Bulletin 37:

LEGAL ASPECTS OF WATER SUPPLY AND WATER QUALITY STORAGE

By
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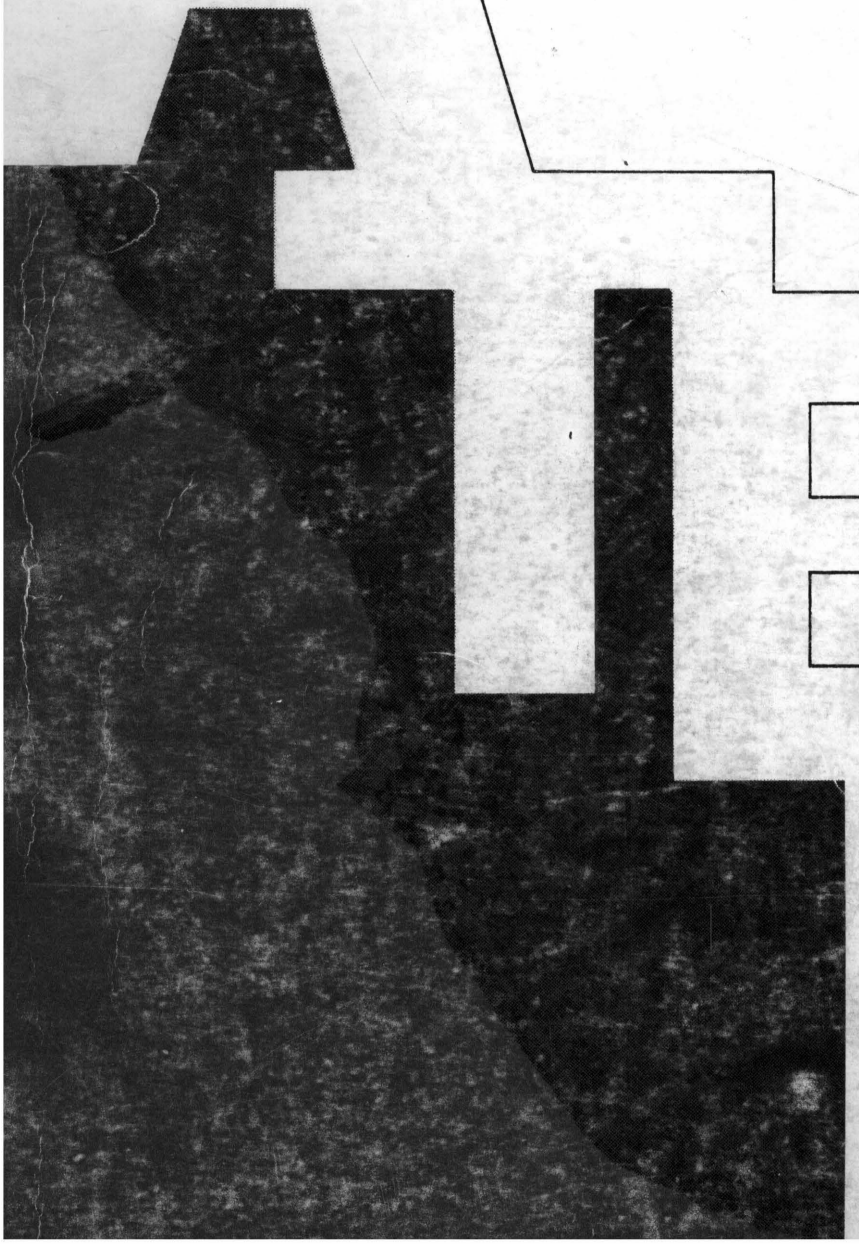

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PREFACE

In seeking to make water available for municipal and industrial use and to improve the quality water in streams, compatability must be achieved in the actions of the various levels of government. Greater harmony in resolving differences can be achieved if some of the problems can be anticipated in advance of their reaching critical proportions.

This report is primarily concerned with identifying problems that may arise pursuant to federal legislation authorizing water storage for water supply and water quality purposes. Potential conflicts arising from differences in state and federal statutes are identified and several solutions proposed. Implementation of the federal legislation is through existing agencies. Operating procedures of the agencies are examined in terms of state and federal laws as interpreted by the courts.

The opinions expressed in this report are solely those of the authors and as such should not be imputed directly or indirectly to the agency sponsoring the research. Any errors or omissions are the responsibility of the authors.

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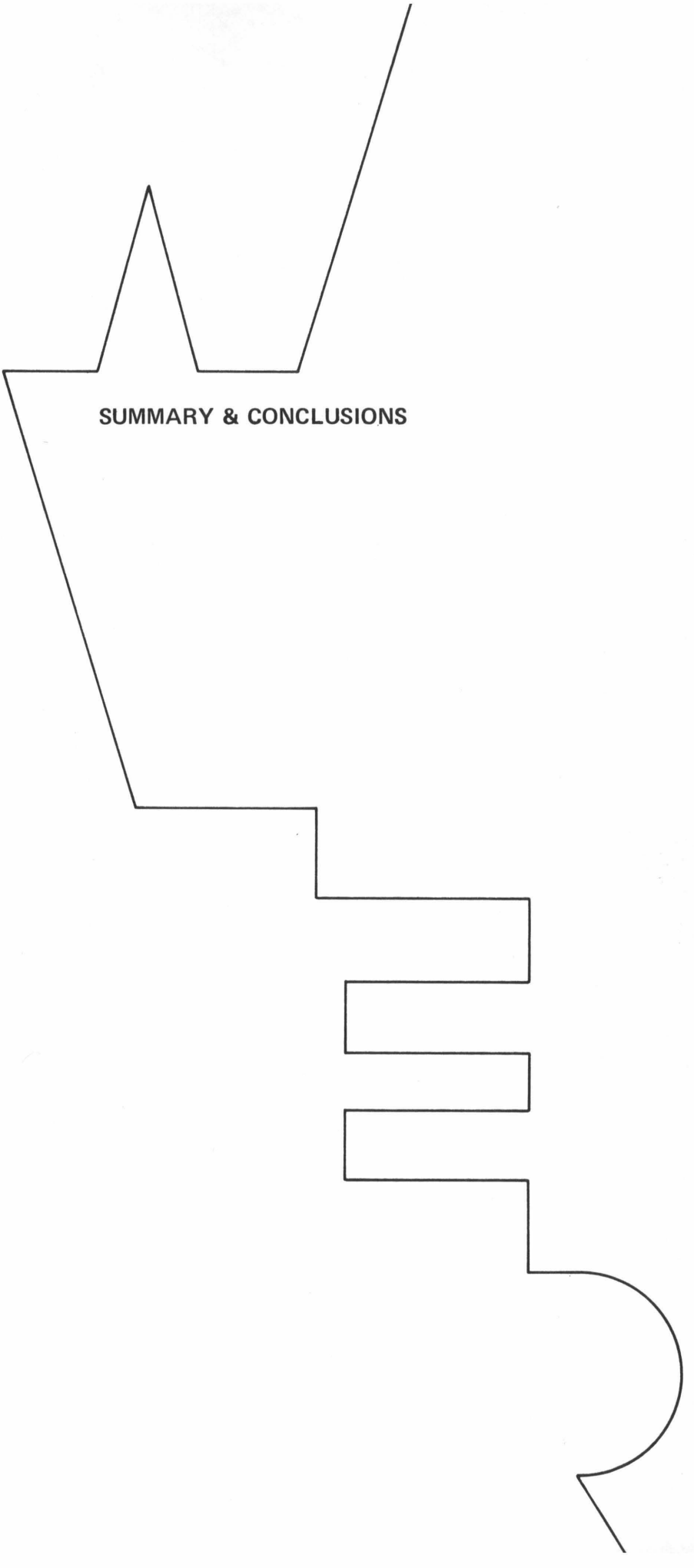

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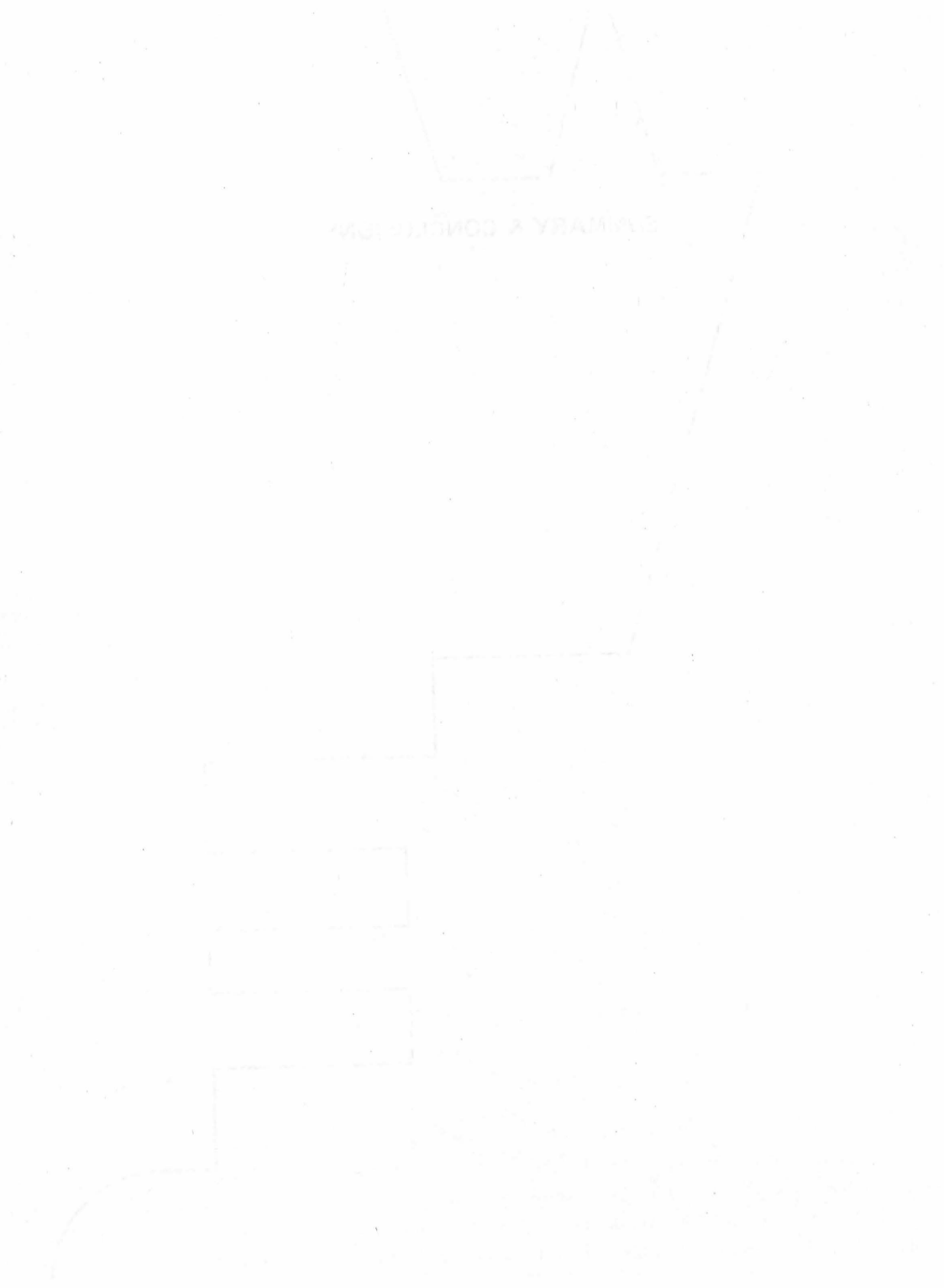


SUMMARY AND CONCLUSIONS

Water Supply Storage

The use of water for supply purposes is the subject of several federal acts. Some of this legislation authorizes supply storage in construction of new reservoir facilities, while in other cases authority is granted for utilization of surplus water from existing reservoirs for this purpose. The Water Supply Act of 1958 contains the only specific authorization for such storage in federal structures. The scope of the Act is limited to projects under the control of the United States Army or the Bureau of Reclamation. The Watershed Protection and Flood Prevention Act allows the Soil Conservation Service of the United States Department of Agriculture to engage in this activity. This purpose is not stated in the Act itself but is voiced in the legislative history. In addition to this legislation permitting the allocation of storage space to water supply purposes in the design and construction of new federal reservoirs, other laws sanction the use of surplus water from existing federal projects for this purpose. The Flood Control Act of 1944 provides for the sale of surplus water from Corps of Engineers projects for supply purposes. The Federal Water Power Act appears to provide authority for the Federal Power Commission to license use of surplus water from all Government dams for nonrestricted purposes, conceivably including water supply. A recent amendment to the FWPA also grants authority for the FPC to license parts or all of private hydroelectric power projects for nonpower uses. Again, the language is broad enough to include water supply storage.

Limitations on the power of the Government to engage in water supply storage could exist in the form of constitutional restraints or in federal legislation. Decisions by the United States Supreme Court indicate that the Constitution places few restrictions on the right of the federal government to exercise control over the waters of navigable streams, a classification potentially encompassing most of the nation's waters. As long as a project bears some relation to navigation, a variety of other purposes may also be included, with these other purposes serving as the major project functions. The Constitution allows use of water by the Government in connection with such projects without accountability to those injured thereby and without regard to state created water rights. However, federal statutes impose some restrictions on these powers. Restraints are contained in the enabling legislation for water supply storage and also arise from other federal laws under which the agencies responsible for this storage operate.

