 (1865).
3. 77 U.S. (10 Wall.) 557, 563 (1870).
4. *United States* v. *Rio Grande Dam & Irrig. Co.*, 174 U.S. 690 (1899).
5. 311 U.S. 377 (1940).
6. 313 U.S. 508 (1941).
7. 33 U.S.C. 21 et seq.
8. 363 U.S. 229 (1960).
9. *Ibid.* at 233.
10. 350 U.S. 222 (1956).
11. 229 U.S. 53 (1913).
12. 363 U.S. 229, 231–232 (1960).
13. U.S. Const., Art. IV, Sec. 3, Cl. 2.
14. *United States* v. *City and County of San Francisco*, 310 U.S. 17 (1940).
15. 243 U.S. 389, 404–05 (1917).
16. 207 U.S. 564 (1908).
17. 349 U.S. 435 (1955).
18. 19 Stat. 377.
19. 349 U.S. 435, 442 (1955).
20. 373 U.S. 546 (1963).
21. *Ibid.* at 598.
22. U.S. Const., Art. I, Sec. 8, Cl. 1.
23. 339 U.S. 725 (1950).
24. 32 Stat. 388.
25. 357 U.S. 275 (1958).
26. *Ibid.* at 291.
27. Act of July 7, 1970, P.L. 91–310, 84 Stat. 411.
28. U.S. Const., Art. I, Sec. 8, Cl. 1 and 11.
29. 297 U.S. 288 (1936).
30. 39 Stat. 166, 215.
31. 297 U.S. 288, 327–28 (1936).
32. U.S. Const., Art. II, Sec. 2, Cl. 2.
33. U.S. Const., Art. VI.
34. 174 U.S. 690 (1899).
35. 266 U.S. 405 (1925).
36. U.S. Const., Art. I, Sec. 10, Cl. 3.
37. *Tobin* v. *United States*, 306 F.2d 270 (C.A. D.C.), cert. denied 371 U.S. 902 (1962).
38. *Petty* v. *Tennessee-Missouri Bridge Commission*, 359 U.S. 275 (1959).
39. *Henderson* v. *Delaware River Joint Toll Bridge Commission*, 66 A.2d 843, cert. denied 338 U.S. 850 (1949).
40. *Green* v. *Biddle*, 21 U.S. (8 Wheat.) 1 (1823).
41. *Virginia* v. *West Virginia*, 246 U.S. 565 (1918).
42. 304 U.S. 92 (1938).
43. 341 U.S. 22 (1951).
44. *Ibid.* at 32.
45. *Ibid.* at 31.

Subsections 2.2.1 and 2.2.1.1, Energy

1. 16 U.S.C. 791 et seq.
2. 33 U.S.C. 609.
3. 33 U.S.C. 701 j.
4. 33 U.S.C. 701.
5. 42 U.S.C. 1962 et seq. The Secretaries of Commerce and of Housing and Urban Development, and the Administrator of the Environmental Protection Agency participate as associate members of the Council. The Attorney General, the Director, Office of Management and Budget, the Chairman, Council on Environmental Quality, and the Chairmen, River Basin Commissions, participate as observers.
6. 42 U.S.C. 2011.
7. Formerly 42 U.S.C. 2021(g).
8. Formerly 42 U.S.C. 2021(h).
9. Reorganization Plan No. 3 of 1970—Message from the President, H. Doc. No. 91-364 (July 9, 1970); and Environmental Protection—Message from the President, H. Doc. No. 91-366 (July 9, 1970).
10. *Gibbons* v. *Ogden*, 22 U.S. (9 Wheat.) 1, 189 (1824).
11. *Gilman* v. *Philadelphia*, 70 U.S. (3 Wall.) 713 (1865).
12. *Wilson* v. *Black Bird Creek Marsh Co.*, 27 U.S. (2 Pet.) 245 (1829).
13. *Rochester Gas and Electric Corp.* v. *Federal Power Commission*, 344 F.2d 594; cert. den. 382 U.S. 832 (1965).
14. *Georgia Power Co.* v. *Federal Power Comm.*, 152 F.2d 908 (1946).
15. *United States* v. *Appalachian Electric Power Co.*, 311 U.S. 377, 426 (1940).
16. *First Iowa Hydro-Electric Cooperative* v. *Federal Power Commission*, 328 U.S. 152, reh. den. 328 U.S. 879 (1946).
17. *United States* v. *Chandler-Dunbar Co.*, 229 U.S. 53 (1913).
18. *Udall* v. *Federal Power Commission*, 387 U.S. 428 (1967).
19. *Scenic Hudson Preservation Conference* v. *Federal Power Commission*, 354 F.2d 608, 614 (C.A. 2, 1965).
20. *Scenic Hudson Preservation Conference* v. *Federal Power Commission*, 3 E.R.C. 1232, 1234 (C.A. 2, Nos. 1033–1038, decided October 22, 1971).
21. *Calvert Cliffs Coordinating Committee, Inc.* v. *Atomic Energy Commission*, 449 F.2d 1109 (C.A. D.C., 1971).

Subsections 2.2.2 and 2.2.2.1, Navigation

1. U.S. Const., Art. I, Sec. 8.
2. *Gibbons* v. *Ogden*, 22 U.S. (9 Wheat.) 1 (1824).
3. 33 U.S.C. 1.
4. 33 U.S.C. 3.
5. 49 U.S.C. 1655(b)(1). All functions, powers and duties of the Secretary of Commerce under the Great Lakes Pilotage Act of 1960, as amended (46 U.S.C. 216), were similarly transferred from the Department of Commerce to the Department of Transportation [49 U.S.C. 1655(a)(4)].
6. 33 U.S.C. 241–295.
7. 33 U.S.C. 272.
8. 33 U.S.C. 281–291.
9. 33 U.S.C. 251–262.
10. 33 U.S.C. 271.
11. 33 U.S.C. 243.

12. 33 U.S.C. 474.

13. 14 U.S.C. 81.

14. 14 U.S.C. 83.

15. 49 U.S.C. 1655(b)(1).

16. 14 U.S.C. 85.

17. 14 U.S.C. 84.

18. 33 U.S.C. 403.

19. 49 U.S.C. 1655(g).

20. 33 U.S.C. 499.

21. 33 U.S.C. 401.

22. The Department of the Army retains responsibility for administering those provisions of Section 9, relating to dams and dikes. Causeways are considered to be bridges, and authority therefor was transferred to the Department of Transportation. U.S. Code Congressional and Administrative News, 89th Congress, 2nd Sess., p. 3420 (1966).

23. 33 U.S.C. 491.

24. 33 U.S.C. 495.

25. *Ibid.*

26. 33 U.S.C. 525–539.

27. 33 U.S.C. 502. In comportment with recent Federal legislation and directives, the Coast Guard now considers land use and pollution factors when it reviews bridge permit requests.

28. 33 U.S.C. 511–523.

29. 33 U.S.C. 516.

30. 33 U.S.C. 404.

31. 33 U.S.C. 422.

32. 33 U.S.C. 471. Note that the authority of the Secretary of the Army to designate special anchorage areas (33 U.S.C. 258) wherein vessels not more than 65 feet in length, when at anchor, will not be required to carry or exhibit anchorage lights has also been transferred to the Secretary of Transportation (Coast Guard) 49 U.S.C. 1655(g); 49 C.F.R. 1.46(c).

33. 49 U.S.C. 1655.

34. 33 U.S.C. 472.

35. 33 U.S.C. 409. The prohibition against floating timber is not applicable to navigable waters whereon the use of such timber is the principal method of navigation (33 U.S.C. 410).

36. *Ibid.*

37. 33 U.S.C. 414.

38. 33 U.S.C. 415.

39. 49 U.S.C. 1655(b)(1).

40. 14 U.S.C. 86.

41. 33 U.S.C. 361.

42. 33 U.S.C. 362.

43. 33 U.S.C. 366.

44. 33 U.S.C. 367.

45. 33 U.S.C. 610.

46. 33 U.S.C. 603a.

47. Sec. 116 of Act of December 31, 1970, the River and Harbor Act of 1970, Title I of P.L. 91–611, 84 Stat. 1818.

48. 33 U.S.C. 401 et seq.

49. 33 U.S.C. 403.

50. 33 U.S.C. 407.

51. 33 U.S.C. 406.

52. 33 U.S.C. 411.

53. 33 U.S.C. 407.

54. Executive Order Number 11574, dated December 23, 1970, 35 Fed. Reg. 250.

55. 33 U.S.C. 421 (misdemeanor punishable by a fine not exceeding $1,000).

56. 33 U.S.C. 426–426h.

57. 33 U.S.C. 1151–1175.

58. 33 U.S.C. 419.

59. 33 U.S.C. 426–1.

60. 33 U.S.C. 833a. Note that the Coast and Geodetic Survey, along with all other sub-offices of the Environmental Science Services Administration, was consolidated into the newly created office within the Department of Commerce, the National Oceanic and Atmospheric Administration, on October 2, 1970. Reorganization Plan No. 4 of 1970—Message from the President, H. Doc. No. 91–365 (July 9, 1970); and Environmental Protection—Message from the President, H. Doc. No. 91–366 (July 9, 1970).

61. 33 U.S.C. 833b.

62. 5 Stat. 421, 431. As of December 2, 1970, three sections of the United States Lake Survey—the Engineering Division, the Great Lakes Research Center, and the Great Lakes Regional Data Center—were transferred from the Corps of Engineers, Department of the Army, to the new National Oceanic and Atmospheric Administration of the Department of Commerce. See reference 60, *supra.*

63. 16 U.S.C. 791a et seq.

64. 16 U.S.C. 797.

65. 16 U.S.C. 811.

66. 33 U.S.C. 540.

67. 33 U.S.C. 541.

68. 33 U.S.C. 542.

69. 33 U.S.C. 545a.

70. 33 U.S.C. 545.

71. Acts prior to the River and Harbor Act of 1958 and the Flood Control Act of 1958, Titles I and II of P.L. 85–500.

72. 33 U.S.C. 5.

73. 33 U.S.C. 633.

74. 42 U.S.C. 1962d–5.

75. Sec. 122 of the Act of December 31, 1970, River and Harbor Act of 1970, Title I of P.L. 91–611, 84 Stat. 1818.

76. *Ibid.*

77. 33 U.S.C. 561.

78. 33 U.S.C. 565.

79. 33 U.S.C. 577.

80. 33 U.S.C. 621.

81. 33 U.S.C. 622.

82. 33 U.S.C. 624.

83. 27 Stat. 88, 111.

84. 83 Stat. 47.

85. Sec. 107(a) of the Act of December 31, 1970, the River and Harbor Act of 1970, Title I of P.L. 91–611, 84 Stat. 1818.

86. *Ibid.* at 107(b).

87. *Ibid.* at 107(c).

88. 33 U.S.C. 591. See also 33 U.S.C. 592 and 593.

89. *Ibid.*

90. 33 U.S.C. 578.

91. Sec. 111 of Act of December 31, 1970, the River and Harbor Act of 1970, 33 U.S.C. 595a.

92. 33 U.S.C. 709.

93. 33 U.S.C. 1165a.

94. *Ibid.* at 1165a(b).

95. *Ibid.* at 1165a(c).

96. *Ibid.* at 1165a(f).

97. *Ibid.* at 1165a(c).

98. *Ibid.* at 1165a(d).

99. *Ibid.* at 1165a(c).

100. *Ibid.* at 1165a(f).

101. *Ibid.* at 1165a(g).

102. *Ibid.* at 1165a(e).

103. *Ibid.* at 1165a(i).

104. 16 U.S.C. 460d. For the purpose of determining Federal and non-Federal cost sharing relating to proposed construction of small-boat navigation projects, the Chief of Engineers shall consider charter fishing craft as commercial vessels (33 U.S.C. 577a).

105. 16 U.S.C. 460L–12. See also Subsection 2.2.8, Fish and Wildlife. The 1970 amendments to the Federal Water Pollution Control Act provide that in the selection of watersheds to carry out projects demonstrating methods for the elimination or control of acid or other mine water pollution, preference is to be given to areas which have the greatest present or potential value for public use for recreation, fish and wildlife, water supply, and other public uses. [33 U.S.C. 1164(b)(2).]

106. 16 U.S.C. 460L–15.

107. 33 U.S.C. 408.

108. 33 U.S.C. 551.

109. 33 U.S.C. 5.

110. 33 U.S.C. 6.

111. 33 U.S.C. 500.

112. 42 U.S.C. 4321 et seq.

113. *Ibid.* at 4332(A), (B), (D), (E), (F), (G), (H).

114. *Ibid.* at 4333.

115. *Ibid.* at 4332(C).

116. 42 U.S.C. 1962–2.

117. 33 U.S.C. 983(a).

118. 33 U.S.C. 981.

119. 36 Stat. 2448.

120. 36 Stat. 2449–2450.

121. 36 Stat. 2451.

122. *United States* v. *Standard Oil Co.*, 384 U.S. 244 (1966).

123. 33 U.S.C. 407.

124. *Ibid.*

125. *United States* v. *Republic Steel Corp.*, 362 U.S. 482 (1960).

126. *Ibid.*

127. 33 U.S.C. 403.

128. *United States* v. *Perma Paving Co.*, 332 F.2d 754 (1964).

129. *United States* v. *Rio Grande Irrigation Co.*, 174 U.S. 690, 708 (1899). The Act of 1890 was superseded in part by the 1899 Act (33 U.S.C. 403).

130. *Wyandotte Transportation Co.* v. *United States*, 389 U.S. 191 (1967). See also *Sanitary District of Chicago* v. *United States*, 266 U.S. 405, 425 (1925).

131. 33 U.S.C. 409.

132. 43 U.S.C. 1311(a)(b).

133. 42 U.S.C. 4321 et seq.

134. 16 U.S.C. 661–666.

135. 430 F.2d 199 (C.A. 5, 1970), cert. den., 401 U.S. 910 (1971).

136. *Kalur* v. *Resor*, 3 E.R.C. 1458 (D. D.C., decided December 22, 1971). See reference 48 under Subsection 2.2.14, Planning, for decision concerning NEPA and Corps construction activities.

137. United States Const., Art. 1, Sec. 8.

138. *Gibbons* v. *Ogden*, 22 U.S. (9 Wheat.) 1 (1824).

139. *United States* v. *Chicago, M., St. P. & P.R. Co.*, 312 U.S. 592 (1941).

140. *Union Bridge Co.* v. *United States*, 204 U.S. 364 (1907).

141. 242 U.S. 409.

142. 204 U.S. 364.

143. 242 U.S. 409.

144. For a development of Federal law under Commerce Power, see Subsection 2.1.1.

145. *The Daniel Ball*, 77 U.S. (10 Wall.) 557 (1870).