These restrictions on federal water supply storage activity primarily consist of recognition given to water rights as defined by state law. In the case of the Water Supply Act of 1958, the intent to recognize state law is evident from the legislative history and the language of subsection (c). The pertinent provision of subsection (c) states that the Water Supply Act shall not modify section 1 of the Flood Control Act of 1944 nor section 8 of the Reclamation Act of 1902, legislation under which the Corps of Engineers and Bureau of Reclamation, respectively, operate. Section 1 of the Flood Control Act limits the power of the federal government to take navigable waters without compensation. Apparently, as a result of this provision in water supply legislation, the Corps of Engineers does not acquire water rights related to such storage but requires the contracting party to make this acquisition pursuant to state law. Section 8 of the Reclamation Act requires the Secretary

of the Interior to proceed in conformity with state law in carrying out the provisions of the Act. Since the water law of those states within the jurisdiction of this act places limitations on the purposes for which water can be used, the question arises as to whether section 8 gives state law the authority to control the purposes for which reclamation officials can acquire water rights. A negative answer is indicated by Supreme Court decisions that state law has no effect on project operation, that state law cannot compel use of federal property on terms other than those prescribed by Congress, and that state law concerning priorities of water use is not binding on the United States. The Court has suggested that the proper role for state law is the definition of property interests in water for which compensation must be made under reclamation law.

The Watershed Protection and Flood Prevention Act contains a direct provision that the local interests must acquire all necessary water rights pursuant to state law. Thus, the party contracting for water supply storage with the Soil Conservation Service is in the same position relative to state law as exists in the case of storage in Corps of Engineers facilities.

The significance of the requirement that the party desiring water supply storage must acquire his own water rights varies between the eastern and western states because of fundamental differences in applicable water law. The riparian doctrine of the eastern states appears to present several problems to the potential water supply storer. Water rights are restricted to riparian landowners, and nonriparian use generally is considered unlawful. Municipal water use, one of the primary purposes contemplated under federal water supply storage legislation, is not recognized as a riparian right on nonnavigable streams although it has been so recognized on navigable streams. The right to store water for future use has been quite restricted. However, these potential limitations may not become realities in all situations. Violation of the abstract principles of the riparian doctrine does not appear in itself to be cause for legal action. Injury, or potential injury in suits for injunctive relief, to the rights of another is a necessary requirement for such action. Since litigation resulting from interference with the rights of another is the sole method of confirming or denying an asserted water right, a given water use cannot be restrained in the absence of a legitimate cause for court action. All water rights are actually tentative pending this adjudication by the courts. The uncertainty arising from this aspect of the riparian doctrine may be a disadvantage in some instances, but it is a decided advantage for the party possessing the power of eminent domain condemnation (a municipality, for example) who desires to contract for water supply storage in a federal reservoir. Rather than acquire water rights initially, the party in this position need make such acquisition only if and when a successful legal action is maintained, and only those rights held by the court to have been damaged would have to be condemned. Water users such as industries, not clothed with power of condemnation, might also benefit from not having to make prior purchases of water rights, but the risk of great financial loss exists without this protection.

The requirement that the party desiring water supply storage must acquire the related rights is more restrictive in the western states where appropriative water law exists. Water rights generally must be obtained from the state, and the right to make a particular water use can be denied solely on the grounds that it is not recognized as beneficial use. Normal water supply purposes usually would be considered as beneficial, but the possibility for lack of such recognition exists.

The fact that appropriative states can specify the purposes for which individuals can obtain water rights places those parties contracting for water supply storage in reclamation projects in a potentially favorable position as compared to those contracting with other federal agencies. Whereas, these other agencies require the user to acquire the related rights, the Government acquires the necessary rights under reclamation law. Since it is unlikely that state law can control the purposes of reclamation projects, limitations imposed on the water rights of individuals concerning the use to be made of the water are bypassed.

In addition to providing some control over the acquisition of water to store for supply purposes, state law also defines the rights of others to use this water if it is released into a natural stream channel to be transported to a downstream point of use. A policy of allowing extensive use of this water would jeopardize the interests of the storer. Denial of this right of using the water released from storage would protect the storer's interest and establish the right to use natural streams as conduits for the conveyance of water in which an exclusive right of use is held. Riparian law has not recognized this right to use a stream as a conduit. No recent court decisions concerning the general right of conveyance have been found, but an earlier case recognized the right of riparian owners in all water flowing in a stream, including that added through the efforts of others. The court viewed the act of allowing the added water to flow onto the land of another as conclusive evidence of an abandonment of all rights in the water. In contrast to the situation in the eastern states, the law of the western states does provide protection to the interests of parties desiring to convey water in which they possess rights through natural stream channels. The right to use this means of conveyance is recognized by both common and statutory law.

Water Quality Storage

Authorization for all federal agencies to store water for quality control through low-flow augmentation is provided by the Federal Water Pollution Control Act Amendment of 1961. Storage for this purpose also may be required in private hydroelectric power projects in accordance with a 1968 amendment to the Federal Water Power Act.

The legislation authorizing storage for water quality control by federal agencies does not set forth limitations on the power of the Government in relation to this activity, but the various agencies responsible for the storage must function within the restraints imposed by other federal law. These restraints consist of state water laws recognized by federal legislation. There appear to be two areas where state law has the potential to influence the effectiveness of federal water quality storage legislation. One involves the right of the Government to store water for this purpose in reclamation projects, and the other concerns possible adverse use of the water under state law after it is released from storage.

State law has an influence in reclamation projects because of the previously discussed section 8 of the Reclamation Act. It has been concluded that this provision does not appear to have given state law the effect of controlling project purposes. If the courts were to hold this determination to be within the jurisdiction of state law, however, the impact on water quality storage would be significant. Some of the western states have held that water quality storage does not qualify as a beneficial use. These states probably would exclude storage for this purpose from reclamation projects if given this authority.

Application of dilution water released from storage to other uses appears to fall within the regulatory powers of state water law. Since use of this water by others may be adverse to the goal of quality improvement, the provisions of state law regarding such use are important. Two questions need to be considered. The first is whether state law will allow consumptive use of such water which conceivably could eliminate the effects of flow augmentation through reduction in quality of flow. The other question is whether polluters can be restrained by state pollution control law from increasing pollutional discharges during releases of stored water.

State law regulating consumptive use varies between the eastern and western states. In the eastern states, riparian landowners apparently have the right to make a reasonable use of all water flowing by their land. Thus, some diminution in quantity is conceivable. The law of the western states protects water rights legally acquired from injury by others until the water is applied to its intended use. Therefore, it is unlikely that water appropriated by the Government for dilution purposes could be consumed by other parties. If the state in question does not view dilution as a legal water use, there may be some question as to whether this protection of appropriative law would be available. In this event, the Government would probably attempt to exert exclusive control over the use of such water on the grounds that the water has the attributes of federal property.

The question of increased pollutional discharges during flow augmentation is important because this action would eliminate part or all of the intended water quality improvement. Although increased discharges during releases of stored water would affect adversely quality improvement, they could be accomplished without a reduction in existing stream standards because of the great assimilative capacity available. However, the fact that, irrespective of water quality standards, pollution control law requires secondary treatment or its equivalent and also exerts some control over the quantity of discharge, places limitations on the actions of polluters beyond those imposed by quality standards. Thus, in most instances, state law could prevent increased pollution from compromising the effects of flow augmentation. One possible exception exists in the case of an industry or other polluter who, because of location on a small stream, must utilize a waste storage system and limit discharges to periods of relatively high stream flow. It appears that individualized attention by the state regulatory agency would be required in this case to prevent discharges during periods when dilution water was being released.

RECOMMENDATIONS

RECOMMENDATIONS

1. All states devoid of statutory authority providing for the conveyance of stored water through natural stream channels without interference from other water users on the stream should give such enactments serious consideration. Without the protection offered by such statutes, releases of stored water into natural streams could sustain diminution in quantity and degradation of quality which would erode the investment in water rights and storage facilities. The use of artificial conduits as an alternative may not be economically feasible except for those users in close proximity to the storage reservoir. The water rights of others need not be compromised, and provisions could be included to insure that the conveyance of water did not result in injury to those not a party to storage agreement. Enactments of this type would further encourage local participation in federal reservoirs as authorized by water supply legislation.

2. A provision should be added to pollution control legislation having specific applicability to water quality standards to be maintained in these stretches of stream subject to water quality improvement by low-flow augmentation. The thrust of this provision would be to insure that the dilution water released into the stream did effect water quality improvement and that the impact of such additional water was not muted by a change in effluent (quantity and/or quality) brought about by the various polluters located on the stream. This law should provide for review and possible upgrading of water quality standards in effect during summer periods before the dilution water is made available. This legislative change could be made as a state statute, as an amendment to the federal water pollution control legislation, or as part of the federal water quality guidelines.

3. Several provisions in federal legislation show an intent to recognize state water law and state created water rights. The extent of the recognition intended is not clear in some cases and needs clarification.

A more detailed statement of intent seems desirable with respect to subsection (c) of the Water Supply Act of 1958. The legislative history suggests that the authors of the provision were concerned with maintaining some state control over water use, but the final form of subsection (c) makes no direct statement to this effect. Rather, it incorporates by reference other legislation (Section 8 of the Reclamation Act of 1902 and sections 1 and 8 of the Flood Control Act of 1944) relating to the protection of water rights created under state law. These sections contain vague language making the determination of their specific intent difficult. Thus, improved interpretation of subsection (c) is dependent on clarification or revision to the language of section 8 of the Reclamation Act of 1902 and section 1 of the Flood Control Act of 1944.

Some of the uncertainty with respect to section 8 of the Reclamation Act of 1902 has been removed by court interpretation. Supreme Court decisions have established that state law will define water rights for which compensation is to be paid, but they have denied the state's authority to control activities relating to the "operation" of reclamation projects. The courts have held on occasion that certain state statutes relating to the "operation" of a project are not applicable. A general criteria for judging what are to be considered as coming

within the operation of such projects has never been established. Thus the role of state law in reclamation projects having water supply and water quality storage needs to be clarified.

The effect of section 1 of the Flood Control Act of 1944 is also unclear, particularly with respect to those states located east of the 98th meridian. This provision shows an intent to preclude the use of the broad constitutional power of the Government to control the water of navigable streams in flood control projects. It declares that the policy of Congress is to recognize the interests and rights of the states to control the utilization of water. A subsection clarifies application of the provision to flood control projects located west of the 98th meridian, but the specific effect of this section on such projects east of this line is unclear.

Western states usually define water rights in terms of the use to be made of the water. Congressional legislation exempting the Government from the use requirement used in defining water rights would do much toward eliminating conflict where state and federal policy differ on the appropriate utilization of water.

4. The rights associated with the water supply storage are not clearly defined by law. The resulting uncertainty imposes a burden on parties contracting for storage in federal reservoirs where they are required to acquire water rights related to such storage. Several alternatives would remove or reduce this uncertainty:

(a) The Government could acquire the necessary water rights for such storage and pass the cost to the user in the same manner as construction costs are handled presently. Legislation authorizing this procedure could contain a provision requiring all parties claiming injury as a result of the water supply storage to present their claims for recovery against the United States within a prescribed time limit, thus eliminating the uncertainty associated with the possibility of new or expanded claims arising after extended periods of time.

(b) If water rights acquisition remains the responsibility of the user, the states should enact legislation to remove some of the uncertainty concerning water supply storage rights and facilitate participation in federal projects.

In riparian jurisdictions, the right to store water for future use has not been established cleaarly by case law. These states should declare by statute that storage of flood or other unused water for supply purposes be a lawful water use when such storage does not interfere with the rights of others. The right could be made available to riparians and nonriparians alike, thereby greatly increasing the scope of local participation in federal reservoir projects.

One important source of uncertainty concerning water supply storage arises from the possible future ripening of presently unused riparian rights, giving rise to unexpected damage claims or suits for injunction. A partial solution to this problem could be achieved through a statutory enactment requiring all parties having water rights affected by water supply storage to declare such rights within a prescribed time period. Failure to make such a declaration within the specified time would provide a basis for denying the assertion of such water right at a future date.