146. *Ibid.* at 563.

147. *United States* v. *Appalachian Electric Power Co.*, 311 U.S. 377 (1940).

148. *Oklahoma* v. *Guy F. Atkinson Co.*, 313 U.S. 508 (1941).

Subsections 2.2.3 and 2.2.3.1, Flood Prevention and Control

1. 33 U.S.C. 701 et seq. See also 42 U.S.C. 1962d–5; and see, for example, recent authorization and direction for surveys for flood control and allied purposes in drainage areas of the United States and its territorial possessions, Sec. 217 of the Act of December 31, 1970, the Flood Control Act of 1970, Title II of P.L. 91–611, 84 Stat. 1818.

2. 33 U.S.C. 701.

3. 33 U.S.C. 701c.

4. 42 U.S.C. 1962d–5b.

5. 33 U.S.C. 701n.

6. 33 U.S.C. 701t.

7. 33 U.S.C. 701s (not to exceed $25 million for any one fiscal year, and not more than $1 million for a project at any single locality).

8. 33 U.S.C. 701r (not to exceed $1 million for any one fiscal year, and not more than $50,000 for this purpose at any single locality).

9. 30 F.R. 8819, 79 Stat. 1318. The Environmental Science Services Administration, including the Weather Bureau and the Coast and Geodetic Survey, formerly charged with these responsibilities, was made a part of the National Oceanic and Atmospheric Administration within the Department of Commerce on October 2, 1970, by Reorganization Plan No. 4 of 1970—Message from the President, H. Doc. No. 91–365 (July 9, 1970); and Environmental Protection—Message from the President, H. Doc. No. 91–366 (July 9, 1970).

10. 33 U.S.C. 706.

11. 33 U.S.C. 709a.

12. 33 U.S.C. 709. See also 89th Congress, 2nd Session, House Document No. 465.

13. 33 U.S.C. 610.

14. 33 U.S.C. 701g.

15. 16 U.S.C. 1001 et seq.

16. 16 U.S.C. 590a.

17. Executive Order Number 11296, dated August 10, 1966, 31 F.R. 10663.

18. 42 U.S.C. 4321 et seq.

19. 33 U.S.C. 1171(a).

20. *Ibid.*

21. Executive Order Number 10427, dated January 16, 1953, 18 F.R. 407, as amended.

22. 42 U.S.C. 1555 et seq.

23. 15 U.S.C. 631 et seq.

24. 42 U.S.C. 4001 et seq.

25. *Oklahoma ex rel. Phillips* v. *Guy F. Atkinson Co.*, 313 U.S. 508 (1941).

26. *Ibid.*

27. *United States* v. *Darby*, 312 U.S. 100, 124 (1941).

28. *Wayne County, Ky.* v. *United States*, 252 U.S. 574 (1919).

29. 430 F.2d 199 (C.A. 5, 1970), cert. den., 401 U.S. 910 (1971).

Subsection 2.2.4, Beach and Shore Erosion

1. 33 U.S.C. 426e.
2. 42 U.S.C. 4321 et seq.
3. Executive Order Number 11514, dated March 5, 1970.
4. Executive Order Number 11507, dated February 4, 1970.
5. 33 U.S.C. 466 et seq.
6. 33 U.S.C. 1171(a).
7. *Ibid.*
8. 33 U.S.C. 426e, except in the case of small projects authorized by a blanket provision. See 42 U.S.C. 1962d-5 or 33 U.S.C. 426g.
9. 33 U.S.C. 426g.
10. 33 U.S.C. 426.
11. 33 U.S.C. 426-2.
12. Sec. 106 of P.L. 90-483 (1968).
13. 33 U.S.C. 426i.
14. 33 U.S.C. 709a.
15. 16 U.S.C. 590a, et seq. See also 7 U.S.C. 1010-1013.
16. 42 U.S.C. 1855, et seq.
17. *Ibid.*
18. 33 U.S.C. 701n.

Subsections 2.2.5 and 2.2.5.1, Water Pollution

1. 33 U.S.C. 407.
2. Misdemeanor, punishable by a fine not exceeding $2,500 nor less than $500, or imprisonment for not less than 30 days nor more than one year, or both fine and imprisonment.
3. 33 U.S.C. 403.
4. Office of the Chief of Engineers, Department of the Army, Civil Regulatory Functions, ER 1145-2-303, section 4d.
5. 33 U.S.C. 421 (misdemeanor punishable by a fine not exceeding $1,000).
6. 62 Stat. 1155 (1948), as amended.
7. The President's Reorganization Plan No. 2 of 1966, 31 F.R. 6857, 80 Stat. 1608.
8. 33 U.S.C. 1151-1175.
9. The President's Reorganization Plan No. 3 of 1970—Message from the President, H. Doc. No. 91-364 (July 9, 1970), and Environmental Protection—Message from the President, H. Doc. No. 91-366 (July 9, 1970).
10. 33 U.S.C. 1151(a).
11. 33 U.S.C. 1151(b).
12. 33 U.S.C. 1163.
13. 33 U.S.C. 1161.
14. 33 U.S.C. 1162.
15. 33 U.S.C. 1164.
16. 33 U.S.C. 1165.
17. P.L. 91-224, 84 Stat. 91 (April 3, 1970).
18. 33 U.S.C. 431-437.
19. 80 Stat. 1246 (1966).
20. 33 U.S.C. 1161(b)(2). Note, however, that in waters of the contiguous zone, only those discharges of oil "which threaten the fishery resources of the contiguous zone or threaten to pollute or contribute to the pollution of the territory or the territorial sea of the United States" are subject to regulation [33 U.S.C. 1161(b)(3)].
21. 12 U.S.T. 2989.
22. 33 U.S.C. 1161(b)(3).

23. The Coast Guard has been designated the "appropriate agency" by Executive Order Number 11548, dated July 22, 1970. The Coast Guard accordingly issued regulations implementing the statute which set forth how notification is to be given so as to trigger the enforcement action. Sec. 153.105, Procedure for Notice of the Discharge of Oil, United States Coast Guard Regulations (issued November 21, 1970).

24. 33 U.S.C. 1161(b)(4).

25. 33 U.S.C. 1161(f)(1).

26. 33 U.S.C. 431–437.

27. 33 U.S.C. 1161(b)(5).

28. *Ibid.*

29. 33 U.S.C. 1161(i).

30. *Ibid.* Cf. Act of September 13, 1960, 74 Stat. 912, and Senate Report No. 1894, 86th Cong., 2d Sess., p. 2.

31. 33 U.S.C. 1161(e).

32. 33 U.S.C. 1162(a). On June 1, 1970, the President announced a National Oil and Hazardous Materials Pollution Contingency Plan in implementation of 33 U.S.C. 1161(c) and 1162(a), which plan provides for a coordinated Federal effort to minimize damage from discharges of oil and hazardous substances; sets forth the duties and actions of the primary Federal agencies involved; and establishes national and regional offices to effectuate the National Plan. 35 Fed. Reg. 8508 (June 1, 1970).

33. 33 U.S.C. 1162(d).

34. 33 U.S.C. 1162(g). The President sent a proposal to the Congress for amendatory water pollution control legislation that would incorporate national effluent standards on hazardous materials; would require that the States or EPA establish water quality standards for all intrastate as well as interstate waters; and would give EPA enforcement power for these standards. S. 1014, H.R. 5966, 92nd Cong., 1st Sess. (1971).

35. 33 U.S.C. 1161(m).

36. 33 U.S.C. 1161(d).

37. 33 U.S.C. 1161(p)(1).

38. *Ibid.*

39. 33 U.S.C. 1161(p)(4).

40. 33 U.S.C. 1161(o)(2).

41. 33 U.S.C. 1163(b)(1).

42. 33 U.S.C. 1163(h)(1) and (4).

43. 33 U.S.C. 1163(g)(1).

44. 33 U.S.C. 1163(j).

45. 33 U.S.C. 1163(l).

46. 33 U.S.C. 1158.

47. 33 U.S.C. 1158(b).

48. *Ibid.*

49. *Ibid.*

50. 33 U.S.C. 1158(f).

51. 33 U.S.C. 1158(c).

52. 33 U.S.C. 1153(c)(1).

53. H.R. Rep. No. 2289, p. 13, 89th Cong., 2d Sess. (1966).

54. 33 U.S.C. 1156(a) and (b).

55. 33 U.S.C. 1156(c) and (d).

56. 33 U.S.C. 1155(b).

57. 33 U.S.C. 1157.

58. 33 U.S.C. 1158(a).

59. 33 U.S.C. 1158(b).

60. 33 U.S.C. 1153.

61. 33 U.S.C. 1154(a).

62. 33 U.S.C. 1155.

63. 33 U.S.C. 1175.

64. 33 U.S.C. 1164.

65. 33 U.S.C. 1164(c).

66. 33 U.S.C. 1165.

67. 33 U.S.C. 1165(b).

68. 33 U.S.C. 1166.

69. 33 U.S.C. 1167(1).

70. 33 U.S.C. 1167(2).

71. 33 U.S.C. 1167(3)(A).

72. 33 U.S.C. 1167(3)(B).

73. 33 U.S.C. 1168.

74. 33 U.S.C. 1168(3)(D) and (5).

75. 33 U.S.C. 1168(3).

76. 33 U.S.C. 1168(4)(A) and (B).

77. 33 U.S.C. 1171(a).

78. *Ibid.* See also 33 U.S.C. 1160(a) for definition of pollution of interstate or navigable waters that is subject to abatement.

79. 33 U.S.C. 1171(b)(1). The 1970 Act also amends Federal law with respect to the establishment of water quality standards. Now, use and value for navigation must be taken into consideration, the same as specific purposes previously listed, by the Administrator, the Hearing Board, or the appropriate State Agency in establishing such standards. [33 U.S.C. 1160(c)(3).]

80. 33 U.S.C. 1160(c).

81. 33 U.S.C. 1171(b)(1).

82. *Ibid.*

83. 33 U.S.C. 1171(b)(2).

84. *Ibid.*

85. 33 U.S.C. 1171(b)(3).

86. 33 U.S.C. 1171(b)(4).

87. 33 U.S.C. 1171(b)(5).

88. 33 U.S.C. 1171(b)(6).

89. 33 U.S.C. 1171(b)(7).

90. *Ibid.*

91. 33 U.S.C. 1171(b)(8).

92. 33 U.S.C. 1171(b)(9)(A).

93. 33 U.S.C. 1171(b)(9)(B).

94. 33 U.S.C. 1171(c).

95. 33 U.S.C. 1171(d).

96. 33 U.S.C. 1172(f)(1).

97. 33 U.S.C. 1172(f)(2).

98. 33 U.S.C. 1172(f)(3).

99. 33 U.S.C. 1155(g)(1).

100. 33 U.S.C. 1155(g)(2).

101. 31 U.S.C. 529 and 41 U.S.C. 5, respectively.

102. 33 U.S.C. 1155(g)(3).

103. 33 U.S.C. 1155(g)(4).

104. 33 U.S.C. 1155(h).

105. 33 U.S.C. 1155(i).

106. 33 U.S.C. 1155(j).

107. 33 U.S.C. 1155(k).

108. 33 U.S.C. 1155(L)(1).

109. 33 U.S.C. 1155(L)(2).

110. Sec. 109 of P.L. 91-224, 84 Stat. 91 (1970), 33 U.S.C. 1151 note.

111. 33 U.S.C. 1158(c).

112. 33 U.S.C. 1160(c) vs. 33 U.S.C. 1160(a).

113. 33 U.S.C. 1173(e).

114. 33 U.S.C. 1160(b) and (c)(1), (2), and (3).

115. 33 U.S.C. 1160(c)(1), (2), and (3).

116. 33 U.S.C. 1160(c)(4) and (5).

117. 33 U.S.C. 1160(c)(5).

118. 33 U.S.C. 1160(c)(1) and (2).

119. 33 U.S.C. 1160(c)(5).

120. 33 U.S.C. 1160(g)(2).

121. 33 U.S.C. 1160(g)(2).

122. Act of June 30, 1948, 62 Stat. 1155.

123. 33 U.S.C. 1160(d) and (e).

124. 33 U.S.C. 1160(f) and (i).

125. 33 U.S.C. 1160(g) and (h).

126. 33 U.S.C. 1160(d)(1).

127. *Ibid.*

128. *Ibid.*

129. 33 U.S.C. 1160(d)(2).

130. 33 U.S.C. 1160(d)(1).

131. 33 U.S.C. 1160(f).

132. 33 U.S.C. 1160(g).

133. 1160(h).

134. See Sec. 1(e) of the President's Reorganization Plan No. 2 of 1966 for description of functions retained originally by Secretary of Health, Education and Welfare, now transferred to the Administrator of the EPA. See reference 9, *supra.*

135. 42 U.S.C. 4321 et seq.

136. Executive Order Number 11514, dated March 5, 1970.

137. Executive Order Number 11507, dated February 4, 1970.

138. 42 U.S.C. 1962–1962d–11.

139. *United States* v. *Standard Oil Co.*, 384 U.S. 244 (1966).

140. 33 U.S.C. 407.

141. *Ibid.*

142. *United States* v. *Republic Steel Corporation*, 362 U.S. 482 (1960).

143. *Ibid.*

144. 33 U.S.C. 403.

145. *United States* v. *Perma Paving Co.*, 332 F.2d 754 (1964).

146. 28 U.S.C. 1251(a)(1); United States Const. Art. III, Sec. 2.

147. *Sanitary District of Chicago* v. *United States*, 266 U.S. 405 (1925) (not original jurisdiction).

148. *Wisconsin* v. *Illinois*, 278 U.S. 367; 281 U.S. 179; 289 U.S. 395; 355 U.S. 909; 388 U.S. 426 (1967).

149. *Missouri* v. *Illinois*, 180 U.S. 208; 200 U.S. 406 (1906).

150. 200 U.S. 496, 520–521 (1906).

151. 200 U.S. 496, 522–525 (1906).

152. 200 U.S. 496, 525–526 (1906).

153. *New York* v. *New Jersey*, 256 U.S. 296 (1921).

154. *New Jersey* v. *City of New York*, 283 U.S. 473 (1931).

155. *New Jersey* v. *City of New York*, 290 U.S. 237 (1933).

156. *New Jersey* v. *City of New York*, 296 U.S. 259 (1935).

157. *Ohio* v. *Wyandotte Chemical Corp.*, 401 U.S. 493 (1971).

158. *Ibid.* at 504.

Subsections 2.2.6 and 2.2.6.1, Water Supply

1. 43 U.S.C. 390b(a).
2. *Ibid.*
3. 43 U.S.C. 390b(b). This Act is not to be construed to modify 33 U.S.C. 701h, which follows. 43 U.S.C. 390b(c).
4. 33 U.S.C. 701h. The provisions of 43 U.S.C. 390b are not to be construed to modify this Act. 43 U.S.C. 390b(c).
5. 33 U.S.C. 708.
6. 42 U.S.C. 1962–1962d–11.
7. 5 Stat. 431.
8. The President's Reorganization Plan No. 4 of 1970—Message from the President, H. Doc. No. 91–365; and Environmental Protection—Message from the President, H. Doc. No. 91–366 (July 9, 1970).
9. 16 U.S.C. 552a.
10. 16 U.S.C. 552.
11. 42 U.S.C. 1951.
12. *Ibid.*
13. 42 U.S.C. 1952(a).
14. 42 U.S.C. 1952(b).
15. 42 U.S.C. 1952(c).
16. 42 U.S.C. 1952(d).
17. 42 U.S.C. 1952(e).
18. 42 U.S.C. 1953.
19. 42 U.S.C. 1954.
20. Categories of investigations, experiments and tests authorized are set forth at 16 U.S.C. 581b–581i.
21. 16 U.S.C. 581.
22. *Ibid.*
23. *Ibid.*
24. 16 U.S.C. 581a.
25. 16 U.S.C. 581i–1.
26. 16 U.S.C. 582a–3.
27. 16 U.S.C. 582a–6 sets forth a broad range of authorized research activities for which matching funds may be made available.
28. 7 U.S.C. 450i.
29. 7 U.S.C. 2250a. The Department of Agriculture reports that it sometimes pays a nominal fee for the lease of such lands.
30. 16 U.S.C. 582a–3. The Department of Agriculture reports that it does not utilize this authority but uses, instead, an identical statute that grants authority for intra-departmental accounting adjustments to all Federal Executive departments and independent establishments. 31 U.S.C. 628a.
31. 16 U.S.C. 1133(d)(4).
32. 42 U.S.C. 2011.
33. 42 U.S.C. 2011 et seq.
34. President's Reorganization Plan No. 3 of 1970—Message from the President, H. Doc. No. 91–364; and Environmental Protection—Message from the President, H. Doc. No. 91–366 (July 9, 1970).
35. P. L. 89–648, 80 Stat. 895, Oct. 13, 1966.
36. P. L. 90–18, 81 Stat. 16, May 19, 1967.
37. The President's Reorganization Plan No. 4 of 1970. See reference 8, *supra.*
38. 15 U.S.C. 313.
39. 14 U.S.C. 313 note.
40. 33 U.S.C. 706.
41. *Ibid.*
42. 42 U.S.C. 1861 et seq.

43. 42 U.S.C. 3301 et seq.

44. 42 U.S.C. 3338(1).

45. 42 U.S.C. 3102.

46. 33 U.S.C. 466j.

47. 42 U.S.C. 3102(b).

48. 42 U.S.C. 3131 et seq.

49. The Bureau of Solid Waste Management, the Bureau of Water Hygiene, part of the Bureau of Radiological Health and pesticide research and standards sections of the Food and Drug Administration, were transferred from HEW to the EPA effective December 2, 1970. See reference 34, *supra*.

50. 42 U.S.C. 3136.

51. 7 U.S.C. 1926.

52. 42 U.S.C. 1532.

53. 42 U.S.C. 1531.

54. 7 U.S.C. 1838.

55. 16 U.S.C. 552.

56. 16 U.S.C. 552a.

57. 43 U.S.C. 952.

58. 43 U.S.C. 951.

59. 16 U.S.C. 791 et seq.

60 16 U.S.C. 803(a).

61. 16 U.S.C. 821.

62. 16 U.S.C. 665. See also 16 U.S.C. 757f.

63. 42 U.S.C. 3271 et seq.

64. 42 U.S.C. 1961.

65. 42 U.S.C. 1961a.

66. 42 U.S.C. 1961b.

67. 42 U.S.C. 1961c–4.

68. 42 U.S.C. 1961a–4.

69. 31 F.R. 8855, June 25, 1966, and 42 U.S.C. 241.

70. The President's Reorganization Plan No. 3 of 1970. See reference 34, *supra*.

71. Executive Order Number 11001, dated February 16, 1962.

72. 42 U.S.C. 3251.

73. 42 U.S.C. 3253.

74. The President's Reorganization Plan No. 3 of 1970. See reference 34, *supra*.

75. 25 U.S.C. 13.

76. Executive Order Number 11514, dated March 5, 1970.

77. Executive Order Number 11507, dated February 4, 1970.

78. 42 U.S.C. 4321 et seq.

79. 33 U.S.C. 466 et seq.

80. 259 U.S. 419.

81. *State of Kansas* v. *Colorado*, 206 U.S. 46, 85 (1907).

82. *Colorado* v. *Kansas*, 320 U.S. 383 (1943).

83. United States Const., Art. I, Sec. 1.

84. 304 U.S. 92 (1938).

85. 359 U.S. 275 (1959).

86. The effect of this amendment is a clear limitation on the authority of the Federal courts to entertain suits by private citizens against a State without express consent. See *Hamilton Mfg. Co.* v. *Trustees of State Colleges in Colo.*, 356 F.2d 599 (1966).

87. See Justice Frankfurter's dissent in *Petty* v. *Tennessee-Missouri Bridge Commission*, 359 U.S. 275, 283 (1959).

88. 28 U.S.C. 1251(a)(1). United States Const., Art. III, Sec. 2.

89. *Kansas* v. *Colorado*, 206 U.S. 46 (1907).

90. *Ibid.*

91. 282 U.S. 660 (1931).
92. 282 U.S. 660, 670 (1931).
93. 283 U.S. 336 (1931).
94. 373 U.S. 546, 560, 562 (1963).
95. *Ibid.*
96. 43 U.S.C. 617–617t.

Subsections 2.2.7 and 2.2.7.1, Recreation

1. 16 U.S.C. 460L–460L–3. Two such outdoor recreation sites recently authorized to be established in Great Lakes Basin States are the Pictured Rocks National Lakeshore in Michigan (16 U.S.C. 460s), and the Indiana Dunes National Lakeshore in Indiana (16 U.S.C. 460u).
2. 16 U.S.C. 460L–4.
3. 16 U.S.C. 460L–12 et seq.
4. 16 U.S.C. 460L–4.
5. 16 U.S.C. 460L–5.
6. 16 U.S.C. 460L–7.
7. 16. U.S.C. 460L–8.
8. *Ibid.*
9. *Ibid.*
10. See reference 3, *supra.*
11. 16 U.S.C. 460L–13.
12. 16 U.S.C. 460L–14.
13. 16 U.S.C. 460L–15.
14. 16 U.S.C. 460L–18.
15. 16 U.S.C. 1271–1287.
16. 16 U.S.C. 1272.
17. 16 U.S.C. 1271, 1272.
18. 16 U.S.C. 1273(a).
19. 16 U.S.C. 1273(b)(1).
20. 16 U.S.C. 1273(b)(2).
21. 16 U.S.C. 1273(b)(3).
22. 16 U.S.C. 1275(a). See also 16 U.S.C. 1276(a) for list of rivers designated by Congress for potential addition to the national wild and scenic rivers system.
23. 16 US.C. 1275(b).
24. 16 U.S.C. 1276(c).
25. 16 U.S.C. 1276(b).
26. 16 U.S.C. 1275(c).
27. 16 U.S.C. 1277(a).
28. 16 U.S.C. 1277(b).
29. 16 U.S.C. 1277(c).
30. 16 U.S.C. 1278(a).
31. 16 U.S.C. 1281(a).
32. 16 U.S.C. 1281(b).
33. 16 U.S.C. 1281(c).
34. 16 U.S.C. 1282(a) and (b).
35. 16 U.S.C. 1283.
36. 16 U.S.C. 1241.
37. 16 U.S.C. 1243.
38. 16 U.S.C. 1244(a).
39. 16 U.S.C. 1244(b).
40. 16 U.S.C. 1244(c)(6).
41. 16 U.S.C. 1244(c)(7).
42. 16 U.S.C. 1244(c)(2).
43. 16 U.S.C. 1245.
44. 16 U.S.C. 475.
45. 16 U.S.C. 528.

46. 16 U.S.C. 526.

47. The legal description of public lands so designated is given in 16 U.S.C. 577 and 577d.

48. 16 U.S.C. 577b.

49. 16 U.S.C. 1 et seq.

50. 43 U.S.C. 869 (Bureau of Land Management).

51. 16 U.S.C. 461.

52. 16 U.S.C. 470 et seq.

53. 16 U.S.C. 803(a).

54. 16 U.S.C. 17(k). Executive Order Number 11278, as amended, established the Council and Committee on Recreation and Beauty, both of which were terminated by Executive Order Number 11472, dated May 29, 1969.

55. 16 U.S.C. 699 et seq. and 16 U.S.C. 777 et seq. Note that the marine sports fishing program of the Bureau of Sport Fisheries and Wildlife was transferred on October 2, 1970, to the National Oceanic and Atmospheric Administration, in the Department of Commerce. The President's Reorganization Plan No. 4 of 1970, H. Doc. No. 91-365; and Environmental Protection—Message from the President, H. Doc. No. 91-366 (July 9, 1970). Elements of the Bureau of Commercial Fisheries were similarly transferred from the Department of the Interior to NOAA on the same date.

56. 16 U.S.C. 668aa.

57. 50 App. U.S.C. 1622(h)(1).

58. 16 U.S.C. 528 (Forest Service, Department of Agriculture).

59. 16 U.S.C. 1001.

60. 16 U.S.C. 1131 et seq.

61. 16 U.S.C. 1131(c).

62. 7 U.S.C. 1010, 1011 (Farmers Home Administration).

63. 7 U.S.C. 1838 (Agriculture Stabilization and Conservation Service).

64. 16 U.S.C. 460d.

65. 16 U.S.C. 460d.

66. 42 U.S.C. 1962–1962d-3.

67. 33 U.S.C. 1151–1175. See also the President's Reorganization Plan No. 3 of 1970, for transfer of water pollution control program to the Environmental Protection Agency.

68. 33 U.S.C. 1164(b).

69. 33 U.S.C. 1171(a).

70. *Ibid.*

71. 42 U.S.C. 4321 et seq.

72. Executive Order Number 11514, dated March 5, 1970.

73. Executive Order Number 11507, dated February 4, 1970.

74. 49 U.S.C. 1651 et seq.

75. 42 U.S.C. 1441 et seq.; 42 U.S.C. 1450 et seq. (Housing and Urban Development).

76. 42 U.S.C. 3531, 3532.

77. 40 U.S.C. 461 (Housing and Urban Development).

78. 40 U.S.C. 1500 et seq. (Housing and Urban Development).

79. 42 U.S.C. 3301 et seq. (Housing and Urban Development).

80. *Udall* v. *Federal Power Commission*, 387 U.S. 428 (1967).

81. *Scenic Hudson Preservation Conference* v. *Federal Power Commission*, 354 F.2d 608, 614 (C.A. 2, 1965).

82. *Calvert Cliffs' Coordinating Committee, Inc.* v. *Atomic Energy Commission*, No. 24, 389 (C.A. D.C. decided July 23, 1971).

Subsections 2.2.8 and 2.2.8.1, Fish and Wildlife

1. 16 U.S.C. 742a.
2. *Ibid.*
3. See the President's Reorganization Plan No. 4 of 1970, H. Doc. No. 91–365; and Environmental Protection—Message from the President, H. Doc. No. 91–366 (July 9, 1970).
4. The President's Reorganization Plan No. 3 of 1970, H. Doc. No. 91–364.
5. 16 U.S.C. 742b.
6. The President's Reorganization Plan No. 4 of 1970, reference 3, *supra.*
7. 16 U.S.C. 742a.
8. *Ibid.*
9. *Ibid.*
10. 16 U.S.C. 742d–1.
11. 16 U.S.C. 742f.
12. 16 U.S.C. 742c.
13. 16 U.S.C. 742g.
14. 16 U.S.C. 749.
15. 16 U.S.C. 742e.
16. The President's Reorganization Plan No. 4 of 1970, reference 3, *supra.* See also Environmental Protection—Message from the President, reference 3, *supra,* for description of functions of the Bureau of Commercial Fisheries not transferred to NOAA.
17. 16 U.S.C. 742a.
18. 16 U.S.C. 742f(4) and (5).
19. 16 U.S.C. 661.
20. 16 U.S.C. 661.
21. *Ibid.*
22. 16 U.S.C. 662(a).
23. 16 U.S.C. 662(b).
24. 16 U.S.C. 662(d).
25. 16 U.S.C. 663(a).
26. 16 U.S.C. 664.
27. 16 U.S.C. 777.
28. 16 U.S.C. 668aa–dd.
29. 16 U.S.C. 744.
30. 16 U.S.C. 669b.
31. 16 U.S.C. 669–669i.
32. 16 U.S.C. 757a–757g.
33. 16 U.S.C. 757a.
34. 16 U.S.C. 757b.
35. *Ibid.*
36. 16 U.S.C. 757a(a).
37. 16 U.S.C. 757a(b).
38. 16 U.S.C. 757a(a).
39. 16 U.S.C. 757a(c).
40. 16 U.S.C. 757f.
41. 16 U.S.C. 757d(a).
42. 16 U.S.C. 757d(a), as amended.
43. 16 U.S.C. 757d(b).
44. 16 U.S.C. 715 et seq.
45. 16 U.S.C. 921.
46. 16 U.S.C. 936.
47. 16 U.S.C. 744.
48. 16 U.S.C. 1.
49. 36 C.F.R. 2.32.
50. 33 U.S.C. 1153(a). See also the President's

Reorganization Plan No. 3 of 1970, reference 4, *supra*, transferring air and water pollution control responsibilities to a new Federal agency, the Environmental Protection Agency.