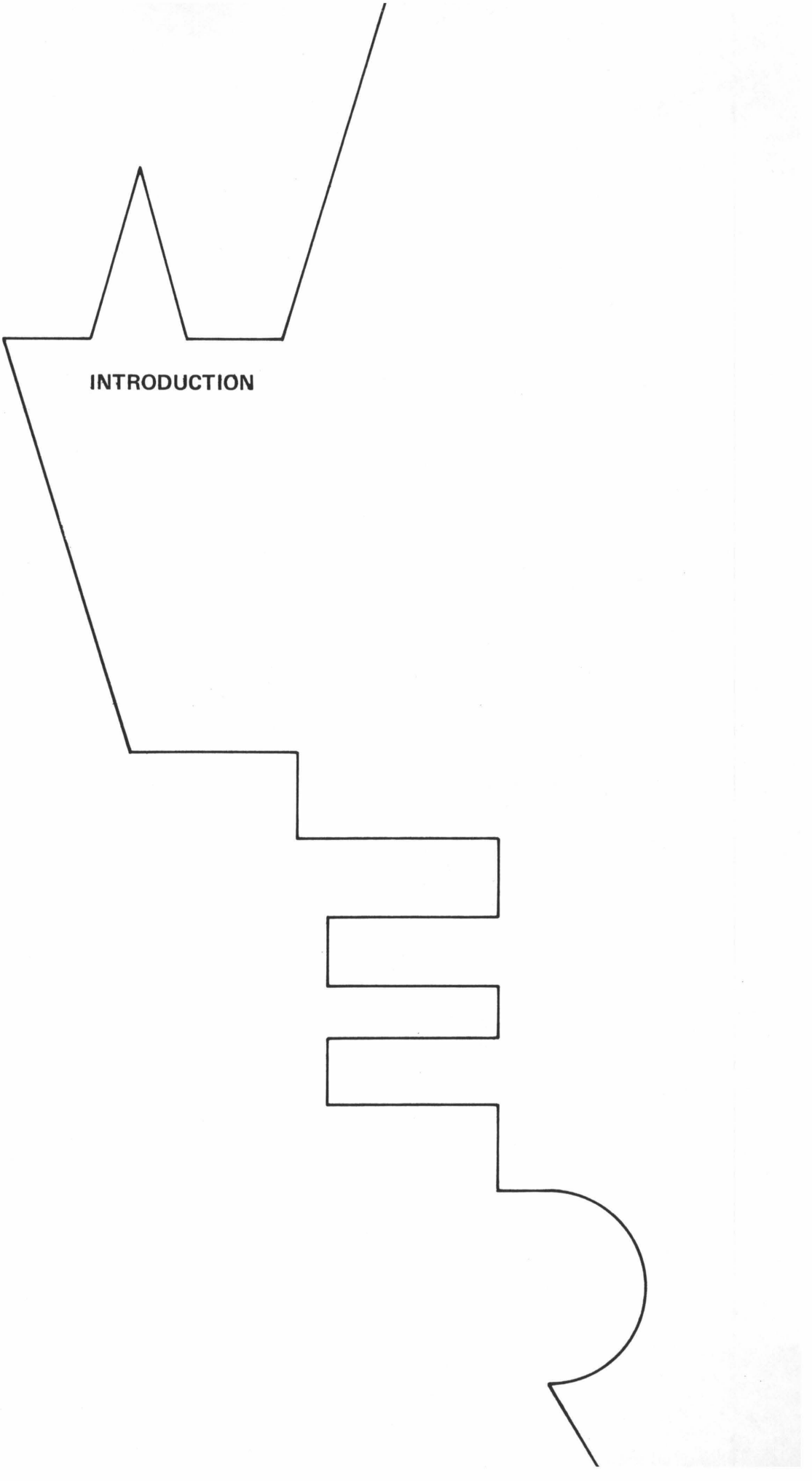
Appropriation of water for future uses in the western states should be considered. In order for municipalities and other water users to contract for storage in federal projects to meet anticipated future needs, there should be a means of obtaining rights for these future uses. Maximum use of water could be encouraged by permitting water appropriated for such future use to be used by others on a temporary basis until the original appropriator needed the water.

Changes in the law of prescription could help eliminate uncertainty concerning rights to store water for supply purposes. Shortening of the prescriptive period would allow rights to be finalized in a more practical period of time than the 20 years commonly used.

5. Specific authorization for the Government to dispose of surplus water from all federal reservoirs for water supply and low-flow augmentation purposes should be established. Limited authority already exists in certain instances. In addition, section 4(e) of the Federal Power Act appears to grant power for the Federal Power Commission to license surplus water from Government dams for power or non-power water uses. However, this provision might be subject to difficulties of interpretation, and clarification through enactment of additional legislation may be necessary.

6. The policy of requiring power companies to absorb the cost for including water quality storage in private hydroelectric projects should be examined. The Government has the Constitutional power to impose such requirements as a condition of granting authority to develop hydroelectric power from navigable waters, but there appears to be some question as to the propriety of this practice. The cost of federal storage facilities for water quality control is borne by the general public through taxation. If the costs associated with such storage are imposed on a power company as a capital investment, the customers of the company involved ultimately will bear the burden through increased electric utility rates. Thus it is conceivable that the costs for water quality storage in private power projects may be paid by a segment of the population differing from the segment benefited by the impounded water quality. If it is equitable to meet the costs of water quality storage in federal structures from the general treasury then some inequity may exist in cases where the cost of water quality storage is imposed on a limited population.

7. Industrial and municipal water users should not overlook the possibility of obtaining storage rights in private hydroelectric projects when federal reservoirs are not available. A recent amendment to the Federal Water Power Act authorizes the Federal Power Commission to license parts of such projects for non-power water purposes under certain conditions.


INTRODUCTION

Most of the dams constructed recently by the federal government have been of the multipurpose type. The idea of multipurpose construction is not new but has been given added emphasis as the need for comprehensive management of the nation's water resources developed. Storage for navigation, flood control, irrigation, power generation, and other purposes has existed for some time. Still other water uses have been included in recent years as needs and emphases have changed. Two of the latest purposes to receive expanded interest are water supply and water quality control.

It has become evident that an adequate water supply for a rapidly expanding population, a highly industrialized society, and an expanding agriculture must utilize all conventional means for increasing the amount of water available. Storage facilities with no provisions for water supply storage constitute an economic waste a growing economy can ill afford. Recognition of this situation has given rise to legislation for expanding the purposes of federal agency reservoirs to include water supply storage.

The problems associated with waste water disposal develop in conjunction with increased water demand. Although technology exists for the complete renovation of polluted water, such treatment is not economically feasible at this time. Thus water for dilution of the treated waste water effluent becomes both an economic and environmental necessity. Adequate amounts of water for dilution are provided by nature, but the random patterns of nature do not provide a dependable supply during all seasons of the year. Generally, increased amounts of water for dilution during periods of low stream flow cannot be provided economically by local governmental units. Economies of size and the inability to localize the benefits suggest water quality storage sponsored by the federal government on a non-reimbursable basis. Federal legislation responsive to this need has authorized storage for water quality purposes in federal reservoirs.

The enabling legislation for these two purposes consists of several separate laws and involves the jurisdictions of different federal agencies. Included are the Bureau of Reclamation, the Corps of Engineers, the Soil Conservation Service, and the Federal Power Commission. It is important to note that none of the legislation under consideration, either for water supply or water quality storage, creates special agencies to carry out its provisions. Authority is provided for the inclusion of such storage in dams constructed by or under the authority of existing agencies. Thus the enabling legislation is intimately associated with the laws governing the activities of these agencies.

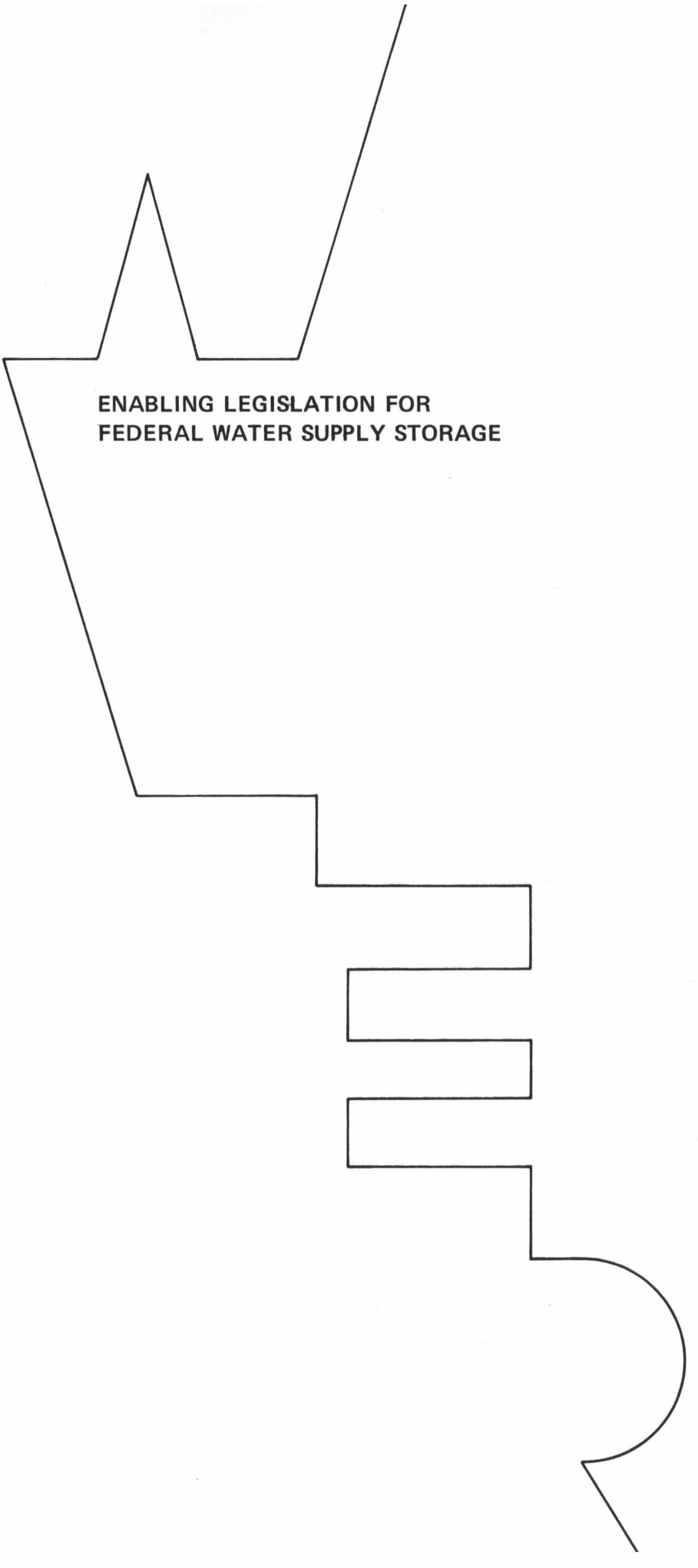
Reliance on the different laws and operating procedures of various agencies can have important effects on water supply and water quality storage. The individual agencies were created or first entered the water resources field to solve specific problems of the country. The Corps of Engineers primarily became involved in water resources because of the need for navigational improvements. The Bureau of Reclamation's involvement was initiated through reclamation of arid western land. Originally the Soil Conservation Service was concerned primarily with soil protection measures. The Federal Power Commission traditionally has had responsibility for the licensing of private hydroelectric power projects.

Each of these agencies has had its area of influence gradually broadened through the years since its creation. Each agency authorized to construct dams may now impound water for water supply and water quality purposes. The Federal Power Commission, while having no authority to construct dams, can now license parts of private projects for non-power purposes. However, restraints in the original authorizing legislation are still present and somewhat affect the activities of these agencies. Operating procedures of each agency also show evidence of this early emphasis on management of water resources for only one purpose. The legal rights related to storage of water for supply and quality purposes, therefore, may vary according to the federal agency involved.

The effectiveness of legislation for water supply and water quality storage would appear to depend not only on its own provisions but on several other factors. One of the most important items is the transient nature of water and the property rights which exist therein. Property interests are actually rights to use the water and are not rights in the corpus. Certain aspects of these rights vary from state to state, but they are always viewed as property rights. As such, they are defined by state laws and are protected by the United States Constitution. The federal legislation under study must operate within the framework of these property rights in water. These rights may determine the effectiveness of the legislation in accomplishing its intended purposes.

The federal legislation authorizing storage for water supply and water quality control is affected by individual water rights in two principal areas. First, the acquisition of water to store must give some recognition to state law. Second, a party storing water for these purposes may often use a natural stream to convey water from the dam to the point of use. Such water when released becomes susceptible to intervening water rights existing under state law. The release of the water supply to the stream could be avoided by use of artificial conduits, but the cost of such construction would be prohibitive in certain situations. In the case of dilution water, the release to the stream is necessary for the water to accomplish its purpose.

There are two main objectives to this report. The first is an investigation of the federal enabling legislation and the consequences of storage in the different types of federal reservoirs. The second is the exploration of the impact of state water law on the federal legislation. With respect to the second objective, various alternatives will be explored which will permit state law to complement rather than frustrate the intent expressed in the federal legislation.


ENABLING LEGISLATION FOR
FEDERAL WATER SUPPLY STORAGE

HISTORICAL DEVELOPMENT

Although the concept of water supply as a major purpose for construction of federal water resource projects has received added interest in relatively recent years, examples of legislation authorizing federal participation in such storage dates back to an early time in the nation's history. Perhaps the first example of such legislation was that authorizing the Corps of Engineers of the United States Army to make certain improvements to Pennsylvania Avenue in Washington, D. C., and to supply certain public buildings with water.[1] The Act authorized the construction of storage reservoirs and a water distribution system, and it provided for the purchase of necessary water rights.[2] This and other early legislation authorizing water supply storage by the Corps of Engineers was in the form of individual acts of Congress for each project.

The legislation first authorizing such storage by the Bureau of Reclamation contained somewhat broader authority. This act passed in 1906 was in the form of an amendment to the Reclamation Act of 1902.[3] It authorized the Secretary of the Interior to withdraw from public entry certain lands for townsites in connection with irrigation projects and to provide water rights for such townsites.

> *That the Secretary of the Interior shall, in accordance with the provisions of the reclamation Act, provide for water rights in amount he may deem necessary for the towns established as herein provided, and may enter into contract with the proper authorities of such towns, and other towns or cities on or in the immediate vicinity of irrigation projects, which shall have a water right from the same source as that of said project for the delivery of such water supply to some convenient point, and for the payment into the reclamation fund of charges for the same to be paid by such towns or cities, which charges shall not be less nor upon terms more favorable than those fixed by the Secretary of the Interior for the irrigation project from which the water is taken.*[4]

In 1920, a provision was added to reclamation law authorizing the use of water for "miscellaneous purposes." However, such use could be made of project water only when the following conditions were present: (1) the water users' association approved; (2) there were no other practicable sources for the water supply available; and (3) the supply was not detrimental to irrigation service.[5] There was no definition given for "miscellaneous purposes," except that it was for purposes other than irrigation, and therefore conceivably could have included municipal and industrial water supply.