51. 33 U.S.C. 1164(b).
52. 33 U.S.C. 1151(m).
53. *Ibid.* See also 42 U.S.C. 1900.
54. 16 U.S.C. 757a.
55. 16 U.S.C. 760e.
56. *Ibid.*
57. 33 U.S.C. 1151–1175.
58. 33 U.S.C. 1151–1160.
59. 33 U.S.C. 1163.
60. 33 U.S.C. 1161.
61. 33 U.S.C. 1162.
62. 33 U.S.C. 1164.
63. 33 U.S.C. 1165.
64. 33 U.S.C. 1153, 1155–1158, and 1164–1168.
65. 33 U.S.C. 1161(b).
66. 16 U.S.C. 670a–670c.
67. 33 U.S.C. 608.
68. 33 U.S.C. 540.
69. 16 U.S.C. 460d.
70. 16 U.S.C. 811.
71. 7 U.S.C. 1838.
72. 16 U.S.C. 460L–12–460L–21.
73. 42 U.S.C. 1962–1962d–3.
74. 16 U.S.C. 1001–1009.
75. 42 U.S.C. 1961.
76. 16 U.S.C. 460L–4–460L–11.
77. 16 U.S.C. 715k–3.
78. 33 U.S.C. 1121.
79. The President's Reorganization Plan No. 4 of 1970.
80. 16 U.S.C. 931 et seq.
81. 16 U.S.C. 715 et seq.
82. 16 U.S.C. 718d(c).
83. 80 Stat. 926.
84. 42 U.S.C. 4321 et seq.
85. 430 F.2d 199 (C.A. 5, 1970), cert. den., 401 U.S. 910 (1971).
86. *New Mexico State Game Com.* v. *Udall*, 410 F.2d 1197 (C.A. 10, 1969), cert. den., 396 U.S. 961.
87. *Udall* v. *Federal Power Commission*, 387 U.S. 428 (1967).
88. *Calvert Cliffs' Coordinating Committee, Inc.* v. *Atomic Energy Commission*, 449 F.2d 1109 (C.A. D.C. 1971).

Subsections 2.2.9 and 2.2.9.1. Mineral Resources

1. 43 U.S.C. 1301 et seq.
2. 43 U.S.C. 1312.
3. 30 U.S.C. 461 et seq. (Bureau of Mines).
4. 43 U.S.C. 31 et seq.
5. 30 U.S.C. 1 et seq.
6. The President's Reorganization Plan No. 4 of 1970, H. Doc. No. 91–365, and Environmental Protection—Message from the President, H. Doc. No. 91–366 (July 9, 1970).
7. 43 U.S.C. 2 (Bureau of Land Management).

8. 30 U.S.C. 21 et seq.
9. 42 U.S.C. 1951, 1952d.
10. 42 U.S.C. 1861 et seq.
11. 42 U.S.C. 1876 et seq.
12. 33 U.S.C. 1121 et seq.
13. The President's Reorganization Plan No. 4 of 1970. See reference 6, *supra.*
14. 33 U.S.C. 1121 et seq.
15. 33 U.S.C. 1164.
16. *Ibid.* at 1164(c).
17. 42 U.S.C. 4321 et seq.
18. *Ibid.* at 4332 (A), (B), (D), (E), (F), (G), (H).
19. *Ibid.* at 4333.
20. *Ibid.* at 4332(C).
21. 33 U.S.C. 1171(a).
22. *Ibid.*
23. *State of Alabama* v. *State of Texas*, 347 U.S. 272, (1954).
24. *Pollard* v. *Hagan*, 44 U.S. 219 (1845); *Shively* v. *Bowlby*, 152 U.S. 1 (1894).
25. *United States* v. *Alaska*, 423 F.2d 764 (C.A. 9, 1970).
26. *Borax Consolidated* v. *Los Angeles*, 296 U.S. 10 (1935).
27. *Borough of Ford City* v. *United States*, 345 F.2d 645 (C.A. 3, 1965), cert. den., 382 U.S. 902.
28. 43 U.S.C. 1314.
29. 33 U.S.C. 403.
30. *Zabel* v. *Tabb*, 430 F.2d 199 (C.A. 5, 1970), cert. den., 401 U.S. 910.

Subsections 2.2.10 and 2.2.10.1, Lake Levels and Flows

1. United States Const., Art. II, Sec. 2, Cl. 2.
2. United States Const., Art. VI, Cl. 2.
3. 36 Stat. 2448.
4. Art. III. Note that Lake Michigan is not included in the definition of Boundary Waters. See Preliminary Article of Treaty.
5. Art. IV.
6. Art. VII.
7. Art. VIII.
8. Art. IX.
9. Art. X.
10. United States Treaties and Other International Acts 695.
11. *Ibid.* Art. I of the Niagara River Water Diversion Treaty of 1950.
12. Waters which are being diverted into the natural drainage of the Great Lakes system through the existing Long Lake-Ogoki works shall continue to be governed by the notes exchanged between the United States and Canada on October 14 and 31, and November 7, 1940, and shall not be included in the waters allocated under the provisions of the Treaty (Art. III). For text of notes see 3 Dept. of State Bulletin 430 (1940).
13. Art. IV. Note that the Federal Power Commission was directed by an act of Congress (16 U.S.C. 836) to issue a license to the Power Authority of the State of New York to construct works with sufficient capacity to utilize all of the United States share of the waters of the Niagara River.
14. *Arizona* v. *California*, 283 U.S. 423, 458 (1931).
15. *Sanitary Dist. of Chicago* v. *United States*, 266 U.S. 405, 425 (1925).
16. *United States* v. *Pink*, 315 U.S. 203, 230–231 (1942).

17. *Sanitary District of Chicago* v. *United States*, 266 U.S. 405, 425–26 (1925).

18. See *Wisconsin, et al.* v. *Illinois, et al.*, Report of Special Master Albert B. Maris, December 8, 1966, pp. 34–36.

19. *Wisconsin* v. *Illinois*, 388 U.S. 426 (1967).

Subsections 2.2.11 and 2.2.11.1, Diversions

1. 42 U.S.C. 1962a note.

2. *Ibid.* at 3(a)(1).

3. The Secretaries of Commerce, and of Housing and Urban Development and the Administrator of the Environmental Protection Agency participate as associate members of the Council. The Attorney General, the Director, Office of Management and Budget, the Chairman, Council on Environmental Quality, and the Chairmen, River Basin Commissions, participate as observers.

4. Water Resources Council Guidelines For Framework Studies, October 1967.

5. 259 U.S. 419 (1922).

6. *State of Kansas* v. *Colorado*, 206 U.S. 46, 85 (1907).

7. *Colorado* v. *Kansas*, 320 U.S. 383 (1943).

8. United States Const., Art. I, Sec. 1.

9. 304 U.S. 92 (1938).

10. 359 U.S. 275 (1959).

11. The effect of this amendment is a limitation on the authority of the Federal courts to entertain suits by private citizens against a State without its express consent. See *Hamilton Mfg. Co.* v. *Trustees of State Colleges in Colo.*, 356 F.2d 599 (1966).

12. *Petty* v. *Tennessee-Missouri Bridge Commission*, 359 U.S. 275, 278, 281–282 (1959).

13. 28 U.S.C. 1251(a)(1). United States Const. Art. III, Sec. 2.

14. *Kansas* v. *Colorado*, 206 U.S. 46 (1907).

15. *Ibid.* at 100.

16. 282 U.S. 660 (1931).

17. 282 U.S. at 670 (1931).

18. 282 U.S. 336 (1931).

19. 373 U.S. 546, 560, 562 (1963).

20. *Ibid.*

21. 43 U.S.C. 617–617t.

Subsections 2.2.12 and 2.2.12.1, Drainage

1. 43 U.S.C. 982.

2. 43 U.S.C. 983.

3. 33 U.S.C. 701a.

4. 33 U.S.C. 701a–1.

5. 33 U.S.C. 701b.

6. EM 1120–2–109, May 23, 1960.

7. 33 U.S.C. 610.

8. 16 U.S.C. 590a.

9. *Ibid.*

10. 16 U.S.C. 590e. See also 16 U.S.C. 590g(a)(4).

11. 33 U.S.C. 701b, 33 U.S.C. 701a–1.

12. 43 U.S.C. 982.

13. *Heath* v. *Wallace*, 138 U.S. 573 (1891).

Subsection 2.2.13, Geology and Ground Water

1. 56 Am. Jur. 583, Waters, section 102.
2. B. J. Gindler, III, "Waters and Water Rights," ed. by Robert Emmet Clark (3 vols., Indianapolis, Allen Smith Co., 1967), p. 115.
3. See, especially, in those sections, material pertaining to provisions of the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1151–1175; the National Environmental Policy Act of 1969, 42 U.S.C. 4321 et seq.; Executive Order Number 11507, dated February 4, 1970; and Executive Order Number 11514, dated March 5, 1970.
4. 20 Stat. 394, 43 U.S.C. 31 et seq.
5. *Ibid.*
6. 43 U.S.C. 36b.
7. 43 U.S.C. 50.

Subsections 2.2.14 and 2.2.14.1, Planning

1. 42 U.S.C. 1962 et seq.
2. *Ibid.* The Secretary of Transportation was added as a member of the Council on matters pertaining to navigation features of water resource projects. 49 U.S.C. 1656(a).
3. The Attorney General; the Director, Office of Management and Budget; the Chairman, Council on Environmental Quality; and the Chairmen, River Basin Commissions, also participate as observers to the Council.
4. 42 U.S.C. 1962a.
5. *Ibid.*
6. 42 U.S.C. 1962c.
7. 42 U.S.C. 1962a–1962b–6.
8. 42 U.S.C. 1962b–3 and 1962b(b).
9. 42 U.S.C. 1962d–4(a).
10. 42 U.S.C. 1962a, note, P.L. 90–515, 82 Stat. 868.
11. 42 U.S.C. 1962 et seq.
12. 33 U.S.C. 1151–1175. Water pollution control functions were transferred to the Environmental Protection Agency by the President's Reorganization Plan No. 3 of 1970, H. Doc. No. 91–364; and Environmental Protection—Message from the President, H. Doc. No. 91–366 (July 9, 1970).
13. 43 U.S.C. 316.
14. 33 U.S.C. 1153(a).
15. 33 U.S.C. 1153(c).
16. 33 U.S.C. 1154.
17. 43 U.S.C. 50.
18. 16 U.S.C. 460L et seq.
19. Executive Order Number 11001, dated February 16, 1962. Responsibilities reassigned by the President's Reorganization Plan No. 3 of 1970. See reference 12, *supra.*
20. 33 U.S.C. 701. See Executive Order Number 10584, dated December 20, 1954, 19 F.R. 8725, as amended by Executive Order Number 10913, dated January 19, 1961, 26 F.R. 510, and Executive Order Number 11296, dated August 10, 1966, 31 F.R. 10663.
21. Sec. 214 of P.L. 89–298 (1965).
22. 16 U.S.C. 661.
23. 42 U.S.C. 1961a.
24. 16 U.S.C. 460.
25. 16 U.S.C. 777a–k.

26. 42 U.S.C. 3151, 3158.

27. 15 U.S.C. 1351–68.

28. 22 U.S.C. 2171.

29. Executive Order Number 10807, dated March 13, 1959, 24 F.R. 1897.

30. 42 U.S.C. 1872.

31. 40 U.S.C. 461.

32. 42 U.S.C. 3251.

33. See reference 12, *supra.*

34. 42 U.S.C. 3253.

35. 42 U.S.C. 246.

36. 7 U.S.C. 1926.

37. 7 U.S.C. 1926(a)(7).

38. Executive Order Number 11507, dated February 4, 1970, Congressional Record—Senate, February 4, 1970, S1170, which supersedes Executive Order Number 11282 of May 26, 1966, and Number 11288 of July 2, 1966.

39. 33 U.S.C. 1171(a).

40. *Ibid.*

41. 42 U.S.C. 4321 et seq. See also Executive Order No. 11514, March 5, 1970.

42. 42 U.S.C. 4321 et seq.

43. *Ibid.* at 4341–4347.

44. 31 U.S.C. 16.

45. Executive Order Number 9384, dated October 4, 1943, 8 F.R. 13782.

46. 42 U.S.C. 4321 et seq.

47. NEPA was an issue in the Cannikin nuclear test on Amchitka Island, Alaska, but the Court did not reach the issue in denying an injunction in aid of the Supreme Court's jurisdiction to halt the test. *Committee for Nuclear Responsibility, Inc.* v. *Schlesinger*, 3 E.R.C. 1276 (U.S. S.Ct. No. A–483, decided November 6, 1971), *Committee for Nuclear Responsibility, Inc.* v. *Seaborg*, 3 E.R.C. 1256 (C.A. D.C., Civil No. 1346–71, decided November 3, 1971). The court of appeals had refused to enjoin the test but noted that "the case does present a substantial question as to the legality of the proposed test;" and that the court was "left with difficult questions about the validity of the AEC's environmental statement" (3 E.R.C. 1256, 1257).

48. A decision from a district court also has unusual significance, particularly for Corps of Engineers construction activities. In early 1971, the Corps was enjoined from continuing construction on the Gillham Dam, which was then two-thirds completed, for noncompliance with the requirements of NEPA by failing to file the required adequate, "detailed statement," as to the environmental impact of the project, and by failing to study, develop, or describe appropriate alternatives to the project. The court concluded that "compliance with the requirements of NEPA is a condition precedent to the [Corps of Engineers'] exercise of their authority to proceed with Gillham Dam project. . . ." The court enjoined the project "*unless and until they comply with the provisions of NEPA.*" The court added "[a]t any time when the defendants are in a position to tender, and do so tender, to the Court evidence of their compliance with NEPA, the injunction will be dissolved." *E.D.F.* v. *Corps of Engineers (Gillham Dam)*, 325 F.Supp. 728, 2 E.R.C. 1260, 1263, 1271 (E.D. Ark. 1971).

49. *Calvert Cliffs' Coordinating Committee, Inc.* v. *Atomic Energy Commission*, 449 F.2d 1109, 2 E.R.C. 1779 (C.A. D.C. 1971).

50. 2 E.R.C. 1779, 1784.

51. 2 E.R.C. 1779, 1780–1783.

52. 2 E.R.C. 1779, 1785.

53. 2 E.R.C. 1779, 1784.

54. 2 E.R.C. 1779, 1786–1788.

55. 2 E.R.C. 1779, 1787–1788.

56. 2 E.R.C. 1779, 1788.

57. 2 E.R.C. 1779, 1789.

58. 2 E.R.C. 1779, 1792–1793.

59. *Ely* v. *Velde*, 3 E.R.C. 1280 (C.A. 4, No. 71–1351, decided November 8, 1971).

60. *West Virginia Highlands Conservancy* v. *Island Creek Coal Co.*, 441 F.2d 232 (C.A. 4, 1971).

61. *Lathan* v. *Volpe*, 3 E.R.C. 1362, 1368–1369 (C.A. 9, No. 71–1149, decided November 15, 1971).

62. *Greene County Planning Board* v. *Federal Power Commission*, 3 E.R.C. 1595, 1599–1601, 1603 (C.A. 2, Nos. 71–1991 and 71–1996, decided January 17, 1972).

63. *Scenic Hudson Preservation Conference* v. *F.P.C.*, 453 F.2d 463, 3 E.R.C. 1232 (C.A. 2, decided October 22, 1971).

64. *National Resources Defense Council, Inc.* v. *Morton*, 3 E.R.C. 1558, 1561, 1563 (C.A. D.C., No. 71–2031, decided January 13, 1972).