The Secretary of the Interior was authorized specifically by the Reclamation Project Act of 1939[6] to enter into contracts for municipal water supply.

> *The Secretary [of the Interior] is authorized to enter into contracts to furnish water for municipal water supply or miscellaneous purposes:....*[7]

However, the Act provided that such contracts were not to impair the use of the project for irrigation purposes.[8]

The Soil Conservation Service, United States Department of Agriculture, became involved in water supply storage with the passage of the 1956 amendments to the Watershed Protection and Flood Prevention Act.[9] The law is still in effect and currently regulates the water supply activities of the Service.

The Water Supply Act of 1958[10] provided blanket authority for the Bureau of Reclamation and the Corps of Engineers to include water supply storage in their respective facilities. At present this act serves as the primary authorization for the majority of federal water supply storage activities.

Other statutes, while not specifically authorizing storage for water supply, must be considered as part of water supply legislation. Included in this classification are the Flood Control Act of 1944[11] and the Federal Water Power Act.[12] The 1944 Act, an amendment to the Flood Control Act of 1936,[13] authorizes the Secretary of the Army to make contracts for the sale of surplus water from all reservoirs under the control of the Department of the Army for the purpose of water supply.[14] Two provisions of the Federal Water Power Act are of interest because of their possible relationship to water supply. The first is a recent amendment which authorizes the Federal Power Commission to license all or part of a hydroelectric power project for non-power (and therefore conceivably water supply purposes.[15] The second provision is contained in section 4(e) of the Act which provides for the issuance of licenses for the purpose of utilizing the surplus water from Government dams[16] (again conceivably for water supply purposes).

All major legislation concerning water supply storage still in effect will be discussed in separate sections. Included will be the Water Supply Act of 1958, the Watershed Protection and Flood Prevention Act, the Federal Water Power Act, and the Flood Control Act of 1944.

WATER SUPPLY ACT OF 1958

The Water Supply Act of 1958[17] is one of the principal laws authorizing water supply storage in federal reservoirs. The following quotation states the purpose of the Act:

> *It is hereby declared to be the policy of the Congress to recognize the primary responsibilities of the States and local interests in developing water supplies for domestic, municipal, industrial and other purposes and that the Federal Government should participate and cooperate with States and local interests in developing such water supplies in connection with the construction, maintenance, and operation of Federal navigation, flood control, irrigation, or multiple purpose projects.*
>
> *In carrying out the policy set forth in this section, it is hereby provided that storage may be included in any reservoir project surveyed, planned, constructed or to be planned, surveyed and/or constructed by the Corps of Engineers or the Bureau of Reclamation to impound water for present or anticipated future demand or need for municipal or industrial water,....*[18]

In making water supply storage available in Corps of Engineers and Bureau of Reclamation projects, the Act creates the potential for this type of storage to be included in all major federal reservoirs.

Although the Water Supply Act was not the first legislation to authorize the use of water stored in facilities operated by the Corps of Engineers and Bureau of Reclamation for the purpose of water supply, it did elevate water supply from an incidental function to one of the primary purposes of reservoir construction by these agencies. Another important feature of the Act is the provision for water supply storage to meet anticipated future demands. Thus the Act is designed to reduce future water shortages as well as relieve existing ones.

This act has been viewed as providing a framework within which the Corps of Engineers and the Bureau of Reclamation can proceed to develop the best overall use of the nation's water resources for water supply and other needs as well. It is the intent of the Act that the participants in any such federal project share equitably in the benefits of multiple-purpose construction. Before construction or modification of any project to include water supply storage, the state or local interests must agree to pay for the cost of such provisions. Payment of the cost for storage space allocated to future water supply, up to a maximum of 30% of the total estimated cost of the project, can be deferred. The interest of the federal government is protected by the requirement that prior to initiation of construction or modification of a project, state or local interests must give reasonable assurances that they will contract for use of such storage on a basis allowing the costs allocated to water supply to be paid out during the life of the project.[19] The Act makes the following provisions with respect to payment of costs allocated to water supply:

[T]he entire amount of the construction costs, including interest during construction, allocated to water supply shall be repaid within the life of the project but in no event to exceed fifty years after the project is first used for the storage of water for water supply purposes, except that (1) no payment need be made with respect to storage for future water supply until such supply is first used, and (2) no interest shall be charged on such cost until such supply is first used, but in no case shall the interest-free period exceed ten years.[20]

The Water Supply Act of 1958 does not provide for the acquisition of the water rights related to storage nor is it specific regarding details associated with the application of the water to its intended use. These matters and the other details are evidently to be resolved through the normal operating procedures of the Corps of Engineers and the Bureau of Reclamation. The only direct reference in the Act to the laws under which these two agencies operate is contained in subsection (c).

The provisions of this section shall not be construed to modify the provisions of section 1 and section 8 of the Flood Control Act of 1944 (58 Stat. 887), as amended and extended, or the provisions of section 8 of the Reclamation Act of 1902 (32 Stat. 390).[21]

The effect of subsection (c) is to incorporate by reference certain operating requirements of both the Bureau of Reclamation and the Corps of Engineers in the implementation of this legislation. Section 8 of the Flood Control Act provides authorization for the Secretary of the Interior to construct and operate irrigation works in connection with Corps reservoir projects. Sections 1 of the Flood Control Act and 8 of the Reclamation Act both contain provisions concerning the protection of water rights existing under state law.

It is important to stress that subsection (c), the only reference in the Water Supply Act to legislation affecting the operations of the Corps and Bureau, refers to the major provisions in previous legislation related to the protection of water rights under state law. Although detailed analysis indicates that the actual impact of these provisions is somewhat uncertain, the fact that they were incorporated in the Water Supply Act shows a general intent by Congress that water supply storage should not operate apart from recognized rights.

The legislative history further helps clarify the intent of subsection (c). In hearings before a subcommittee of the Senate Committee on Public Works, Senator Watkins of Utah expressed the idea that a major concern with regard to the proposed legislation should be the maintenance of the validity of appropriative water rights under the law of the western states.[22] The Senator feared that the passage of legislation authorizing storage in federal reservoirs for this consumptive use would interfere with the traditional state control over such use unless careful safeguards were included in the legislation. He stated:

Out our way when they build a reclamation project they go to the State engineer, first of all, and find out how much water is unappropriated. Whether they have water that can be used for the project. They don't go on building a dam and worry about the water to fill it, so they go and check up and when they find there is unappropriated water, then they make a filing in the name of the United States, in trust for the people out there, and they comply with State Laws. We don't see any reason why the Army Engineers should not comply with the same procedure, especially now that they are going to get into the field of furnishing water for consumptive uses. That gives us additional reason for concern. That is what I am saying. I don't see any reason why anybody ought to object, least of all senators from the eastern states, because we are protecting the rights of your own people in the future.[23]

Senator Watkins was especially concerned about the effect of the proposed legislation on the rights of states to regulate and license use of water not yet appropriated and put to use. Subsection (c) as it came from the House of Representatives reads as follows:

The provisions of this section shall not be construed to modify the provisions of section 1 and section 8 of the Flood Control Act of 1944, as amended and extended, or the provisions of section 8 of the Reclamation Act of 1902, nor shall any storage provided under the provisions of this section be operated in such a manner as to adversely affect the lawful uses of the water [emphasis added].[24]

Senator Watkins objected to the last clause (the underlined portion) of the House version because of its "vagueness." He said:

In the Western States it might be interpreted to mean that it applies only to the water which has been appropriated and for which the State has given a certificate of appropriation....[25]

Because of this element of vagueness or uncertainty, the Senator suggested that subsection (c) be modified by omitting the clause underlined above. He proposed that an interpretation be given in the legislative history such that the section protected the rights of the states to their water, including the rights to license for future use of water. The final form, agreed upon by a committee from both the House and the Senate, was that proposed by Senator Watkins. Adoption of this form would seem to indicate acceptance of the concept that the Water Supply Act should contain provisions protecting water rights as defined by state law.

Although the Water Supply Act makes no direct provisions regarding the procedure for storing and using water for supply purposes, the legislative history of subsection (c) strongly suggests that the sponsors of the Act intended such storage to be accomplished without encroaching on state water rights. The Act in its original form suggests that the authors of

the legislation sought by legislative enactment to remove some of restrictive interpretations given to various sections of federal legislation related to state water rights under which the federal agencies operate. It has been shown that this clause was eliminated from subsection (c) not because of what it attempted to accomplish but rather to avoid a restricted interpretation of only applying to waters now appropriated. It is highly possible that in view of the legislative history of this Act that the courts in construing the application of sections 1 of the Flood Control Act and 8 of the Reclamation Act to the Water Supply Act might give greater recognition to water rights created by state law.

Bureau of Reclamation

Forerunners of the Reclamation Act were the Homestead Act of 1826[26] and the Desert Land Act of 1877.[27] These efforts were not entirely successful because the land could not be put to use after it was settled. In an effort to provide for irrigation to make the arid lands productive, Congress passed the Reclamation Act of 1902,[28] which established the Bureau of Reclamation to administer the Act.

The Reclamation Act provided for the sale of public lands in certain states,[29] with the proceeds of the sales being placed in a "reclamation fund" for the irrigation of the arid lands in those states. The Secretary of the Interior was given certain powers in effecting the reclamation of these lands. These powers include the right to withdraw public lands from public entry for inclusion in reclamation projects, the right to enter into contracts for the irrigation of lands to be reclaimed, the right to acquire rights or property necessary for projects by purchase or eminent domain, and the right to perform all acts and make rules and regulations necessary for carrying out the provisions of the Act.[30]

The constitutionality of the Reclamation Act was first questioned in United States v. Hanson[31] in 1909. The defendant contended that the work to be done and expenditures to be made were not public or governmental in nature, that the United States could provide such for lands within territories but not within the individual states, that the expenditures were not authorized by Congress, and that legislative powers had been delegated to the Secretary of the Interior. The circuit court held that all of the defendant's contentions were without merit and the Reclamation Act was constitutional and within the powers of Congress.

In United States v. Burley,[32] the defendant contended that since some of the reclamation project water was to be used on private lands, the Act was unconstitutional and the Secretary could not condemn lands for reclamation purposes. The circuit court[33] affirmed the decision of the district court holding that cooperation between private and public lands was necessary for the success of reclamation and that Congress did have the authority to provide for such projects. It therefore appears inmaterial that private lands are benefited so long as benefits are conferred on public lands.

Language from United States v. Gerlach Live Stock Co.[34] indicates that the Supreme Court views the constitutionality of the Reclamation Act as a settled issue:

> *Thus the power of Congress to promote the general welfare through large scale projects for reclamation, irrigation, or other internal improvement, is now as clear and ample as its power to accomplish the same results indirectly through resort to strained interpretation of the power over navigation.*[35]

In the early days of reclamation, most projects were authorized through appropriation bills, but the present method for authorizing projects is by individual acts for each project and for additions to existing projects. The trend has also been toward multiple-purpose projects with a wide variety of water uses represented. Irrigation not only is no longer the sole purpose but may not be even the major purpose of project construction. Priorities between the different project purposes are generally established by the individual project acts.[36]

These individual project acts are made subject to the general reclamation laws by provisions within the acts themselves. There appear to be two basic clauses employed for accomplishing this purpose.

> *In constructing, operating, and maintaining the works authorized by this Act, the Secretary [of the Interior] shall be governed by the Federal reclamation laws (Act of June 17, 1902 (32 Stat. 388), and Acts amendatory thereof or supplementary thereto), except as is otherwise provided in this Act.*[37]

> *[I]n accordance with Federal reclamation laws...except so far as those laws are inconsistent with this Act....*[38]

Since the Acts are subject to the general provisions of the reclamation laws, it would appear that the uses denominated are in addition to, instead of in lieu of, those uses set forth in the general laws, with the qualification that conflicts will be resolved in favor of the specific project act.

The irrigation of arid lands is intended to be a reimbursable function of the Bureau of Reclamation. Accordingly, no delivery of water is made upon project completion until repayment contracts are negotiated with the proposed recipients of irrigation water.[39] In some cases, individual project acts provide that projects will not be constructed until contracts have been executed to insure payment of appropriate charges.[40] These charges consist of construction costs allocated to irrigation storage[41] and operation and maintenance costs attributable thereto.[42] The charges are apportioned according to the productive value of the project lands.[43] Variations in reclamation law have given rise to many different repayment plans. Individual project acts often provide for repayment tailored to the circumstances of that project. However, in most plans the repayment

obligation is in annual installments over a period of years varying within limits set by reclamation law.[44] Failure to make the annual payments results in the stoppage of water delivery and may result in cancellation of related rights.[45]

Other purposes included in reclamation projects may be either reimbursable or nonreimbursable. Industrial or municipal water supply is a reimbursable item, while flood control, navigation, and low-flow augmentation are nonreimbursable. The cost allocation to nonreimbursable storage is the prerogative of the Secretary of the Interior.[46]

When construction is completed, responsibility for management and operation of reclamation projects is transferred to water users' associations subject to the conditions in the enabling legislation and the rules and regulations as established by the Secretary of the Interior. Title to physical facilities in reclamation projects remains in the Government unless otherwise provided by Congress.[47]

Nature of Water Rights in Reclamation Projects

A general statement concerning the nature of water rights in reclamation projects is contained in section 8 of the Reclamation Act of 1902.

> ***Provided, That the right to the use of water acquired under the provisions of this Act shall be appurtenant to the land irrigated, and beneficial use shall be the basis, the measure, and the limit of the right. [emphasis added]***[48]

Section 8 of the Reclamation Act, in reality, has adopted language very similar to that used in many western states to describe water rights. The basic requirement is the appropriation of water to beneficial use, and that use is the basis, measure, and limit of the water right. Before section 8 received specific interpretation by the courts, the United States was viewed as the appropriator of reclamation project water in United States v. Haga.[49]

> ***Perhaps it should be added at this point that the government is an appropriator of a large amount of the natural flow of Boise river for direct use upon the project lands,.... Its rights as an appropriator are subsequent to those of the New York Canal Company and of other large ditch companies diverting water...farther down the river,...***[50]

A 1924 Supreme Court decision (in which the Government was held to have the right to recapture seepage from project lands) appears to reaffirm the previous holding of the lower court that the United States rather than the water user is the legal appropriator.

> ***The defendants insist that when water is once used under the appropriation it cannot be used again, - that the right to use it is exhausted. But we perceive no***

ground for thinking the appropriation is thus restricted. According to the record it is intended to cover, and does cover, the reclamation and cultivation of all the lands within the project. A second use in accomplishing that object is as much within the scope of the appropriation as a first use is. The state law and the National Reclamation Act both contemplate that the water shall be so conserved that it may be subjected to the largest practicable use. A further contention is that the plaintiff [U.S.] sells the water before it is used, and therefore has no right in the seepage. But the water is not sold. In disposing of the lands in small parcels, the plaintiff invests each purchaser with a right to have enough water supplied from the project canals to irrigate his land, but it does not give up all control over the water or to do more than pass to the purchaser a right to use the water so far as may be necessary in properly cultivating his land. Beyond this all rights incident to the appropriation are retained by the plaintiff. [emphasis added][51]

This language seems to indicate that the Court viewed the landowners not as the appropriators but rather as possessors of special permission to make a restricted use of the Government's appropriation.

However, the language of the Court in Ickes v. Fox,[52] a 1937 case, suggests that water rights are appurtenant to the land irrigated and become the property of the land owner.

Appropriation was made not for the use of the government, but, under the Reclamation Act, for the use of the land owners; and by the terms of the law and of the contract...the water-rights became the property of the land owners, wholly distinct from the property right of the government in the irrigation works.... The government was and remained simply a carrier and distributor of the water...with the right to receive the sums stipulated in the contracts as reimbursement for the cost of construction and annual charges for operation and maintenance of the works. As security therefor, it was provided that the government should have a lien upon the lands and the water-rights appurtenant thereto--a provision which in itself imports that the water-rights belong to another than the lienor,...to the land owner.[53]

The opinion of the Court in the Ickes case regarding the nature of water rights in reclamation projects seems to be predicated on both the provisions of the Reclamation Act and an interpretation of applicable state law.

Acquisition of the government title to a parcel of land was not to carry with it a water-right; but all non-navigable waters were reserved for the use of the public under the laws of the various arid-land states [the Court was referring to the Desert Land Act].... And in those states, generally, including the State of Washington, it long has been established law that the right to the use of water can be acquired only by prior appropriation for a beneficial use; and that such

right when thus obtained is a property right, which, when acquired for irrigation, becomes, by state law and here by express provision of the Reclamation Act as well, part and parcel of the land upon which it is applied.[54]

The decision of Ickes (as to the landowner having the property right in the water) was adhered to in the 1945 case of Nebraska v. Wyoming.[55] The Court used this language in describing the effect of section 8 of the Reclamation Act:

We have then a direction by Congress to the Secretary of the Interior [section 8] to proceed in conformity with state laws in appropriating water for irrigation purposes. We have a compliance with that direction. Pursuant to that procedure individual landowners have become the appropriators of the water rights, the United States being the storer and the carrier.[56]

The decisions of Ickes and Nebraska appear at first to overrule the earlier court decisions regarding the interest of the United States in reclamation project water. However, the Court did not view the earlier cases (United States v. Haga[57] and Ide v. United States[58]) as being in conflict with the decisions of Ickes and Nebraska. Haga is cited with approval for a different proposition in Nebraska but is not mentioned with regard to the interests of the parties in project water. The Court seemed to distinguish the Ide case with the following language:

That principle [underlying Ide] is that although the water rights belong to the landowners, the owner of the irrigation project has an interest in the appropriative rights to the extent of obtaining the fullest use of the water for the project. It may, therefore, retain control over the water until abandonment.[59]

This interpretation of the Ide case indicated that the rights of the United States as a storer and carrier are not necessarily exhausted upon delivery of project water to the user. The effect of the case is to extend these rights to to seepage from irrigated project lands. Therefore, Ide is viewed as being consistent with the later decisions in spite of the absence of specific language limiting the rights of the Government to those of a storer and carrier.[60]

Although the controlling decisions of the Supreme Court label the user of reclamation project water as the appropriator, it is evident that his appropriation is of a restricted nature. His water rights are subject to the restraints contained in reclamation law and in his individual contract with the Bureau of Reclamation. There are several general conditions upon which his rights are dependant. One is the proper payment of all charges contained in the repayment contract.[61] Beneficial use serves as a second limitation on all water rights under reclamation law.[62] In the case of irrigation, the water right can be appurtenant to a limited amount of land.[63] All water rights are held subject to the availability of water, as

the Government assumes no liability arising from water shortages or interruptions of service.[64]

In the event of a water shortage the Secretary of the Interior possesses special powers. This provision in reclamation law emphasizes a basic difference between the rights of the user of reclamation project water and those of the holder of a normal private appropriation. The Secretary possesses wide powers of discretion to apportion the available water between users during such periods of shortage. The Court in Arizona v. California[65] discussed the power of the Secretary to apportion in times of shortage the water of the Colorado River pursuant to the Boulder Canyon Project Act.[66] The opinion stated that while the Secretary had to follow standards set out in the Act, he was free to choose among recognized methods of apportionment, or to devise reasonable methods of his own.[67] The established principles such as pro-rata sharing or division by the doctrine of equitable apportionment were seen as sources of guidance but were not held as binding on the Secretary in the exercise of his powers of discretion.[68] Thus, the users of reclamation project water cannot rely on the appropriative doctrine as enunciated in many states that the right, first vested is the superior right.

Although all rights in reclamation project water are held subject to these qualifying features, the party who enters into a contract with the Bureau of Reclamation does receive a conditioned water right which continues as long as the storage space concerned is physically available. The following contract provision is representative of the assurance given for the continuance of such water rights:

> *The District and its constituents shall have the right to use the project's available municipal water supply during the repayment period subject to payment on a current basis of such charges as are provided for in this contract. Upon completion of repayment of the District's repayment cost obligation, together with the interest thereon, the District shall have a permanent right to the use of that portion of the project allocable to municipal water supply purposes.*[69]

Acquisition of Water Rights

Although the appropriated water right in reclamation project water may not belong to the United States, the acquisition of water rights for such projects is the responsibility of the Government. The acquisition process is regulated primarily by section 7 and 8 of the Reclamation Act of 1902.[70] Section 7 provides for use of eminent domain condemnation in federal reclamation projects, while section 8 is concerned with the role of state law in acquisition proceedings.

Section 7

This section reads as follows:

> *That where in carrying out the provisions of this Act it becomes necessary to acquire any rights or property, the Secretary of the Interior is hereby authorized to acquire the same for the United States by purchase or by condemnation under judicial process, and to pay from the reclamation fund the sums which may be needed for that purpose, and it shall be the duty of the Attorney-General of the United States upon every application of the Secretary of the Interior, under this Act, to cause proceedings to be commenced for condemnation within thirty days from the receipt of the application at the Department of Justice.*[71]

Although section 7 of the Reclamation Act of 1902 did provide for eminent domain condemnation of property, it did not authorize the Government to take possession of the property before the proceedings were complete. Subsequent legislation in 1931 provided that the United States could take possession of property while the eminent domain proceedings were still in progress, with the provision that the Government was bound to pay the amount finally awarded.[72] Later acts have been held to allow the United States to physically seize property prior to instituting proceedings in eminent domain, with the landowner being allowed to sue under the Tucker Act[73] for damages caused by the seizure.

The United States Supreme Court in Dugan v. Rank[74] held that the Rivers and Harbors Act of 1937[75] was an act authorizing such seizure. The case arose out of the construction of Friant Dam within the Central Valley Project, a reclamation project located in California. The Government had been unable before the construction to effect agreements with several individuals who were to be affected by the erection of the dam. These landowners were the plaintiffs in the case and alleged that the diminution in the amount of water reaching their property caused by the dam was in effect a taking of their property without due process. An injunction was sought against the United States and reclamation officials. Relief was granted in the lower court, but the Supreme Court reversed, holding that the Rivers and Harbors Act especially provided for physical seizure. The Court in its opinion made reference to the following clause from the Rivers and Harbors Act:

> *[T]he Secretary of the Interior...may acquire by proceedings in eminent domain, or otherwise, all lands, rights-of-way, water rights, and other property necessary for said purposes: ....*[76]

The court pointed out that this clause was broader than section 7 of the Reclamation Act (which provided only for purchase and eminent domain condemnation) and that physical seizure and inverse condemnation were available to the United States under this later provision.

The Court of Appeals correctly held that the United States was empowered to acquire the water rights of respondents by physical seizure. As early as 1937, by the Rivers and Harbors Act, [citation omitted] the Congress had provided that the Secretary of the Interior 'may acquire by proceedings in eminent domain, or otherwise, all lands, rights-of-way, water rights, and other property necessary for said purposes....' Likewise, in United States v. Gerlach Live Stock Co.,[77] [citation omitted] this Court implicitly recognized that such rights were subject to seizure when we held that Gerlach and others were entitled to compensation therefor. The question was specifically settled in Ivanhoe Irrigation District v. McCracken,[78] [citation omitted] where we said that such rights could be acquired by the payment of compensation 'either through condemnation or, if already taken, through action of the owners in the courts.'[79]

It is clear that the United States must pay for any rights or property it acquires for use in reclamation projects.[80] The problem arises in determining what constitutes a "taking" for which compensation is due. It is obvious that a cutting off or a diminution of a water supply is a taking, but there are situations where the answer is not so apparent, as evidenced by the following cases.

In Wolfsen v. United States,[81] the United States took the return flow of the San Joaquin River, which flowed by plaintiff's property, and substituted therefor water from the Sacramento River. It was plaintiff's contention that he had riparian rights in the San Joaquin waters and that since riparian rights did not attach to foreign water in a stream, the United States had actually taken his riparian rights from him. The Court held that even if the plaintiff had a riparian right in the water (a matter about which there was some doubt), and that if the right was in fact extinguished, plaintiff still had the obligation of the United States to supply substitute water in the same amount. Neither right was deemed superior to the other, and plaintiff received no compensation.

In John Horstmann Co. v. United States,[82] plaintiffs were the owners of lakes from which they took soda for commercial sale. After the construction of the Truckee-Carson Reclamation Project, the level of the water rose continuously until the lakes were useless as a source of soda supply. It was plaintiff's contention that the rise was the result of the construction of a canal within the project. There was no evidence of negligence on the part of the United States. The Supreme Court held that there had been no "taking" and that plaintiffs were not entitled to any compensation or damages. The Court made this statement concerning the "taking" of property by the Government:

It is to be remembered that to bind the government, there must be implication of a contract to pay, but the circumstances may rebut that implication. In other words, what is done may be in the exercise of a right and the consequences only incidental, incurring no liability. [83]

It was the opinion of the Court that it would border on the extreme to hold that the Government intended a taking by a consequence which no human knowledge could even predict would occur.

Section 8

The other principal provision in reclamation law concerning acquisition of water rights is contained in section 8 of the Reclamation Act of 1902.

> *That nothing in this Act shall be construed as affecting or intended to affect or to in any way interfere with the laws of any State Territory relating to the control, appropriation, use, or distribution of water used in irrigation, or any vested right acquired thereunder, and the Secretary of the Interior, in carrying out the provision of this Act, shall proceed in conformity with such laws, and nothing herein shall in any way affect any right of any State or of the Federal Government or of any landowner, appropriator, or user of water in, to, or from any interstate stream or the waters thereof: Provided, That the right to the use of water acquired under the provisions of this Act shall be appurtenant to the land irrigated, and beneficial use shall be the basis, the measure, and the limit of the right.*[84]

Of fundamental importance to the operations of the Bureau of Reclamation is the meaning of the phrase "shall proceed in conformity with such laws." A broad interpretation of this part of section 8 conceivably could have required the federal government to acquire water rights in complete accord with all applicable state law, thus placing the Government in an equal position with individuals. Such an interpretation could have far-reaching consequences. In the western states, an individual's right is dependent on the use made of the water. If the federal government were to be placed on an equal footing with individuals, the acquisition of water rights for a reclamation project would be dependent on the purpose or purposes of the project. This dependence on project purposes would be limiting where a reclamation project contemplated water uses in violation of state law. The net effect would be to make reclamation project purposes dependent on individual state law and not on the intent of Congress.

An early decision by a lower federal court in Burley v. United States[85] supported such a broad interpretation of section 8.

> *The act of June 17, 1902, not only recognizes the Constitution and laws of the state providing for the appropriation of its waters and the reclamation of its arid lands, but it requires that the Secretary of the Interior, in carrying out the provisions of the act, shall proceed in conformity with such laws.*[86]

This language suggests that state law will govern all aspects of the appropriation of water for reclamation projects and will control the operation of such projects. It should be noted, however, that the holding of the case was not dependent on this construction of section 8.