Addendum

FEDERAL WATER-RELATED GRANT PROGRAMS

The information in this addendum on Federal water-related grant programs is arranged according to the following outline of agencies:

I. All Federal agencies authorized to enter into contracts for basic scientific research

II. Department of Agriculture
- A. Farmers Home Administration
- B. U.S. Forest Service
- C. Cooperative State Research Service

III. Department of Commerce
- A. Economic Development Administration
- B. National Oceanic and Atmospheric Administration

IV. Department of Health, Education and Welfare
- A. Office of Education

V. Department of Housing and Urban Development
- A. Housing and Home Finance Administration

VI. Department of Interior
- A. Office of Water Resources Research
- B. Bureau of Sport Fisheries and Wildlife
- C. Bureau of Outdoor Recreation
- D. Office of Saline Water
- E. Geological Survey

VII. Department of Defense, U.S. Army Corps of Engineers

VIII. Environmental Protection Agency

IX. General Services Administration

X. National Science Foundation

XI. Office of Emergency Preparedness

XII. Small Business Administration

XIII. Water Resources Council

Administering Agency: I. All Federal Agencies Authorized to Enter into Contracts for Basic Scientific Research

Authorizing Legislation or Directive: 42 U.S.C. 1891-93

Recipient—Grants to or contracts with nonprofit institutions of higher education; and nonprofit organizations having as their primary purpose the conduct of scientific research (including discretionary authority to vest title to equipment purchased with grant or contract funds in such institutions or organizations).

Purpose—Support of basic scientific research.

Special Requirements—Federal agencies granting any such funds must submit annual reports to Congress setting forth for preceding year the number and dollar amount of such grants made and the institutions in which title to equipment was vested.

Administering Agency: II. Department of Agriculture

Authorizing Legislation or Directive: Food and Agricultural Act of 1965, 7 U.S.C. 1838

Recipient—Payments, under agreements, to individual farmers ("Producers").

Purpose—Carrying out on specifically designated acreage of cropland, practices or uses which will conserve soil, water, forest resources, open space, fish and wildlife, recreation resources, or which will prevent air or water pollution, in the manner and according to the terms prescribed by Secretary of Agriculture in agreement entered into by producer for not less than five nor more than ten years.

Amount, if Specified—(1) Average cost of establishing and maintaining authorized practices or uses necessary to effectuate purposes of program; plus (2) annual adjustment payment to producers, not to exceed 40% of value of crops that would otherwise have been grown. Aggregate payments for agreements in any calendar year are not to exceed $225 million (plus any carry-over balance from preceding years).

Special Requirements—Total acreage under such contracts in any county or local community shall be limited to a percentage, determined by the Secretary, of the total eligible acreage. Secretary is authorized to formulate and carry out this conservation program during calendar years 1965 through 1970 (i.e., agreements must have been initiated before December 31, 1970).

Recipient—State and local agencies.

Purpose—Establishment of practices or uses which will establish, protect, and conserve open spaces, natural beauty, wildlife, or recreational resources, or prevent air or water pollution, under terms and conditions and at costs consistent with those under agreements entered into with producers.

Amount, if Specified—Federal government will share costs with State or local governments.

Special Requirements—During calendar years 1965 through 1970. Secretary of Agriculture must determine that purposes of program authorized by 7 U.S.C. 1838 will be accomplished by such action.

Recipient—Transfer funds available for carrying out program authorized by 7 U.S.C. 1838 to

(1) any other Federal agency
(2) States
(3) local government agencies

Purpose—Use in acquiring cropland for the preservation of open spaces, natural beauty, the development of wildlife or recreational facilities, or the prevention of air or water pollution—under terms, conditions, and costs consistent with agreements with producers.

Special Requirements—Secretary must determine that the purposes of the program will be accomplished by such action.

Authorizing Legislation or Directive: Watershed Protection and Flood Prevention Act, 16 U.S.C. 1001–1009

Recipient—Cost-sharing with local organizations.

Purpose—Lands, easements, or rights of way acquired by local organizations for any reservoir or other area operated and managed by such organization as public fish and wildlife or recreational development.

Recipient—Loans or grants to "local organizations" (e.g., State, subdivisions, soil or water conservation district, etc.).

Purpose—Installations of works of improvement (including fish and wildlife development) for watershed areas not exceeding 250,000 acres and not including any single structure which provides more than 12,500 acre feet of floodwater detention capacity and more than 25,000 acre feet total capacity.

Amount, if Specified—Proportionate share borne by Federal government to be comparable to assistance offered for similar purposes under other Federal programs.

Special Requirements—Estimated Federal contribution for single project limited to $250,000, unless plan has been approved by Committees of House and Senate.

Administering Agency: IIA. Farmers Home Administration, Department of Agriculture

Authorizing Legislation or Directive: Consolidated Farmers Home Administration Act of 1961, as amended, 7 U.S.C. 1926

Recipient—Loans and grants to nonprofit associations, public and quasi-public agencies.

Purpose—Construction or improvement of water, drainage and sewerage systems; to provide for conservation, development, use and control of water, application of soil conservation practices; financing of specific projects for works for development, storage, treatment, purification or distribution of water or collection, treatment or disposal of waste in rural areas.

Special Requirements—Limited to rural communities that need water and waste disposal projects (or that have existing sewage problems) and populations of up to 5,500.

Administering Agency: IIB. U.S. Forest Service, Department of Agriculture

Authorizing Legislation or Directive: 16 U.S.C. 581i–1

Recipient—Grants to States, other public and private agencies, organizations, institutions, and to individuals.

Purpose—Research in cooperation with the U.S. Forest Service into forest, range, and watershed management, through investigations, experiments, tests or other means deemed desirable by Secretary of Agriculture.

Administering Agency: IIC. Cooperative State Research Service, Department of Agriculture

Authorizing Legislation or Directive: 16 U.S.C. 582a–3

Recipient—Matching fund grants to State college or university forestry schools.

Purpose—Forestry research.

Amount, if Specified—Not to exceed the amount available to and budgeted for expenditure by recipient college or university during same fiscal year for forestry research from non-Federal sources.

Special Requirements—Governor's representative must certify eligible State institutions that qualify for assistance. Apportionment of Federal funds among participating states determined by Secretary of Agriculture after consultation with national advisory board and advisory committee as specified in 16 U.S.C. 582a–4 and 582a–5.

Administering Agency: III. Department of Commerce

Authorizing Legislation or Directive: State Technical Services Act of 1965, 15 U.S.C. 1351–68

Recipient—Grants to individual States or multi-State programs.

Purpose—Approved technical services program (for application of science and technology in business, commerce, industry) submitted by a State in a five-year plan.

Amount, if Specified—Matching funds (an additional $25,000 may be granted for planning purposes for each of first three fiscal years).

Special Requirements—State must designate responsible agency. Secretary must approve plan. 20% of total annual appropriations may be reserved by Secretary for programs of special merit or additional programs. Maximum Federal share of payments for programs to be determined by Secretary after considering State's population, business and commercial development, and technical resources.

Administering Agency: IIIA. Economic Development Administration, Department of Commerce

Authorizing Legislation or Directive: Public Works and Economic Development Act of 1965, 42 U.S.C. 3131–3136

Recipient—Grants to States, political subdivisions, Indian tribes, private or public nonprofit organizations.

Purpose—Public works and development facilities for economically distressed regions with substantial and persistent unemployment.

Special Requirements—Such aid may be used for sewer or waste disposal facilities if Administrator of EPA certifies to Secretary of Commerce that any waste material carried by such facilities will be adequately treated before being discharged into any public waterway. (See also 42 U.S.C. 3142a which authorizes Secretary of Commerce to purchase evidences of indebtedness and to make loans for up to 50 years to enable local interests to meet required cost-sharing contributions for navigation, flood, hurricane, beach erosion and projects for other purposes within area eligible for assistance under 42 U.S.C. 3131–3136.)

Note: The Regional Commissions established under Title V of the Public Works and Economic Development Act of 1965 (42 U.S.C. 3131 et seq.) also have a supplemental grant program for the construction of facilities and a technical assistance grant program.

Administering Agency: IIIB. National Oceanic and Atmospheric Administration, Department of Commerce

Authorizing Legislation or Directive: 16 U.S.C. 779a–779e; and the President's Reorganization Plan No. 4 of 1970, H. Doc. No. 91–365

Recipient—Grants to States to supplement State funds, for use directly by States, or in cooperation with the Secretary of Commerce for any purpose he determines appropriate to restore a commercial fishery affected by failure or to prevent a future commercial fishery failure.

Purpose—Research and development projects for commercial fishery resources.

Amount, if Specified—Formula grants based upon: (1) ratio which average annual value of raw fish harvested by domestic commercial fishermen and received within the recipient State for 3 most recent calendar years; (2) plus average annual value to the manufacturer of manufactured and processed fishery merchandise manufactured within each State for 3 most recent calendar years; (3) bears to total average annual value of all raw fish harvested by domestic commercial fishermen and received within the States and fishery merchandise manufactured and processed within the States for the 3 most recent calendar years. However, no State may receive less than ½ of 1% or more than 6% of available funds during any one fiscal year.

Special Requirements—(1) In making appropriations to States, Secretary of Commerce must give preference to States in which he determines there is a commercial fishery failure due to a resource disaster arising from natural or undetermined causes. (2) Secretary must approve plans, specifications, and estimates submitted by a State for a proposed project before any Federal funds can be obligated. (3) Engineering, planning, inspection and unforeseen contingencies costs in connection with any works to be constructed must be limited to 10% of the total cost of the works and must be paid by the State as part of its contribution. (4) Federal funds under this authority cannot be used as grants for chartering fishing vessels.

Authorizing Legislation or Directive: The Sea Grant College and Program Act of 1966, 33 U.S.C. 1121, et seq.; and The President's Reorganization Plan No. 4 of 1970, H. Doc. 91–365

Recipient—Grants, contracts, graduate fellowships to skilled scientific, engineering, and technical manpower.

Purpose—Research, education and training in the field of marine resources, including exploration and research in the recovery of natural resources from the marine environment (which includes the Great Lakes).

Administering Agency: IV. Department of Health, Education and Welfare

Authorizing Legislation or Directive: Comprehensive Health Planning Act of 1966, as amended, 42 U.S.C. 246; and 42 U.S.C. 246(a)(2)(C)

Recipient—Formula grants to States, subdivisions; project grants to public or private nonprofit applicants and project grants.

Purpose—Water supply planning and activities. Areawide health planning, including training, studies and demonstrations in effective comprehensive health planning, including environmental considerations as they relate to public health.

Administering Agency: IV A. Office of Education, Department of Health, Education and Welfare

Authorizing Legislation or Directive: Environmental Education Act, 20 U.S.C. 1532

Recipient—Grants to and contracts with institutions of higher education, State and local educational agencies, regional education research organizations, other public and private agencies, organizations, and institutions (including libraries and museums).

Purpose—Research, demonstrations and pilot projects designed to educate the public on the problems of environmental quality and ecological balance, including such activities as: curricula development in preservation and enhancement of environmental quality and ecological balance; dissemination of information related to curricula and to environmental education generally; training programs, projects for educational, public service, business, labor and industrial leaders and personnel; planning outdoor ecological study centers; community education programs on environmental quality (including special programs for adults); preparation, distribution of environmental-ecological materials for use by mass media; grants to State and local educational agencies for support of elementary and secondary level environmental education programs; and for projects designed to demonstrate, test and evaluate effectiveness of any such activities whether or not assisted under this Act.

Amount, if Specified—Up to 80% of costs for programs or projects—other than those involving curriculum development, dissemination of curricular materials, and evaluation—for first fiscal year of operation, including administration costs. For the second year, the Federal share is up to 60%, for the third year, up to 40%. Commissioner may determine, pursuant to regulations establishing criteria for such determination, that assistance in excess of such percentages is required. Non-Federal contribution may be in cash or in kind, including but not limited to plant, equipment, services.

Special Requirements—Grants made only to non-profit agencies, organizations or institutions. Financial assistance made available only upon application submitted to and approved by Commissioner of Education. Applications must provide that activities and services for which assistance is sought will be administered or supervised by applicant; describe program for carrying out statutory purposes, which program promises substantial contribution toward attaining such purposes; set forth policies and procedures for adequate evaluation of activities proposed and for assuring that Federal funds will supplement, not supplant, funds made available by applicant for purposes of Act; provide necessary fiscal control and accounting procedures and for annual report, other reports, recordkeeping and access thereto as Commissioner finds necessary. Notice of applications from local education agencies must first be given to State educational agency, for its recommendations, if any, before approval by Commissioner.

Authorizing Legislation or Directive: Environmental Education Act, 20 U.S.C. 1534

Recipient—Non-profit organizations, such as citizens groups, volunteer organizations working in the environment field, and other public and private non-profit agencies, institutions, or organizations.

Purpose—Conducting courses, workshops, seminars, symposiums, institutes and conferences, especially for adults and community groups (other than the group funded).

Amount, if Specified—Up to $10,000 annually.

Special Requirements—Priority given to proposals demonstrating innovative approaches to environmental education. Applicant organization or group must submit evidence of its existence for one year prior to submission of proposal for Federal funds and must submit an annual report on Federal funds expended. Proposals limited to essential information required to evaluate them, unless the applicant organization or group volunteers additional information.

Administering Agency: V. Department of Housing and Urban Development

Authorizing Legislation or Directive: Housing and Urban Development Act of 1965, 42 U.S.C. 3102

Recipient—Non-profit organizations, such as agencies.

Purpose—Financing specific projects for water facilities (including works for storage, treatment, purification, and distribution of water) and for public sewer facilities other than treatment works.

Amount, if Specified—Up to $10,000 annually. ment cost of any project. Federal share may be increased in an area of high unemployment.

Authorizing Legislation or Directive: The Housing Act of 1954, as amended, 40 U.S.C. 461

Recipient—Grants to State planning agencies.

Purpose—Provision of planning assistance to cities and other municipalities—or group of adjacent communities—having less than 50,000 population.

Amount, if Specified—Up to two-thirds of estimated cost of work for which grant is made. Federal share may be increased up to 75% under conditions described in 40 U.S.C. 461(b).

Special Requirements—Objective of grants is to facilitate comprehensive planning for urban and rural development.

Recipient—State, metropolitan, and regional planning agencies.

Purpose—Metropolitan or regional planning.

Special Requirements—Limitations on grants are specified in 40 U.S.C. 461(b).

Recipient—Economic development districts.

Purpose—Designated by Secretary of Commerce under Title IV of the Public Works and Economic Development Act of 1965.

Recipient—Cities, counties in redevelopment areas that suffered substantial damage as result of a major disaster.