The court in United States v. Union Gap Irrigation Company[87] also gave possible support to the interpretation that the United States has the same appropriative rights as do individuals. The following quotation states that the Government does share with the individual the requirement that the extent of a water right is measured by beneficial use:

> *The government, like an individual, can appropriate only so much water as it applies to beneficial uses, and can only restrain a diversion which operates to its prejudice.*[88]

However, the court does not indicate whether the basis of this statement is a recognition of state law or an application of the provisions of federal reclamation law. Also without explanation is the term "beneficial uses." The question which needs to be answered is whether "beneficial uses" will be defined by state law or by independent determination in the federal courts. Considerably different results might arise in the two situations.

State law varies regarding the rights of the federal government as an appropriator. In some instances, state law requires governmental compliance with the same procedures used by individuals.

> *[I]n order for the government of the United States to acquire the right to the use of waters flowing in the natural stream in this state, it must proceed as an individual to make an appropriation in compliance with the laws of the state....[emphasis added]*[89]

The significance of a judicial decision of this type would depend largely on the interpretation given to section 8 by the federal courts. Other states have elected not to seek compliance with state regulations and have provided special procedures for governmental appropriation in reclamation projects.[90]

Although an interpretation of section 8 requiring strict compliance with state law regarding appropriation apparently is accepted in some states and received preliminary recognition in lower federal court decisions, the United States Supreme Court in Ivanhoe Irrigation District v. McCracken[91] and Nebraska v. Wyoming[92] held that a more restricted interpretation is the correct one. In the Ivanhoe case, the Court considered a decision of the Supreme Court of California where that court had interpreted section 8 to mean that "whenever there is a conflict between the Federal Reclamation laws and the laws of the State, the law of California must prevail."[93] Accordingly, the California court had found that application of section 5 of the Reclamation Act relating to size limitations on the lands of project participants would be unconstitutional and therefore held certain contracts

between the United States and water users to be invalid. The Supreme Court in reviewing this case gave the following interpretation of section 8:

> *As we read [section] 8, it merely requires the United States to comply with state law when, in the construction and operation of a reclamation project, it becomes necessary for it to acquire water rights or vested interests therein. But the acquisition of water rights must not be confused with the operation of federal projects. As the Court said in Nebraska v. Wyoming [citation omitted], 'We do not suggest that where Congress has provided a system of regulation for federal projects it must give way before an inconsistent state system.'*[94]

This statement from Ivanhoe sets forth the important principle that state law will not control the operation of reclamation projects. Unresolved, however, is a precise definition of what functions are to be considered "operational" in a reclamation project. Several decisions have been reached regarding individual fact situations, but no clear criteria have emerged. For example, it has been held that section 5 of the Reclamation Act (which concerns the size of lands to be irrigated by reclamation project water) is a binding regulation to be followed in the operation of a project regardless of state law concerning this issue.[95] In Dugan v. Rank,[96] the court held that to require the United States to enter a physical solution (the California method of apportioning water between claimants who have valid claims to the use of the water[97]) in accordance with the state law would interfere with the operation of the reclamation project involved. The holdings in these cases suggest that the determination of the purpose of a reclamation project would be an issue coming within the meaning of "operation of reclamation projects" and would therefore be beyond the influence of state law as invoked and protected by section 8.

Further support for the position that state law will not influence the purposes of reclamation projects is given by this additional language in the Ivanhoe opinion:

> *Also beyond challenge is the power of the Federal Government to impose reasonable conditions on the use of federal funds, federal property, and federal privileges. [citations omitted] The lesson of these cases is that the Federal Government may establish and impose reasonable conditions relevant to federal interest in the project and to the over-all objectives thereof. Conversely, a State cannot compel use of federal property on terms other than those prescribed or authorized by Congress. [citations omitted]*[98]

In 1963, the Supreme Court restricted further the extent to which state law can influence reclamation projects pursuant to section 8 of the Reclamation Act.

> *Petitioner seems to say that [section] 8 of the Reclamation Act of 1902, 32 Stat. 390 [sic], 43 U.S.C. section 383, requires compliance with California*

statutes relating to preferential rights of counties and watersheds of origin and to the priority of domestic over irrigation uses. However, [section] 8 does not mean that state law may operate to prevent the United States from exercising the power of eminent domain to acquire the water rights of others.... Rather, the effect of [section] 8 in such a case is to leave to state law the definition of the property interests, if any, for which compensation must be made.[99]

In conclusion, the exact effect of section 8 on the acquisition of water rights for reclamation projects is somewhat unclear. The opinions of the Supreme Court have established very clearly that the "operation" of reclamation projects is independent of state law. The role of state law appears to have been relegated to the definition of compensable water rights. The roles of federal and state laws usually are viewed as being defined thus avoiding problems of overlapping jurisdictions. Unresolved are those questions wherein state law defines water rights in terms of the use to be made of the water, an area likely to come within the meaning of project operation. Later sections of this report will discuss this jurisdictional area which has been judicially defined as the province of both federal and state law.

Federal Jurisdiction of Reclamation Water

The point of delivery marks the limit of federal responsibility for the water and the beginning of the responsibility of the contracting water user. Thus any loss occurring after delivery is a loss to the water user and not to the Government.

In the absence of provisions in general reclamation law, the place of delivery is usually specified in the contracts between the Government and the user. Examples of such contract provisions are found in Reclamation Repayment Contracts.[100] The following excerpt from the repayment contract between the United States and the A and B Irrigation District as part of the North Side Pumping Division, Minidoka Project, Idaho, identifies the point of delivery with respect to that project:

Stored water to which the [A and B Irrigation] District is entitled under this contract will be delivered and measured at the outlets of the reservoir in which the water is actually stored.... The District will bear all losses chargeable to such water between those outlets and the District's point of diversion from the river.[101]

A considerably different agreement is contained in the contract between the United States and the Almena Irrigation District No. 5 as part of the Missouri River Basin Project.

Water will be delivered at the Almena Diversion Dam and for the purpose of determining the amount of water delivered to the [Almena Irrigation] District

[No. 5] and the charges to be paid therefore,...such water will be measured at said Diversion Dam ....[102]

In this situation losses between the storage facility and the downstream diversion dam are not chargeable to the water user.

The policy concerning establishment of points of delivery appears quite flexible. The location of such points in any given case will depend on the facts of that case and will be governed by contractual arrangements agreed to by the United States and the water user involved.

Although delivery of reclamation project water to the user may terminate the responsibility of the Government to the user, it should be noted that the rights of the United States in the water do not necessarily end at this time. The courts from an early period have held that the Government may recapture seepage from project lands and reuse the water. In Ramshorn Ditch Co. v. United States,[103] it was held that the Government could recapture seepage, provided there were no intervening rights. The right of recapture also was upheld in United States v. Haga[104] and in Ide v. United States,[105] a Supreme Court decision.

The court decisions generally have upheld the right to recapture, but they have indicated that the United States may lose its right to the water through abandonment. For example, in the Ramshorn case, the right was conditioned on the non-existence of intervening rights. The court did not suggest what might constitute "intervening rights." In support of its statement, the court cited three Colorado cases, including Beaver Brook Reservoir & Canal Co. v. St. Vrain Reservoir & Fish Co.[106] The latter case specifically held that an appropriation of abandoned water, made during the time of the abandonment, would defeat the right of the previous appropriator to recapture the water. The other decisions allowing recapture appear to be based on a determination that the water involved had not been abandoned. The following quotation from the Ide case discusses a situation where abandonment had not taken place but the language of the Court does not preclude the possibility of abandonment in other circumstances:

When it [the seepage] began to appear in appreciable quantity the plaintiff's officers took up the formulation of plans for utilizing it. The matter was much considered, for like problems were arising in connection with other projects. The advice of army engineers was sought; plans were recommended and adopted; necessary expenditures were authorized, and the work was then undertaken. That on the ravine [from which defendant claimed an appropriation] was begun in 1914 [seepage had become sufficient to produce a small but appreciable flow in the ravine in 1910]. At no time was there any purpose to abandon the seepage. On the contrary, the plaintiff needed and intended to use all of it for project purposes. This was stated and restated in various official reports, including some by the Director of the Reclamation

Service and the Secretary of the Interior and was well understood by the project officers. In these circumstances it is very plain that the plaintiff's right in the seepage was not abandoned.[107]

In an apparent attempt to guard against circumstances likely to be construed as abandonment of seepage water, the Bureau of Reclamation has made the recapture of this water subject to the terms of the individual contracts between the United States and the water users. The contract with the North Side Pumping Division, Minidoka Project, Idaho, contains a provision typical of those now in use.

The United States does not abandon or relinquish any of the waste seepage, or return flow waters attributable to the irrigation of the lands to which water is supplied under this contract. All such waters are reserved and intended to be retained for the use and benefit of the United States as a source of supply for the project.[108]

The effect of a contract provision of this type is shown in the case of Bean v. United States.[109] The court held that the water involved was expressly retained by the United States under the applicable contracts and denied the plaintiff's claim that the water had been abandoned. The court stated that the previous dumping of the seepage into a river did not constitute abandonment of the Government's right to recapture water in the future and exclude it from becoming part of the stream. The dumping merely signified that the water discharged into the stream had been in excess at the time of its disposal and only that quantity of water dumped into the river had been abandoned.

Water Supply Storage

Modern reclamation projects often include storage for water supply. In some cases this storage can be the primary purpose and on occasions may be the only reimbursable function.

Prior to the enactment of the Water Supply Act of 1958, storage for supply purposes was generally an incidental function of any given project development. With the passage of the 1958 Act, water supply for municipal and industrial purposes was escalated in importance. However, expanded activities by the Bureau of Reclamation in the water supply field have not required any major change in its mode of operation.

The original reclamation law still provides the basic framework for project implementation. Pursuant to the Supreme Court's interpretation of this law,[110] municipalities and industries contracting for water supply storage will become the appropriators of project water under state law. The rights accruing to such appropriators will be conditioned on the restraints in reclamation law and the individual water use

contracts. These conditions include, among others, the payment of all costs allocated to such storage.

In the past, acquisition of water rights for reclamation projects has been the responsibility of the Government.[111] This obligation does not appear to be affected by variation in project purposes. The acquisition process may be complicated because water rights in the western states are defined in terms of the nature of the use to be made of the water. Resolution of this problem area may have to await further judicial interpretation of the effect of state law on project implementation.

Most of the detailed aspects of water supply storage are not enunciated in reclamation law but are set forth in the contracts between the water users and the United States. The federal legislation merely establishes the organizational structure and general legal framework within which storage for this and other purposes can be accomplished. The terms of the legislation appear to be broad enough to allow resolution of the problems of each specific case on an individual basis.

The fact that many of the details of project construction and operation fall within the province of contractual arrangements suggests a review of the major provisions of a representative contract. Although no contract can be considered as typical, the major terms in the contract for the Norman Project, Oklahoma, will be examined.

The Norman Project is one of the first to have municipal and industrial water as the only reimbursable project function.[112] The principal parties to the contract are the United States and the Central Oklahoma Master Conservancy District, a central operating agency consisting of those municipalities desiring water supply storage. The individual cities have contracts with the District, thus relieving the United States of the necessity of entering into a separate contract with each water user.

The contract provides for water supply storage adequate to meet the needs of the municipalities involved and construction of an aqueduct system for transporting the water from the reservoir to the member cities. Treatment of municipal water is not included in the project plan. Although municipal and industrial water supply are the only reimbursable project functions, storage is allocated to the additional purposes of flow regulation, the conservation and development of fish and wildlife, and the enhancement of recreational opportunities.[113]

The repayment obligation of the District consists of the construction costs allocated to municipal and industrial water supply. This obligation is to be paid in 50 annual installments. In addition, the District is responsible for operation and maintenance costs of the project. The estimated annual operation, maintenance, and replacement costs allocated to flood control and fish and wildlife were capitalized for the contract period, and a credit was given the District against its allocated construction costs.[114] This action eliminated the requirement for budgeting the non-reimbursable annual costs.[115] In consideration for these

payments, the District has the right to use the project's available municipal water supply during the repayment period. Upon the repayment of the total cost obligation, the District will have a permanent right to use that portion of the project allocated to municipal water supply purposes.[116]

Project construction is the responsibility of the United States, but the District must operate the project upon completion.[117] The Government reserves the right to establish criteria for project operation to insure that the benefits allocated to the non-reimbursable purposes are obtained.[118]

The provisions of this contract illustrate how some of the important issues concerning water supply storage under reclamation law have been resolved. Since the storage situation described is relatively uncomplicated, the contract does not mention certain other issues that could arise under different circumstances. For example, since the water is to be transported from the reservoir by an aqueduct system owned by the District, questions of what constitutes delivery and who sustains transmission losses are not relevant to this contract. A previous section in the report has shown the policy of the Government concerning delivery of water and the limits of federal responsibility to be quite flexible and subject to negotiation. These and other items of importance in an individual project would have to be resolved by contract to the satisfaction of the parties involved.

United States Army Corps of Engineers

Work related to water resource development has long been a major function of the United States Army Corps of Engineers. This agency exercises the power of the federal government to control the navigable waters of the country, a power first held to come within the jurisdiction of the Commerce Clause of the United States Constitution by the Supreme Court in Gibbons v. Ogden.[119] Since the jurisdiction of the Corps of Engineers is limited to navigable waters, the concept of navigability must be delineated.

Navigability

The English common law, from which the American law evolved, holds those waterways in which the tide ebbs and flows to be navigable. This definition of navigability was rejected at an early date by courts in the United States.

The American test was first enunciated in a case concerning admiralty jurisdiction.

> ***Those rivers must be regarded as public navigable rivers 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, over which trade and travel are or may be conducted in the customary modes of trade and travel on water.[120]

This early statement by the Supreme Court has been subjected to interpretation resulting in a broad definition of navigability.

One of the major expansions occurred in United States v. Appalachian Electric Power Co.[121] The Court held that a waterway's potential for navigation must be considered, and that one which could be made navigable by means of "reasonable improvements" would be navigable in law.[122] The stream under consideration in this case was held navigable by application of this principle, notwithstanding the fact that Justice Roberts in a dissenting opinion pointing out that the cost of improvement would be "emormous," and that Congress in the past had undertaken the task to render the river navigable but had given up the attempt.[123]

The navigability concept has been held to include all streams once navigable. The absence of use over a long period of time does not change its character. This principle was referred to in the Appalachian case and affirmed in Oklahoma v. Guy F. Atkinson Co.[124]

The extension of federal control to nonnavigable tributaries of navigable streams was another expansion of federal authority. The Oklahoma case held that power of Congress under the Commerce Clause to protect a navigable river from floods extends to the control of the waters of its tributaries.[125] The United States v. Rio Grande Dam and Irrigation Co.[126] case placed nonnavigable streams affecting the navigable capacity of the mainstream under federal control.

Other situations where seemingly nonnavigable streams have been made subject to federal control also exist. For example, Congress can exercise its control over the nonnavigable stretches of a stream in order to preserve or promote commerce on the navigable portions.[127] Lack of commercial traffic does not preclude the classification of a waterway as navigable where personal or private use by boats demonstrates the availability of the stream for the simpler types of commercial navigation.[128] Thus it can be concluded that few waters in the United States can be securely classified as legally "nonnavigable" and therefore immune from exercise of the navigation power by the federal government.

Navigational Servitude

The United States utilizes the water of navigable streams without compensation to those injured thereby through exercise of the "navigational servitude."

This navigational servitude - sometimes referred to as a 'dominant servitude', [citations omitted] or a 'superior navigation easement', [citations omitted] - is the privilege to appropriate without compensation which attaches to the

exercise of the 'power of the government to control and regulate navigable waters in the interest of commerce.'[129]

This unique rule of no compensation for water rights taken arises because private property rights (as defined by state law) are not recognized in the flow of navigable streams. The Supreme Court in United States v. Chandler-Dunbar Water Power Co.[130] states "...that the running water in a great navigable stream is capable of private ownership is inconceivable."[131] Thus the exclusion of riparian owners from the benefits of the water of navigable streams without compensation has been held to be entirely within the federal government's discretion.[132] The fact that property rights in such water are recognized by state law is no defense against the "taking," without compensation, by the United States.

> ***It is no answer to say that these private owners had interests in the water that were recognized by state law. We deal here with federal domain, an area which Congress can completely pre-empt, leaving no vested private claims that constitute 'private property' within the meaning of the Fifth Amendment.***[133]

The rule of no compensation is limited to the waters of navigable streams and their beds. The Supreme Court in United States v. Kansas City Life Ins. Co.[134] held that compensation was due a landowner when the maintenance of water at the high-water mark for navigation resulted in underflowing which destroyed the agricultural value of adjoining uplands. The Court stated that the United States was liable for the taking of property within the meaning of the fifth amendment.[135] The principle apparently underlying this decision was expressed in a 1961 case.

> ***Since the privilege or servitude only encompasses the exercise of this federal power with respect to the stream itself and the lands beneath and within its high-water mark, the Government must compensate for any taking of fast lands which results from the exercise of the power.***[136]

However, the value of any lands taken must be determined without regard for the presence of the stream. For example, the Supreme Court has denied the claim of landowners that land suitable for the location of a hydroelectric power plant should have increased value because of its availability for utilization of the water power of the stream. The Court has pointed out that the payment of such additional compensation would recognize private property value in the flow of a navigable steam, private ownership of which is "inconceivable."[137]

Application of Navigational Servitude

Since in theory the United States can exercise the navigational servitude in practically any waterway, it is important to consider the purposes for which the servitude can be

invoked. It would appear logical to assume that this power should be limited to serving the interests of commercial navigation. However, in much the same fashion as the concept of navigability has been expanded, the realm of applicability of the navigational servitude had been enlarged. The Supreme Court has stated the limits on the Government's power of control over navigable waters as follows:

> ***In our view, it cannot properly be said that the constitutional power of the United States over its waters is limited to control for navigation. By navigation respondent means no more than operation of boats and improvement of the waterway itself. In truth the authority of the United States is the regulation of commerce on its waters. Navigability, in the sense just stated, is but a part of this whole. Flood protection, watershed development, recovery of the cost of improvements through utilization of power are likewise parts of commerce control.***[138]

The Court states that the authority of the Government over navigable waterways "is as broad as the needs of commerce."[139]

The extension of governmental control over navigable waters to include flood control can be related directly to navigation. Accordingly, the protection and improvement of navigation by averting floods and regulating stream flow has been held to be a valid exercise of the commerce power.[140] As indicated previously, this control has been extended to the nonnavigable tributaries of navigable streams.[141]

The production of hydroelectric power cannot be related so directly to navigation, but the Supreme Court consistently has upheld the constitutionality of projects incorporating power production. In Ashwander v. T.V.A.,[142] Article IV of the United States Constitution was invoked as authority for the sale of electric power generated at a federal dam on the Tennessee River. The dam had been constructed pursuant to the National Defense Act of June 3, 1916,[143] for the purposes of electric energy production for munitions manufacture and for navigation. The Court held that the dam had been established constitutionally and upheld the Government's peace time operation of the dam apparently because of its relation to navigation and because it was a "national defense asset."[144] After pointing out that the susceptibility of water power and electric energy to disposal as Government property was well established,[145] the Court indicated that the amount of such property subject to disposal was a matter left to the discretion of Congress and refused to place limitations on the amount to be sold.[146]

The Court also has upheld the constitutionality of navigation and flood control projects which include provision for power production. The fact that the sale of electric power helps the Government recover costs associated with such projects has been seen as justification for the power aspects of the projects.[147] The Court has indicated that storage for power production also is related functionally to flood control.

And so far as the power storage is concerned, the Definite Project makes plain that it is functionally related to the broad objectives of flood control. The operation of the reservoir will involve a consideration of its multiple purposes. Its operation in periods of drought so as to regularize the flow below the dam; the reduction in reservoir outflow in case of floods down the valley; the increase of the outflow, in case of impending floods from above the dam, to the maximum 'bank full capacity downstream of the dam, so that the maximum amount of flood control storage will be available when the peak of the flood reaches the reservoir, thereby reducing the peak outflow of the reservoir to a minimum' - these are ample evidence that the power features and the flood-control features of the dam, including river flow, are not unrelated. They demonstrate that, in operation of the dam, the several functions will be interdependent, and that the conflicts between the respective requirements of flood control and power development are here more apparent than real.[148]

Thus the Court has refused to separate the functions of multi-purpose projects and has consistently held the power element of reservoirs to be within the authority of Congress. It is for Congress to determine what elements in a reservoir project will best enhance the cause of improving navigation or flood control.[149]

The reasoning behind the justification of power production as an incidence to the control of navigable waters in regulation of commerce does not limit power production to an incidental or subordinate purpose of reservoir construction. In refusing to enjoin the construction of a reservoir project that had hydroelectric power as its primary purpose, the Supreme Court stated:

[T]he fact that ends other than flood control will also be served, or that flood control may be relatively of lesser importance does not invalidate the exercise of the authority conferred on Congress. [emphasia added][150]

It thus appears that the constitutional authority of Congress includes the construction of reservoirs for a variety of purposes, provided these reservoirs include some direct or indirect relation to navigation. The importance of this relation is emphasized by the following statement:

[I]n every instance in which this Court has denied compensation for deprivation of riparian rights it has specifically noted that the federal undertaking bore some positive relation to control of navigation. [citations omitted]... [T]his Court has never permitted the Government to pervent its navigation servitude into a right to destroy riparian interests without reimbursement where no navigation purpose existed.[151]

The Court specifically has avoided consideration of the question as to whether the Government could exercise its navigational servitude to take water rights for purposes which bear no actual relation to navigation.

[W]e need not ponder whether, by virtue of a highly fictional navigation purpose, the Government could destroy the flow of a navigable stream and carry away its waters for sale to private interests without compensation to those deprived of them. We have never held that or anything like it, and we need not here pass on any question of constitutional power;...[152]

The right to exercise the navigational servitude may be waived where the Government has given its consent to the payment of compensation for water or water rights taken during the construction of water resource projects. This situation existed in the above quoted case, United States v. Gerlach Live Stock Co.[153] In this case the Supreme Court affirmed the award of compensation to riparian owners below the Friant Dam in California whose water supply had been cut off by the dam. This dam was a part of the overall Central Valley Project which did at certain places have elements of flood control and navigation improvement. This particular reservoir (Friant), however, apparently had few real flood control or navigation elements, but was devoted almost entirely to reclamation objectives.

The Government seems to have been relying on the premise that if there were an element of flood control or navigation either in the whole Central Valley Project or at the Friant Dam, it would not have to compensate for any of the water taken at Friant Dam.

[T]he Government relies on the rule that it does not have to compensate for destruction of riparian interests over which at the point of conflict it has a superior navigation easement the exercise of which occasions the damage. And irrespective of divisibility of the entire Central Valley undertaking, the Government contends that Friant Dam involves a measure of flood control an end which is sensibly related to control of navigation.[154]

The Supreme Court, however, found that the act of Congress authorizing the Central Valley Project[155] had incorporated an earlier statute[156] making the Friant Dam project "reimbursable in accordance with reclamation laws."[157] Congress, therefore, had not intended that this water be taken without compensation.

The Court based its decision concerning compensation in the Gerlach case on the fact that the federal project had been totally under the control of the Bureau of Reclamation. The Court pointed out that "...dams and other works only for flood control are exclusively the responsibility of the Army Engineers."[158] Thus the exercise of the navigational servitude appears to be solely the prerogative of the Corps of Engineers.

Another situation where the Government has chosen to use less than all of its constitutional powers is found in the Flood Control Act of 1944.[159] This legislation contains the following provision dealing with the power of the Government to exercise the navigation servitude:

In connection with the exercise of jurisdiction over the rivers of the Nation through the construction of works of improvement, for navigation or flood control, as herein authorized, it is hereby declared to be the policy of the Congress to recognize the interests and rights of the States in determining the development of the watersheds within their borders and likewise their interests and rights in water utilization and control, as herein authorized to preserve and protect to the fullest possible extent established and potential uses, for all purposes, of the waters of the Nation's rivers; to facilitate the consideration of projects on a basis of comprehensive and coordinated development; and to limit the authorization and construction of navigation works to those in which a substantial benefit to navigation will be realized therefrom and which can be operated consistently with appropriate and economic use of the waters of such rivers by other users.

In conformity with this policy:

...(b) The use for navigation, in connection with the operation and maintenance of such works herein authorized for construction, of waters arising in States lying wholly or partly west of the ninety-eighth meridian shall be only such use as does not conflict with any beneficial consumptive use, present or future, in States lying wholly or partly west of the ninety-eighth meridian, of such waters for domestic, municipal, stock water, irrigation, mining, or industrial purposes.[160]

An interpretation of this section is found in Turner v. Kings River Conservation District.[161]

The provision of the preamble upon which appellants rely (58 Stat 887, 33 U.S.C.A., section 701-1) [the section quoted in part above] would appear to mean only 'that in the operation of...[projects authorized by the Act] the use of water for navigation will be subordinate to present and future beneficial consumptive uses--in other words, irrigation ditches will never be closed to supply water to float barges....'

While the words of the preamble of the Act may indeed reflect a concern that state-created private water rights be protected, the hazard sought to be avoided was not that federal officers would take such rights by eminent domain, in return for just compensation. Rather, the language was intended to prohibit destruction of state-created water rights without any compensation at all, by the assertion of an overriding federal easement for navigation.[162]

Thus section 1 has been seen as specifically prohibiting the exercise of the navigational servitude with respect to those projects authorized by the Flood Control Act of 1944[163] lying west of the ninety-eighth meridian.[164] The court's holding establishes the rule that rights in such water can be taken only through eminent domain condemnation and the

payment of compensation by the Government. No interpretation of the effect of section 1 on federal projects lying east of the ninety-eighth meridian is available. The policy section of section 1 implies that the protection of all of the uses of the waters of the nation's rivers from the effects of navigation projects was the concern of Congress, but the exact extent of the limitation placed on the navigational powers of the Government is not clear. Subsection (b), upon which the court in the Turner case based its decision, is a specific application of the policy section to federal projects west of the ninty-eighth meridian, but no such provision concerning projects east of that line exists.

In conclusion, there appear to be few limitations on the constitutional power of the Government to exercise the navigational servitude. "If the interests of navigation are served, it is constitutionally irrelevant that other purposes may also be advanced."[165] The "interests of navigation" may be served either directly or indirectly through flood control and stream regulation. Also, navigation does not have to be the primary function of a project; constitutional authorization requires only that there be some relation to navigation control. However, important limitations have been self-imposed by legislation. The Government has chosen to restrict the application of the servitude to those projects constructed by the Corps of Engineers. Accordingly, legislation concerning the activities of other agencies has contained provisions to protect water rights of others. The latest and perhaps most significant restriction of the application of the servitude is contained in the provisions of the Flood Control Act of 1944, where even the Corps of Engineers has been limited in applying the servitude. The full effect of this limitation is not yet apparent.

Water Supply Storage

The acquisition of water rights for water supply storage in Corps projects is affected by the provisions of the Water Supply Act.[166] However, before these provisions are examined, consideration will be given to the constitutional right of the Government, acting through the Corps of Engineers, to impound the waters of a navigable stream for supply purposes without accountability to those persons whose water rights have been taken.