Recipient—Other interstate, State, regional, metropolitan planning agencies.

Purpose—Cooperative planning for comprehensive development.

Authorizing Legislation or Directive: National Flood Insurance Act of 1968, 42 U.S.C. 4001 et seq.

Recipient—Federal subsidies to qualify existing structures in flood plain areas having special hazards for lower than normal rates to cover loss due to floods.

Purpose—Implementation of National Flood Insurance Program which was established to make flood insurance available, eventually, throughout the nation through a cooperative effort of the Federal government and the private insurance industry.

Special Requirements—To be eligible for flood insurance, a community must demonstrate the following: (1) a positive interest, including legislative and executive actions; (2) need for such coverage; (3) satisfactory assurances of land use and control measures, including assurances that the community do the following: (a) constrict development of land exposed to flood damage; (b) guide development of proposed construction away from flood-prone areas; (c) assist in reducing damage caused by floods; (d) improve long-range land management and use of flood-prone areas.

After June 30, 1970, no new coverage will be available in communities which have not adopted such land use provisions.

There must also be a completion of rate-making studies by specified Federal agencies before a community can be declared eligible for flood insurance. Structures erected in an area after it has been identified as a flood plain area having special flood hazards will be insurable only at the full risk premium rate.

Authorizing Legislation or Directive: Demonstration Cities and Metropolitan Development Act of 1966, 42 U.S.C. 3301 et seq.

Recipient—Supplementary grants to State and local public bodies and agencies.

Purpose—Projects or programs for the acquisition, use, and development of water supply and distribution facilities and water treatment works and sewerage facilities.

Special Requirements—Grantee must already be carrying out, or assisting in carrying out, areawide development projects meeting the requirements of the Act.

Administering Agency: VA. Housing and Home Finance Administration, Department of Housing and Urban Development

Authorizing Legislation or Directive: The Housing Act of 1961, as amended, 42 U.S.C. 1500 et seq.

Recipient—Grants to States and local public bodies.

Purpose—Acquisition of permanent open-space land; and for better coordinated local efforts to beautify and improve open space and other public land throughout urban areas.

Amount, if Specified—Up to 20% of total cost. Federal share may be increased up to 30%, as specified in 42 U.S.C. 1500a(a).

Authorizing Legislation or Directive: 42 U.S.C. 1531–1532

Recipient—Loans and grants to local governments.

Purpose—"Public Works," i.e., any facility necessary for carrying on community life substantially expanded by the national defense program, primarily schools, waterworks, sewers, garbage and refuse disposal facilities, public sanitary facilities, and works for the treatment and purification of water.

Special Requirements—President must determine that (1) an area has an acute shortage of public works necessary to the health, safety, or welfare of persons engaged in national defense activities; and (2) such shortage would impede national defense activities.

Administering Agency: VI. Department of the Interior

Authorizing Legislation or Directive: 42 U.S.C. 1900 et seq.

Recipient—Contracts with educational institutions, public or private agencies or organizations, or persons.

Purpose—Conduct of scientific or technological research into any aspect of problems related to Department of Interior programs authorized by statute.

Amount, if Specified—Limitation on amount: Contracts for more than $25,000 must be submitted to both Houses of Congress at least 30 days before execution.

Authorizing Legislation or Directive: 43 U.S.C. 983

Recipient—Conveyances of "swamp and overflowed lands" to States (except Kan, Neb, Nev).

Purpose—Purpose of providing funds to reclaim lands by means of levees and drains.

Amount, if Specified—Proceeds from sale or by direct appropriation in kind of said lands.

Special Requirements—Proceeds to be applied exclusively, as far as necessary, to purpose of reclaiming lands.

Authorizing Legislation or Directive: The Exploration Program for Discovery of Minerals Act of 1958, 30 U.S.C. 641 et seq.

Recipient—Exploration contracts with private industry (to individuals, partnerships, corporations or other legal entities).

Purpose—To provide for discovery of new or unexplored deposits of minerals and to establish and maintain a program for mineral exploration by private industry.

Special Requirements—Certification by Secretary, after analysis and evaluation, that mineral production from area covered by contract is possible; precedes payment of royalties.

Administering Agency: VIA. Office of Water Resources Research, Department of the Interior

Authorizing Legislation or Directive: Water Resources Research Act of 1964, 42 U.S.C. 1961–1961c

Recipient—State water resources research institutes (at one college or university in all 50 States).

Purpose—Research and training programs in water and water related resources and activities—including research into supply and demand for water conservation and best use of available supplies of water; methods of increasing such supplies; and economic, legal, social engineering, recreational, biologic, geographic, ecological and other aspects of water problems.

Amount, if Specified—As specified in 42 U.S.C. 1961 et seq.

Recipient—Grants or contracts to educational institutions; private foundations or other institutions; private firms; individuals; local, State, other Federal agencies.

Purpose—Research, investigations into and training of scientists to study any aspects of water, water resources, and problems related to the mission of the Department of the Interior which may be deemed desirable and which are not otherwise being studied.

Special Requirements—Proposed grants or contracts must be submitted to both Houses of Congress at least 60 days prior to execution thereof.

Administering Agency: VIB. Bureau of Sport Fisheries and Wildlife, Department of the Interior

Authorizing Legislation or Directive: 16 U.S.C. 669–669i and 777-777k

Recipient—Cost-sharing with States.

Purpose—(1) Wildlife restoration projects approved in advance by Secretary of Interior—including the selection, restoration, rehabilitation, and improvement of areas of land or water adaptable as feeding, resting, or breeding places for wildlife; and also including necessary research into problems of wildlife resource management administration. (2) Projects designed for the restoration and management of all species of fish which have

material value in connection with sport or recreation in marine and/or fresh waters of the United States. (See 16 U.S.C. 777a(a)(b)(c) and (d) for listing of specific types of approved projects.)

Amount, if Specified—(1) and (2): Up to 75% of total estimated costs of any project. Fund revenues are apportioned to States as follows: (1) One-half in the ratio which area of each State bears to total area of all States. One-half in the ratio which the number of paid hunting license holders of each State in preceding fiscal year bears to total number of paid hunting-license holders of all States. (2) Forty percent in the ratio which the area of each State—including coastal and Great Lakes waters—bears to total area of all States. Sixty percent in the ratio which the number of persons holding paid licenses to fish for sport or recreation in the State in the second fiscal year for which apportionment is made bears to total number of such persons in all States.

(1) and (2): However, no State shall receive less than half of 1% nor more than 5% of total amount apportioned to all States.

Special Requirements—State legislature—or other State agency authorized by State constitution must: assent to provisions of (1) 16 U.S.C. 669–669b and 669c–669i; or (2) in the case of fish, to the provisions of 16 U.S.C. 777–777k; have passed laws for conservation of wildlife, including a prohibition against diversion of license fees paid by (1) hunters or (2) fishermen for any other purposes than the administration of the State's fish and game department.

(1) and (2): States must maintain projects.

Authorizing Legislation or Directive: 16 U.S.C. 742c

Recipient—Loans to private parties.

Purpose—Financing and refinancing of operations, maintenance, replacement, repair and equipment of fishing gear and vessels and for research into the basic problems of fisheries.

Amount, if Specified—Initial capital of $20 million for loan fund to be appropriated.

Special Requirements—Interest rates on loans to be not less than 3% per year. Loans to mature in not more than 10 years. No financial assistance extended under this section unless reasonable financial assistance is not otherwise available on reasonable terms.

Authorizing Legislation or Directive: Anadromous Fish Conservation Act, 16 U.S.C. 757a–757g

Recipient—Matching funds to one or more States, acting jointly or severally, and to other non-Federal public and private interests deemed appropriate, granted pursuant to cooperative agreement entered into between Federal government and grantee(s). Matching funds may be up to 60% where 2 or more States having a common interest in any basin enter into a cooperative agreement with the Secretary.

Purpose—(1) Research and development programs to conserve, develop, and enhance anadromous fishery resources of the nation, or fish in the Great Lakes that ascend streams to spawn. (2) Operation of any facilities and management and administration of any lands or interests therein acquired or facilities constructed pursuant to this authority.

Amount, if Specified—Federal share of costs limited to 50% of total costs, including operation and maintenance of any facilities constructed by the Secretary pursuant to this authority which he annually determines is a proper Federal cost except that the Federal share must be increased to a maximum of 60% where 2 or more States having a common interest in any basin jointly enter into a cooperative agreement with the Secretary. Federal share excludes value of any Federal land involved. Non-Federal share of costs may be in the form of real or personal property, value to be determined by the Secretary, as well as money. Not more than $1 million may be expended in any one State during any one fiscal year.

Special Requirements—(1) Structures, devices, or other facilities, including fish hatcheries, constructed by States under these cooperative agreements shall be operated and maintained

without cost to the Federal government. (2) This authority does not affect, modify, or apply to the same area as the Act authorizing Columbia River Basin fishery resources research and development programs, 16 U.S.C. 755–757.

Administering Agency: VIC. Bureau of Outdoor Recreation, Department of the Interior

Authorizing Legislation or Directive: Land and Water Conservation Fund Act of 1965, 16 U.S.C. 460L–460L–8

Recipient—Grants to States.

Purpose—Planning, acquisition and development of needed land and water areas and facilities for recreation projects.

Amount, if Specified—Up to 50% of costs of planning, acquisition, development of projects. Sixty percent of aggregate annual appropriations from fund are available for States; 40% are available for Federal purposes—but President may vary State-Federal percentages by 15 points during each of first five years in which appropriations are made, i.e., through year ending June 30, 1973.

Special Requirements—State must submit a comprehensive Statewide outdoor recreation plan before it may receive any funds. Payments will be made to a State only on approval of Secretary of the Interior. Of the 60% of fund that is available to States, two-fifths shall be apportioned equally among States; three-fifths shall be apportioned on basis of need, as determined by Secretary of the Interior.

Authorizing Legislation or Directive: Federal Water Project Recreation Act, 16 U.S.C. 460L–12 et seq.

Recipient—Cost-sharing with non-Federal public bodies.

Purpose—Administration by non-Federal public bodies of lands and waters for purposes of recreation and fish and wildlife enhancement at Federal multipurpose water resource projects (other than small reclamation or small watershed or TVA projects).

Amount, if Specified—All joint project costs (limited by share of economic benefits from project attributable to recreation, or fish and wildlife, enhancement features); plus not more than 50% of separable costs (for lands, facilities, and project modifications) allocated to recreation or fish and wildlife enhancement purposes.

Special Requirements—Prior to authorization of project, non-Federal public bodies must indicate in writing their intent to agree to: (1) administer project lands and waters for recreation or fish and wildlife enhancement, or for both: (2) to bear not less than 50% of separable costs of project allocated to recreational or fish and wildlife enhancement purposes; to be paid either (1) by cash, lands or facilities for project; or (2) by repayment, with interest within 50 years (with authority to designate fees collected at such areas as source of funds for repayments, provided fee schedules and portion earmarked for repayment are subject to review and renegotiation at 5-year intervals). (3) to bear total costs of operation, maintenance and replacement incurred therefor. Without such written expression of intent, non-Federal public bodies may still avail themselves of Federal cost-sharing if: within 10 years following initial operation of the project and pursuant to a plan of development, recreation and fish and wildlife enhancement projects are undertaken—but only for Federal 50% share of separable costs and without reallocation of joint costs to the Federal government.

Recipient—Leases of existing recreational and fish and wildlife enhancement facilities and appropriate project lands, to non-Federal public bodies.

Purpose—Non-Federal administration of rec-

reational and fish and wildlife enhancement facilities at Federal water resources projects which commenced construction or were completed by July 9, 1965.

Special Requirements—Non-Federal public bodies must agree to administer facilities and to bear costs of operation, maintenance, replacement of such lands and facilities.

Administering Agency: VID. Office of Saline Water, Department of the Interior

Authorizing Legislation or Directive: 42 U.S.C. 1951–1958

Recipient—Contracts with educational institutions, scientific organizations, and industrial and engineering firms; research and training grants. Services of chemists, physicists, engineers and other personnel may also be acquired, by contract or otherwise, for research and application of research results for saline water conversion.

Purpose—Fundamental scientific research and basic studies to develop the best and most economical processes and methods for converting saline water (including sea water, brackish water, and other mineralized or chemically charged water) into water suitable for beneficial consumptive uses; engineering research and development to determine large-scale application of results of such research and studies, and recommendation to Congress for construction of prototype plant for any conversion process determined to be promising; study of methods for recovery and marketing of commercially valuable by-products resulting from conversion, and economic studies of costs for standard conversion processes.

Special Requirements—Research and development activities must be coordinated or conducted jointly with Department of Defense, and carried out cooperatively by and with Atomic Energy Commission, Department of Health, Education and Welfare, Department of State, and other concerned agencies. Contracts or grants for all research within United States must provide that all information, uses, products, processes, patents and other developments resulting therefrom will be available to the general public.

Administering Agency: VIE. Geological Survey, Department of the Interior

Authorizing Legislation or Directive: 43 U.S.C. 50

Recipient—State or municipality.

Purpose—Any topographic mapping or water resources investigation carried on cooperatively.

Amount, if Specified—Up to 50% of cost.

Administering agency: VII. U.S. Army Corps of Engineers, Department of Defense

Authorizing Legislation or Directive: Flood Control Act, 33 U.S.C. 701n–701s

Recipient—Expenditures from two separate emergency funds—dispersed at discretion of Chief of Engineers.

Purpose—Flood emergency preparation; flood fighting and rescue operations; repair or restoration of any flood control work threatened or destroyed by flood (e.g., levees); or for emergency protection and repair of Federally authorized hurricane or shore protection works.

Recipient—Funds for construction of small projects for flood control purposes not specifically authorized by Congress.

Special Requirements—Not to exceed $25 million for any fiscal year and not more than $1 million for project at single locality.

Authorizing Legislation or Directive: 33 U.S.C. 426

Recipient—Federal assistance to a State, municipality, or other political subdivision.

Purpose—Construction of works for restoration and protection of State, county and other publicly owned shore parks and conservation areas along the shores of the Great Lakes.

Amount, if Specified—Up to 70% of total costs, exclusive of land costs.

Special Requirements—Areas must include a zone which excludes permanent human habitation; include but are not limited to recreational beaches; satisfy adequate criteria for conservation and development of the natural resources of the environment; extend landward a sufficient distance to include—where appropriate—protective dunes, bluffs, or other natural features which serve to protect the uplands from damage; and provide essentially full park facilities for appropriate public use, all of which must meet the approval of the Chief of Engineers. Plan for restoration project must have been surveyed and recommended by Congress. Exception: Secretary of the Army may approve small shore and beach restoration and protection projects without congressional authority if they otherwise comply with statutory provisions. (For these see also 42 U.S.C. 1962d-5.)

Recipient—Federal assistance to a State, municipality, or other political subdivision.

Purpose—Construction of other works for the restoration and protection against erosion, by waves and currents of the shores of the United States along the shores of the Great Lakes.

Amount, if Specified—Up to 50% of cost.

Special Requirements—Plan for restoration project must have been surveyed and recommended by Congress. Exception: Secretary of the Army may approve small shore and beach restoration and protection projects without congressional authority if they otherwise comply with statutory provisions. For these see also 42 U.S.C. 1962d-5.

Recipient—Private landowners.

Purpose—Construction of works for shore protection and beach restoration projects along privately owned shores of the Great Lakes, if there is a public benefit, such as that arising from public use or from the protection of nearby public property.

Special Requirements—Plan for restoration project must have been surveyed and recommended by Congress. Exception: Secretary of the Army may approve small shore and beach restoration and protection projects without congressional authority if they otherwise comply with statutory provisions. For these see also 42 U.S.C. 1962d-5.

Authorizing Legislation or Directive: Sec. 208 of the Flood Control Act of 1970, 33 U.S.C. 426e

Recipient—Federal assistance to a State, municipality, or other political subdivision.

Purpose—Construction of projects to provide hurricane protection.

Amount, if Specified—Up to 70% of total costs, exclusive of land costs.

Authorizing Legislation or Directive: 33 U.S.C. 1165a

Recipient—Contracts with a Great Lakes State or States, interstate agency, municipality or other appropriate political subdivision of a Great Lakes State.

Purpose—Construction at the earliest prac-

ticable date of contained spoil disposal facilities, of sufficient capacity for period of up to 10 years, in the Great Lakes or their connecting channels, and in consideration of views and recommendations of Administrator of Environmental Protection Agency as to areas most urgently in need of such facilities.

Amount, if Specified—75% of construction costs of such facilities; non-Federal 25% share to be paid in cash prior to construction, or as prescribed in 33 U.S.C. 1165a(c)(2)—which required cash contribution will be waived upon finding by Administrator of EPA that non-Federal government and industries are in compliance with approved plan for waste treatment facilities for general geographic area. 100% of costs of disposal of dredged spoil from project for Great Lakes connecting channels, Michigan.

Special Requirements—Prior to establishing any such facility, appropriate local governments must concur in its establishment, views and recommendations of the Administrator of the Environmental Protection Agency must be considered, and compliance secured with requirements of 33 U.S.C. 1171 and 42 U.S.C. 4321–4335. Contracts for construction of such facilities must be in writing and must include terms and conditions set forth in 33 U.S.C. 1165a(c). 33 U.S.C. 401 does not apply to any facility authorized hereunder. Facilities constructed hereunder are to be made available to Federal licensees or permittees, upon payment of appropriate charge—25% of which charge must be remitted to non-Federal interest except as provided in 33 U.S.C. 1165a(g).

Authorizing Legislation or Directive: 83 Stat. 47

Recipient—Reimbursement to non-Federal entities.

Purpose—Expenditures incurred by non-Federal entities in connection with authorized projects for improvement of rivers, navigation, flood control, hurricane protection, beach erosion control, and other water resources development purposes.

Amount, if Specified—Not in excess of $1 million. Aggregate maximum sum authorized for reimbursement actions in any one fiscal year is $10 million. (See also 116(c) of Act of December 31, 1970, the River and Harbor Act of 1970, P.L. 91–611, 84 Stat. 1818, which specifically authorizes up to $200,000 for Federal share of costs to clear channel of the North Branch of the Chicago River, Illinois.)

Special Requirements—Expenditures are reimbursable to the extent that they were incurred after authorization of the project and approved by the Secretary of the Army. (Sec. 119 of Act of December 31, 1970, the River and Harbor Act of 1970, P.L. 91–611, 84 Stat. 1818, provides that, for purpose of determining Federal and non-Federal cost sharing relating to proposed construction of small-boat navigation projects, charter fishing craft are to be considered as commercial vessels.)

Authorizing Legislation or Directive: 16 U.S.C. 460d

Recipient—Permits to local interests.

Purpose—Construction, maintenance, operation of public park and recreational facilities at water resource development projects (or leases of land, including structures and facilities at such projects).

Special Requirements—Water areas of all such projects must remain open to public use generally for boating, swimming, bathing, fishing, and other recreational purposes.

Administering Agency: VIII. Environmental Protection Agency

Authorizing Legislation or Directive: Federal Water Pollution Control Act, as amended, 33 U.S.C. 1153(c)

Recipient—Grants to State or interstate planning agency.

Purpose—Development by agency of comprehensive pollution control and abatement program for a basin.

Amount, if Specified—Up to 50% of administrative expenses (including planning expenses) for up to 3 years.

Special Requirements—Governor of State, or majority of governors where more than one State is involved, must request grant. Recipient agency must provide for adequate representation of appropriate State, interstate, local or (when appropriate) international interest in basin or portion thereof involved, and must be capable of developing an effective, comprehensive water pollution control and abatement plan for a basin in accordance with criteria set forth in 33 U.S.C. 1153(c)(2).

Authorizing Legislation or Directive: Federal Water Pollution Control Act, as amended, 33 U.S.C. 1155(a)

Recipient—Grants to and contracts with public or private agencies and institutions and to individuals.

Purpose—Research, training projects, demonstrations, investigations, experiments, and studies relating to causes, control, and prevention of water pollution.

Special Requirements—See also 33 U.S.C. 1155(a)(4) for in-government research fellowships established and maintained by Administrator of EPA, and 1155(a)(5) for training in technical matters relating to causes, prevention and control of water pollution provided for personnel of public agencies and other qualified persons.

Authorizing Legislation or Directive: 33 U.S.C. 1155(g)(1)

Recipient—Contracts with one or more States, inter-state agencies, municipalities, educational institutions, other organizations and individuals.

Purpose—Development and implementation of a pilot program, in cooperation with non-Federal party to contract, for manpower development and training and retraining of persons in, or entering into, the field of operation and maintenance of treatment works and related activities.

Amount, if Specified—Full financing for such programs, which may be carried out directly by the Administrator, or through joint ventures with one or more States acting jointly or severally, or with other public, or private agencies.

Special Requirements—Such programs must supplement, not supplant, other manpower and training programs and funds available for purposes of 33 U.S.C. 1155(g). See also 33 U.S.C. 1155(g)(3)(B) and (C) for in-government research fellowships established and maintained by Administrator, and training in technical matters relating to causes, prevention and control of water pollution provided by EPA in addition to pilot programs for public agencies personnel and other persons with suitable qualifications.

On or before October 3, 1972, Administrator must report, through the President, to Congress, a summary of such training actions taken, effectiveness thereof, and other data and recommendations required by 33 U.S.C. 1155(g)(4).

Authorizing Legislation or Directive: Federal Water Pollution Control Act, as amended, 33 U.S.C. 1155(g)(3)(A)

Recipient—Grants to public or private agencies and institutions and to individuals; and contracts with public or private agencies and institutions and with individuals.

Purpose—Training projects in furtherance of the purposes of the Federal Water Pollution Control Act, as amended. For example, in furtherance of contracts entered into with public and private agencies, institutions, individuals, to develop and maintain an effective system for forecasting supply of and demand for professional and other occupational categories needed for water pollution prevention, control and abatement in each region, State or area of the United States, as authorized by 33 U.S.C. 1155(g)(2).

Conduct of training in furtherance of the purposes of the Federal Water Pollution Control Act, as amended.

Special Requirements—Such contracts are authorized to be executed without regard to 31 U.S.C. 529 and 41 U.S.C. 5. Also, on or before October 3, 1972, Administrator must report, through the President, to the Congress, a summary of such training actions taken, effectiveness thereof, and other data and recommendations required by 33 U.S.C. 1155(g)(4).

Authorizing Legislation or Directive: Federal Water Pollution Control Act, as amended, 33 U.S.C. 1155(h)

Recipient—Contracts with or grants to public or private agencies and organizations, and with or to individuals.

Purpose—Developing and demonstrating new or improved methods for prevention, removal and control of natural or man-made pollution in lakes, including the undesirable effects of nutrients and vegetation; and (for) construction of publicly owned research facilities for that purpose.

Authorizing Legislation or Directive: Federal Water Pollution Control Act, as amended, 33 U.S.C. 1155(i)

Recipient—Contracts with or grants to public or private agencies and organizations and with or to individuals.

Purpose—Research, studies, experiments, demonstrations relative to removal of oil from any waters and prevention and control of oil pollution; publication of results of such activities; and development of and publication in the Federal Register of specifications and other technical information on various chemical compounds used as dispersants or emulsifiers in control of oil spills.

Authorizing Legislation or Directive: Federal Water Pollution Control Act, as amended, 33 U.S.C. 1155(j)

Recipient—Contracts with or grants to public or private organizations and with or to individuals.

Purpose—Research, studies, experiments and demonstrations relative to marine sanitation equipment to be installed on board vessels to receive, retain, treat, or discharge human wastes and wastes from toilets and other receptacles intended to receive or retain human wastes, with emphasis on equipment to be installed on small recreational vessels.

Special Requirements—Administrator must report results of such research, studies, experiments and demonstrations to Congress prior to the effective date of any standards established under 33 U.S.C. 1163.

Authorizing Legislation or Directive: Federal Water Pollution Control Act, as amended, 33 U.S.C. 1156(a) and (c)

Recipient—Grants to States, municipalities, intermunicipal or interstate agency.

Purpose—Assistance in 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 wastes from sewers which carry storm water or both storm water and sewage or other wastes (and for reports, plans, specifications in connection therewith); or assistance in development of any project which will demonstrate advanced waste treatment and water purification methods (including the temporary use of new or improved chemical additives which provide substantial immediate improvement to existing treatment processes) or new or improved methods of joint treatment systems for municipal and industrial waters (and for reports, plans, specifications in connection therewith).

Amount, if Specified—Grant for any project limited to maximum of 75% of estimated reasonable cost thereof as determined by Administrator.

Special Requirements—To qualify for grant, a project must have approval of both appropriate State water pollution control agency or agencies, and the Administrator. It also must have determination from Administrator that project will serve as a useful demonstration for purposes set forth in 33 U.S.C. 1156(a).

Authorizing Legislation or Directive: Federal Water Pollution Control Act, as amended, 33 U.S.C. 1156(b) and (d)

Recipient—Grants to persons.

Purpose—Research and demonstration projects for prevention of water pollution by industry, including treatment of industrial waste.

Amount, if Specified—Each grant limited to maximum of 70% of project cost. Each grant limited to maximum of $1 million.

Special Requirements—To qualify for grant, Administrator must determine that project will serve useful purpose in development or demonstration of a new or improved method of treating industrial wastes or otherwise preventing pollution of waters by industry, which method must have industry-wide application.

Authorizing Legislation or Directive: Federal Water Pollution Control Act, as amended, 33 U.S.C. 1157

Recipient—Grants to States and interstate agencies.

Purpose—Assistance in meeting costs of establishing and maintaining adequate measures for prevention and control of water pollution, including training of personnel of public agencies.

Amount, if Specified—Federal share for any State computed as follows: (1) 100% minus percentage that bears same ratio to 50% as per capita income of State bears to per capita income of U.S.; (2) except that Federal share shall not exceed 66⅔% and shall not be less than 33⅓%.

Special Requirements—Administrator of Environmental Protection Agency must approve State's plan before grant is made. Criteria for such approval are set forth in 33 U.S.C. 1157(f). State allotments (from which payments are made) are made by Administrator and are based upon (1) population, (2) extent of water pollution problem, and (3) financial need of respective States. Interstate agencies' allotments (from which payments are made) are made by Administrator, in accordance with EPA regulations. So far as practicable, regulations pertaining to Federal cost share for interstate agencies are to place such agencies upon a basis similar to that of States. Method of computation and payment of allotments are set forth in 33 U.S.C. 1157(j). Failure to comply with requirements of plan after approval—either administratively or because of changes in plan—will result in cessation of payment to State or interstate agency after notice and hearing.

Authorizing Legislation or Directive: Federal Water Pollution Control Act, as amended, 33 U.S.C. 1158

Recipient—Grants to interstate, State, or local agencies.

Purpose—Construction of necessary treatment works to prevent discharge of untreated or inadequately treated sewage or other waste into any waters.

Amount, if Specified—(1) 30% of estimated reasonable cost for any project. (2) Federal share may be increased up to 50% under circumstances and conditions set forth in 33 U.S.C. 1158(b)(7). Fund from the reallotment of unused allocations can be used to reimburse States or local agencies for certain construction projects otherwise eligible for grants but which received no grant allocations originally, or for certain other contruction projects which received less than an allowable amount, because of lack of funds at the time of original allocations. (1) Amount of grant may be increased by an additional 10% under circumstances prescribed by 33 U.S.C. 1158(b)(6), in which case State must agree to pay not less than 30% of total reasonable costs. (2) Amount of any grant may be increased by an additional 10% for any project certified to Administrator by official State, metropolitan or regional planning agency [33 U.S.C. 1158(f)].

Special Requirements—Project must conform to State water pollution control plan, must be certified by appropriate State water pollution control agency as entitled to priority over other projects, and must have approval of State agency and of Administrator of Environmental Protection Agency. Federal appropriations allocated on bases of population and per capita income, with provision for reallocations and additional grants as set forth in 33 U.S.C. 1158(c). Grantee must pay remainder of cost, and must assure Administrator of proper and efficient operation and maintenance of treatment works after completion of construction.

Factors to be considered by Administrator prior to his approval of Federal financial aid for projects are set forth in 33 U.S.C. 1158(c).

Authorizing Legislation or Directive: Federal Water Pollution Control Act, as amended, 33 U.S.C. 1164

Recipient—Contracts with States or interstate agencies.

Purpose—Demonstration projects for methods for the elimination or control of acid or other mine water pollution within all or part of a watershed, including engineering and economic feasibility and practicality of various abatement techniques which will contribute substantially to effective and practical methods of acid or other mine water pollution elimination or control.

Amount, if Specified—Up to 75% of actual project costs.

Special Requirements—Secretary, in selecting watersheds for these purposes, must require appropriate feasibility studies; give preferences to areas having greatest present or potential value for public use and recreation, fish and wildlife, water supply and other public uses; and be satisfied that the selected project area will not be adversely affected by influx of acid or other mine water pollution from nearby sources. State or interstate agency must pay not less than 25% of actual project costs; such payment may be in any form; and State or interstate agency must provide legal and practical protection to the project area to insure against any activities which will cause future acid or other mine water pollution.

Authorizing Legislation or Directive: Federal Water Pollution Control Act, as amended, 33 U.S.C. 1165

Recipient—Contracts with States, political subdivisions, interstate agencies, or other public agencies or any combination thereof.

Purpose—Demonstration projects for new methods, techniques and development of preliminary plans for the elimination or control of

pollution within all or any part of the watersheds of the Great Lakes, including demonstrations of engineering and economic feasibility and practicality of removal of pollutants and prevention of any polluting matter from entering into the Great Lakes in the future and other abatement and remedial techniques which will contribute substantially to effective and practical methods of water pollution elimination or control.

Amount, if Specified—Up to 75% of actual project costs.

Special Requirements—State, political subdivisions, interstate agencies, or other public agencies, or combination thereof must pay not less than 25% of actual project costs, and such payment may be in any form.

Authorizing Legislation or Directive: Federal Water Pollution Control Act, as amended, 33 U.S.C. 1166–1167

Recipient—Grants to or contracts with institutions of higher education.

Purpose—Planning, developing, strengthening, improving or carrying out programs or projects for preparation of undergraduate students for occupations involving design, operation and maintenance of treatment works and other facilities whose purpose is water quality control; including training and retraining of faculty members, special study institutes, innovative and experimental work-study programs for students, and research into methods of training students or faculty, preparation of teaching materials, and curriculum planning.

Amount, if Specified—All or part of costs of programs or projects.

Special Requirements—Grants or contracts will be made only upon application to the Administrator, and applications must fulfill specifications of 33 U.S.C. 1167(1) for approval. If consistent with regulations and terms and conditions of the approved application, grant or contract funds may be used to compensate students employed in the operation and maintenance of treatment works. Grants or contracts must be distributed in a geographically equitable manner throughout the United States among institutions of higher education which show promise of being able to use funds effectively for these purposes.

Authorizing Legislation or Directive: Federal Water Pollution Control Act, as amended, 33 U.S.C. 1168

Recipient—Scholarships to undergraduate students who plan to enter an occupation involving the operation and maintenance of treatment works, who attend institutions of higher education having programs approved under these provisions, and who are accepted into such programs.

Purpose—Use of individual students accepted into programs at institutions of higher education, approved by the Administrator, upon application of the institution and upon the Administrator's finding that the institution's program has as its principal objective the education and training of students in the operation and maintenance of treatment works, that the program is in effect and of high quality (or can readily be put into effect and expected to have high quality); and that the application otherwise conforms to the requirements of 33 U.S.C. 1168(3).

Amount, if Specified—Such stipends are to be paid to individual students as the Administrator determines are consistent with prevailing practices under comparable Federally supported programs, for such periods as the student is enrolled full-time and is maintaining satisfactory proficiency, but not to exceed four academic years. An additional amount, as determined by the Administrator to be consistent with comparable Federally assisted programs, is to be paid to the student's institution of higher education.

Special Requirements—Student must agree in writing to enter and remain in approved occupations for period of time specified by the Administrator following completion of studies. Scholarships are to be allocated in geographically equitable manner; and so as to attract recent high school graduates to enter these occupations. Recipient institution's program must have approval of the Administrator.

Authorizing Legislation or Directive: Solid Waste Disposal Act, as amended, 42 U.S.C. 3253; and the President's Reorganization Plan No. 3 of 1970, H. Doc. No. 91-364

Recipient—Grants to or contracts with public or private agencies and institutions, and to individuals.

Purpose—Research, training, training projects, surveys, and demonstrations (including construction of facilities) for solid waste disposal, collection, utilization, and recovery potential therefrom of materials and energy, relating to any adverse health and welfare effects of release into the environment of material present in solid waste and methods to eliminate such effects, and relating to other matters set forth in 42 U.S.C. 3253(a)(2)-(5).

Special Requirements—Contracts for research or demonstrations or both, including contracts for construction of facilities, are subject to limitations provided with respect to contracts of the military departments, in 10 U.S.C. 2353; except that the determination, approval, and certification required by that section shall be made by the Administrator. All grants and contracts must provide that all information, uses, processes, patents and other developments resulting from activities undertaken pursuant to the respective grant or contract, will be made readily available on fair and equitable terms to industries using, or supplying, solid waste disposal methods, devices, facilities, equipment and supplies.

Authorizing Legislation or Directive: Solid Waste Disposal Act, as amended, 42 U.S.C. 3254a; and the President's Reorganization Plan No. 3 of 1970, H. Doc. No. 91-364

Recipient—Grants to State, interstate, municipal and intermunicipal agencies; and organizations composed of public officials which are eligible for assistance under 40 U.S.C. 461(g).

Purpose—Making surveys of solid waste disposal practices and problems within the jurisdictional areas of such agencies, and developing solid waste disposal plans for such areas, as part of regional environmental protection systems for such areas, providing for recycling or recovery of materials from wastes whenever possible, including planning, studies, and developing proposals as specified in 42 U.S.C. 3254a(a)(2), (3), (4).

Amount, if Specified—Up to 66⅔% of costs for any single-municipality area; up to 75% of costs in other cases.

Special Requirements—Recipient agency must submit an application for the grant, to the Administrator, in compliance with the requirements of 42 U.S.C. 3254a(b); and the Administrator must find that the agency's solid waste disposal planning will be coordinated with and will not duplicate other related planning activities of governments.

Authorizing Legislation or Directive: Solid Waste Disposal Act, as amended, 42 U.S.C. 3254b; and the President's Reorganization Plan No. 3 of 1970, H. Doc. No. 91-364

Recipient—State, municipal, interstate or intermunicipal agency.

Purpose—Demonstration of resource recovery systems or for construction of new or improved solid waste disposal facilities.

Amount, if Specified—Up to 75% of estimated total design and construction costs for any resource recovery system project which is in compliance with requirements of 42 U.S.C. 3254b(b)(1); plus 75% of first-year operation and maintenance costs where applicant agency has made provision satisfactory to Administrator for proper and efficient operation and maintenance of project. Up to 50% for construction of any new or improved solid waste disposal facility for single-municipality area and up to 75% for construction of any such new or improved facility in other cases in compliance with requirements of 42 U.S.C. 3254b(c)(1).

Special Requirements—Grants are awarded according to regulations and procedures promulgated by Administrator in accordance with criteria set forth in 42 U.S.C. 3254b(d)(1); and pursuant to considerations set forth in 42 U.S.C. 3254b(d)(2). Grants for projects in any one State limited to 15% of total funds au-

thorized by 42 U.S.C. 3259(a)(3) for any fiscal year; grants for multi-State projects are limited as prescribed by the Administrator by regulation.

Authorizing Legislation or Directive: Solid Waste Disposal Act, as amended, 42 U.S.C. 3254d; and the President's Reorganization Plan No. 3 of 1970, H. Doc. No. 91-364

Recipient—Grants to and contracts with States, interstate agencies, municipalities, educational institutions, and any other organization capable of effectively carrying out a project funded by grant under this authority.

Purpose—Manpower training programs, including instructor and supervisory personnel, for occupations involving management, supervision, design, operation or maintenance of solid waste disposal and resource recovery equipment and facilities.

Amount, if Specified—All or part of costs, as determined by Administrator, for any project.

Special Requirements—Substance and form of applications for grants must be as prescribed by Administrator, except that applications must provide for same procedures and reports as are required by 42 U.S.C. 3254a (b)(4) and (5) for applications made thereunder.

Administering Agency: IX. General Services Administration

Authorizing Legislation or Directive: The Surplus Property Act of 1944, as amended, 50 App. U.S.C. 1622(h)(1)

Recipient—Conveyances of surplus land—including improvements and equipment—to States, subdivisions, municipalities.

Purpose—Use as public park, public recreation area or historic monument.

Amount if Specified—Such conveyances shall be at a price equal to 50% of fair market value of property conveyed. Exception: conveyances for historic monument purposes shall be made without monetary consideration.

Special Requirements—Secretary of Interior must determine land is suitable and desirable for such purposes. All such property so conveyed shall be used and maintained for purpose for which it was conveyed for 20 years—or property shall, at option of United States, revert to the United States.

Administering Agency: X. National Science Foundation

Authorizing Legislation or Directive: National Science Foundation Act of 1950, 42 U.S.C. 1861 et seq. (with additional authority from National Defense Education Act of 1958, 42 U.S.C. 1876 et seq.)

Recipient—Contracts with or grants to private or public institutions or agencies, scholarships and graduate fellowships to individuals.

Purpose—Strengthening basic research and education in the sciences; scientific studies, including research in the area of weather modification.

Administering Agency: XI. Office of Emergency Preparedness

Authorizing Legislation or Directive: 42 U.S.C. 1855 et seq.; and Exec. Ord. 10427, as amended, Jan. 16, 1953, 18 F.R. 407

Recipient—Federal aid to States and local governments (including contracts by Federal agencies).

Purpose—Alleviation of suffering and damage resulting from major disasters: flood, drought, fire, hurricane, earthquake, storm or other catastophe.

Amount, if Specified—Office has discretion to determine type of assistance required and to direct Federal agencies to supply such assistance, including lending of equipment, supplies, facilities, personnel, other resources; distribution of food, medicine; performance of protective and other work essential for preservation of life, property; clearing debris, wreckage; making emergency repairs to and temporary replacement of public facilties damaged or destroyed in major disaster. Any Federal agency may employ, temporarily, additional personnel or incur obligations by contract on behalf of the United States for necessary equipment, supplies, shipping, communications, etc.

Special Requirements—Amount of obligations incurred by Federal agencies, by contract, is limited to funds available to President (by delegation, to Director of Office of Emergency Preparedness) and are reimbursable to the extent that President (Director) may deem appropriate.

Administering Agency: XII. Small Business Administration

Authorizing Legislation or Directive: Small Business Act, 15 U.S.C. 631 et seq.

Recipient—Loans to small business concerns and to privately owned colleges or universities.

Purpose—Assistance following flood (and other catastrophe-induced) damage or loss, to enable such concern to continue in business at its existing location, to reestablish its business, to purchase a business, or to establish a new business.

Amount, if Specified—Loans are made at the discretion of the Administrator of SBA upon his determination that such aid is necessary or appropriate.

Administering Agency: XIII. Water Resources Council

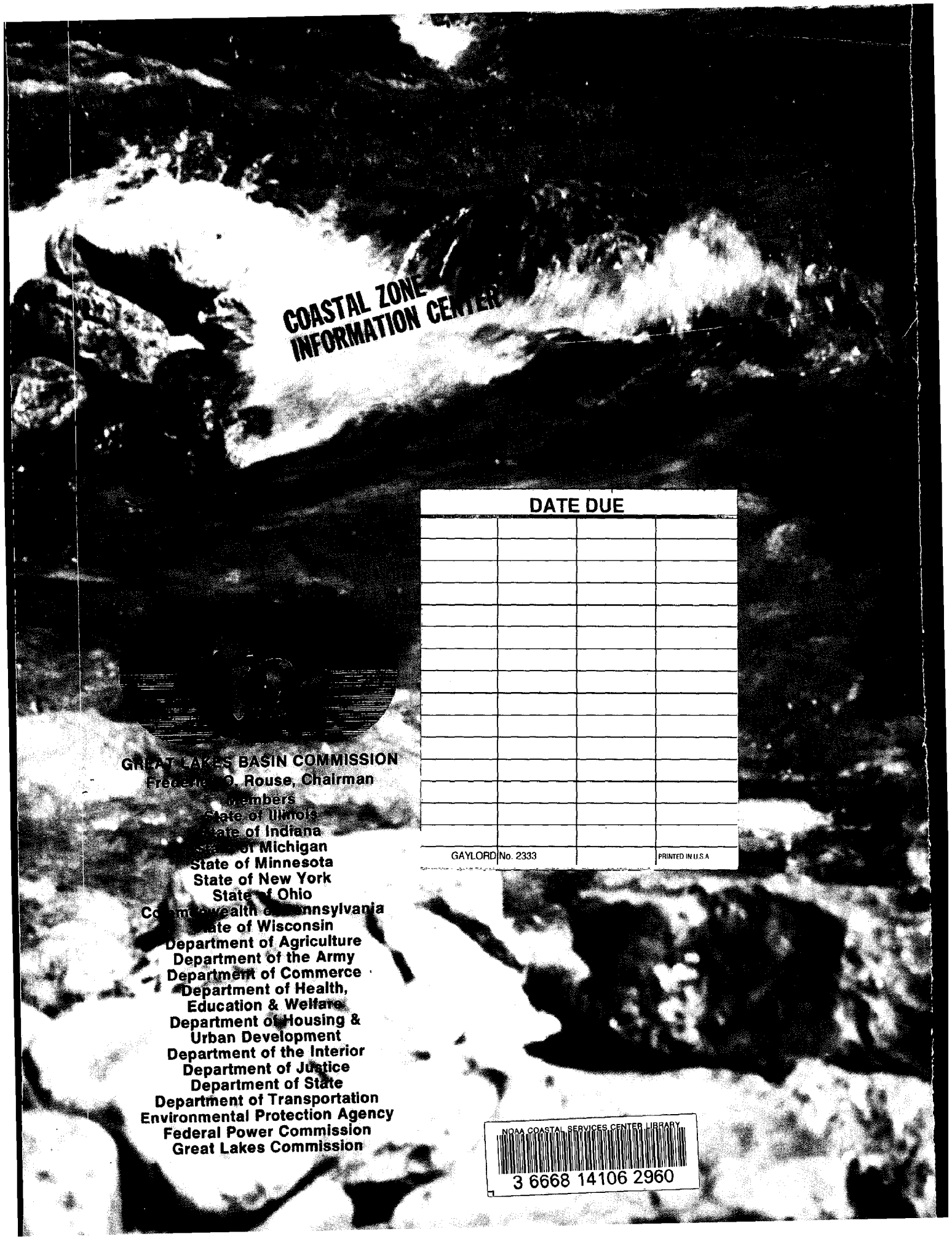
Authorizing Legislation or Directive: Water Resources Planning Act, 42 U.S.C. 1962c–1962d

Recipient—Grants to States.

Purpose—Assistance in developing and participating in development of comprehensive water and related land resources plans, in coordination with related Federal planning assistance programs and agencies.

Amount, if Specified—Up to 50% of cost of carrying out an approved State program, including costs of training personnel and administration. Authorization ceiling is $5 million annually for next fiscal year beginning after July 22, 1965, and for nine succeeding fiscal years thereafter.

Special Requirements—State's plan for comprehensive water and land resources planning submitted to Council must meet requirements of 42 U.S.C. 1962c–2(1)(2)(3)(4)(5) and (6) in order to receive Council approval and funds. Allotments for States, from which payments are made to States, are made on the basis of (1) population, (2) land area, (3) need for comprehensive water and related land resources planning programs, and (4) financial need, of respective States.



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