The right of the United States to construct a water resource project containing storage provisions for water supply seems to be beyond question. Although the constitutionality of such storage has not been decided directly, prior decisions by the Supreme Court regarding related issues suggest this outcome. For example, the previously quoted statement "If the interests of navigation are served, it is constitutionally irrelevant that other purposes may also be advanced,"[167] appears to be a blanket authorization for any project with some relation to navigation. Thus the constitutionality of statutes authorizing the construction of reservoirs containing water supply storage will likely be upheld, provided that the "interests of navigation" are served in some manner.

The question as to whether the Government would be required under the fifth amendment to pay compensation for water rights taken for the supply aspects of such

projects cannot be answered directly. Water supply is a consumptive use of water without direct precedent as a purpose for a Corps reservoir. This purpose appears to bear little or no relation to navigation.

Support is given to the contention that storage for consumptive use is distinguishable from non-consumptive storage by language from Rank v. Krug.[168]

> *There is a vast difference between impounding water and merely delaying or regulating the flow in aid of navigation or flood control or power purposes where it re-enters the river system below the point of impoundment, and the situation complained of here, where it is asserted that after the impoundment..., the entire flow of the river is threatened to be diverted so that it does not again re-enter the river system....*[169]

The Government's position in the Rank case was not predicated on whether the use in question was consumptive or non-consumptive. The Government felt that the relevant question was whether Congress had the dominant power over the water under the Constitution. It argued that the stream in question was a part of a river system having some navigable parts. The control of Congress therefore should extend to all parts of the system, including the tributaries and non-navigable stretches of the streams. The court, however, seemed to feel that the disposition to be made of the water was the controlling issue. In its opinion the court distinguished the facts in the Rank case from those relied on by the United States[170] as related to the power of Congress over the nation's waterways.

> *But these cases do not apply here.... In each of them there was involved water power development or flood control, or both, as distinguished from diversion and taking of the water out of its natural course below the dam involved.*[171]

The holding of the case, however, did not turn on this discussion by the court.

Although water supply can be differentiated from nonconsumptive water uses, there are other strong arguments to oppose the position that water rights taken for supply purposes should be compensable because such storage bears no relation to navigation. Acceptance of the position that water rights taken for supply purposes are compensable requires separation of the purposes of a reservoir project. The Supreme Court refused to make such a separation in Oklahoma v. Guy F. Atkinson Co.[172] The State of Oklahoma contended that the power element of a federal project was functionally and physically separate from the rest of the project. In refusing to recognize this contention, the Court held that the power element of the project was related to the other purposes both functionally[173] and through repayment of costs associated with the project.[174] Water supply storage cannot be related through repayment of project costs, but the courts may hold that a similar functional relationship exists with flood control and navigation. Increasing the reservoir capacity to provide for water supply storage may well complement

the purpose of flood control by making additional storage available during critical flood periods. If the natural channel is used as a conduit to convey the water to a downstream point of diversion, a direct functional relationship may exist between water supply storage and navigation. The nature of this possible functional relationship would appear to be similar to that existing in the case of hydroelectric power storage, which has been described as follows:

> *'If the Denison Reservior were constructed for the dual purpose of flood control and power development, these beneficent effects would be augmented by those resulting from the regulated power discharge which would increase low-water flows and furnish more dependable navigable stages especially in the upper portions of the navigation pools.'*[175]

It would be anticipated that the need for stored water for supply purposes would occur most often during periods of low-flow in the stream. Thus water moving to the point of use might well contribute to improved navigation.

There is another major obstacle to acceptance of the argument that the riparian owner should receive compensation for damages caused by water supply storage on navigable streams. Any claim to the right of compensation presupposes the existence of a property right in the water. The Supreme Court in United States v. Chandler-Dunbar Co.[176] was quite specific that such rights do not exist.

> *Having decided that the Chandler-Dunbar Company as riparian owner had no such vested property right in the water power inherent in the falls and rapids of the river, and no right to place in the river the works essential to any practical use of the flow of the river, the Government cannot be justly required to pay for an element of value which did not inhere in these parcels as upland.*[177]

The Court indicated that private ownership of the water of a navigable stream is "inconceivable." This holding would be a major obstacle to the argument for compensation.

Thus the question as to whether the Corps of Engineers as an agent of the Government is constitutionally empowered to take without compensation the water of a navigable stream for water supply purposes has not been answered directly. The evidence tends to support the position that this application of the navigational servitude would not be prevented by the Constitution.

However, disposition of the constitutional question does not completely resolve the issue. Provisions of applicable legislation concerning water rights for water supply storage must also be considered. Although the Water Supply Act makes no direct mention of the acquisition of water rights, consideration of subsection (c) of the Act and its legislative history indicate that the exercise of the navigational servitude may not be contemplated.

(c) The provisions of this section shall not be construed to modify the provisions of section 1 and section 8 of the Flood Control Act of 1944 (58 Stat. 887), as amended and extended, or the provisions of section 8 of the Reclamation Act of 1902 (32 Stat. 390).[178]

Review of the legislative sections enumerated herein is needed to determine the significance of subsection (c). Only two of the sections mentioned are applicable to the operations of the Corps of Engineers. Section 8 of the Flood Control Act of 1944 provides authorization for the Secretary of the Interior to construct and operate irrigation works in connection with Corps reservoir projects and therefore does not concern the issue of water rights acquisition, but section 1 of the Act is pertinent.[179] Prior discussion of section 1 has disclosed that it is intended to protect water rights existing under state law by restricting the application of the navigational servitude. One provision of this section having application only to those projects west of the ninety-eighth meridian has been clarified through court interpretation. The language of the court seems to preclude use of the servitude in this western area,[180] but no precise interpretation of the effect of section 1 east of this meridian is available.

The current procedure followed by the Corps in contracting for water supply storage does not make use of the navigational servitude either east or west of this line. The Corps has developed an operating policy whereby it takes no active part in the acquisition of water rights connected with this type of storage. The only contractual commitment entered into by the Corps is to provide a predetermined amount of storage in its reservoir facility. After contracting for this space, the user must take the responsibility of acquiring, in accordance with state law, all water rights needed for utilization of the storage space. The following quotations are from a form used by the Department of the Army as a guide for individual project contracts:

The User shall have the right to utilize [an undivided--per cent of] the storage space in the Project between elevations_____ feet above mean sea level and____ feet above mean sea level, estimated to be____acre-feet, to impound water for [present] [present and anticipated future] [future] demand or need for municipal and industrial water supply.[181]

The regulation of the use of water supply from the aforesaid storage space shall be the responsibility of the User. The User has the full responsibility to acquire in accordance with State laws and regulations, and if necessary to establish and defend, any and all water rights needed for utilization of the storage space provided under this contract.... The User shall utilize the aforesaid storage space in a manner consistent with Federal and State laws.[182]

The Government offers no protection to the user from actions of other parties affecting the water after it is stored.

The United States shall not be responsible for diversions by others, nor will it become a party to any controversies involving the use of the storage space by the User except as such controversies may affect the operations of the United States.[183]

In addition, the United States requires as a part of such agreements that the user hold and save it harmless from liability of any nature arising out of use of the storage space.[184]

Thus the role of the Government in this situation is simply that of owner of the physical facilities providing the water supply storage. The actual storage of water and its release from storage are performed on orders from the user (within certain contractual limitations[185]). All legal considerations arising from such storage or release are the responsibility of the water user and must be resolved by means of applicable federal and state law. Therefore the rights of the user with regard to the stored water are essentially the same as those which would exist if the user constructed and operated his own storage facilities. The primary advantage in using a Corps reservoir rather than a private one is the economy resulting from multiple purpose storage. The user must pay the full costs attributed to specific water supply facilities, but he only pays a percentage of the cost of the project joint-use facilities. Herein lies the major source of savings since the cost of all facilities would be borne by the user constructing a private storage reservoir.

The legal framework within which the Corps operates will serve to limit the utilization of Corps projects for water supply purposes. Authorization of Corps projects is dependent on the existence of a navigable stream and a public need for such items as improved navigation or flood control. Although purposes other than navigation or flood control are usually part of such projects and may exist as primary project purposes, there is still the requirement that some positive relationship with navigation or flood control exist. Therefore water supply storage must depend on the existence of these navigational elements for authorization of construction.

Subsequent to the passage of the Water Supply Act, Congress sought to clarify the interests of parties who contract for storage in Corps projects. The following statutory language defines the interest of local organizations in reservoirs constructed by the Government which have been financed partially by such organizations:

The right thus acquired by any such local interest is hereby declared to be available to the local interest so long as the space designated for that purpose may be physically available, taking into account such equitable reallocation of reservoir storage capacities among the purposes served by the project as may be necessary due to sedimentation, and not limited to the term of years which may be prescribed in any lease agreement or other agreement with the Government, but the enjoyment of such right will remain subject to performance of its obligations prescribed in such lease agreement or agreement executed in reference thereto.... Any affected local interest may utilize such facility so long

as it is operated by the Government. In the event that the Government concludes that it can no longer usefully and economically maintain and operate such facility, the responsible department or agency of the Government is authorized to negotiate a contract with the affected local interest under which the local interest may continue to operate such part of the facility as is necessary for utilization of the storage space allocated to it, under terms which will protect the public interest and provided that the Government is effectively absolved from all liability in connection with such operation.[186]

WATERSHED PROTECTION AND FLOOD PREVENTION ACT

The authors of the Watershed Protection and Flood Prevention Act[187] floodwater, and sediment damages constitute a menace to the national welfare. The Act authorizes the Secretary of Agriculture to cooperate with states and local agencies for the purpose of preserving and protecting the nation's land and water resources. This cooperation includes the planning and carrying out of "works of improvement," defined by the Act as:

> *...--any undertaking for---*
> *(1) flood prevention (including structural and land-treatment measures) or*
> *(2) the conservation, development, utilization and disposal of water*
> *in watershed or subwatershed areas not exceeding two hundred and fifty thousand acres and not including any single structure which provides more than twelve thousand five hundred acre-feet of floodwater detention capacity and more than twenty-five thousand acre-feet of total capacity.*[188]

Item (2) in the above quotation includes all aspects of the conservation, development, utilization, and disposal of water and has been interpreted in its legislative history as specifically including municipal and industrial water supplies.[189] Prior to 1956, the Act provided for just the agricultural phases of water resource activities, but an amendment in 1956 broadened the scope of the Act by striking out the words "agricultural phases of" at the beginning of item (2). Thus the Secretary of Agriculture, acting through the Soil Conservation Service (SCS), is no longer limited to flood prevention and agricultural water management but now can assist local organizations[190] in carrying out multiple-purpose water and land management programs.

Projects constructed under the terms of this Act are viewed as private undertakings. The philosophy of the United States Department of Agriculture, as expressed by Assistant Secretary E. L. Peterson in a statement concerning the 1956 amendments to the Watershed Act, is that such projects are local projects with federal participation and not federal projects with local participation.[191] Accordingly, the initiation of projects to which the Act is applicable is primarily the responsibility of the local interests.[192] A prerequisite for federal assistance under this Act is the possession by the local organization of the legal authority to carry out, operate, and maintain the works of improvement.[193]

The procedures to be followed to obtain federal assistance are quite specific. The process is initiated when the local organization makes application for approval of the project to the state agency having supervisory responsibility over such projects. If the application is not disapproved within 45 days, the Secretary of Agriculture is authorized to conduct investigations and surveys necessary for preparing plans and to make studies for determining the physical and economic soundness of the project. If the estimated benefits from the project exceed the expected costs and the local organization meets certain requirements of

the Act, the Secretary is authorized to enter into agreements to assist the local organization. This assistance includes the development of specifications, the preparation of contracts for construction, and participation in the installation of works of improvement.[194]

Six specific requirements condition the authorization of federal funds. The first provides for the acquisition of all necessary land, easements, and rights-of-way without cost to the federal government. The second concerns the assumption of the proportionate share of the costs as determined by the Secretary. The third requires satisfactory arrangements for defraying operating and maintenance costs. The fourth stipulates that the acquisition of all water rights be accomplished pursuant to state law by the local interests. The fifth deals with the employment of soil conservation measures in the drainage area above each retention reservoir. The final provision requires the local organizations to submit a plan of repayment satisfactory to the Secretary for any loan or advancement made under the provisions of the Act.[195]

The second requirement mentioned above sets limitations on cost allocation between the Government and the local interests. The present nature of these limitations is primarily the result of the 1956 amendments. A provision added by these amendments states that the Secretary shall not require local organizations to assume any part of the construction cost of structural measures applicable to flood prevention.[196] At the same time, a provision was deleted which had stated that no part of the construction cost for providing any capacity in structures for purposes other than flood prevention and features related thereto shall be borne by the federal government under the provisions of the Act.[197] A report by the Committee on Agriculture accompanying the 1956 amendments states that the purpose of removing this restriction was "...to allow some degree of Federal aid in the storage of water for irrigation, streamflow regulation and other beneficial purposes."[198] The Committee did not define "other beneficial purposes," but it expressed the belief "...that the Secretary should not provide for any part of the construction costs allocated to municipal and industrial water supply or other similar purposes."[199]

The amount of federal participation in improvements for purposes other than flood prevention is not specified in the Act but is governed by the basic policy that costs are to be shared equitably on the basis of benefits obtained.[200] It is within the discretion of the Secretary of Agriculture to make this determination of cost allocation. The Act imposes one limitation on this discretion. Federal assistance for land-treatment measures shall not exceed the rate of assistance for similar practices under existing national programs.[201]

Water Supply Storage

Since the SCS did not receive authority for water supply storage activities in the Water Supply Act of 1958,[202] the only authority for the agency to participate in such storage is provided by the Watershed Protection and Flood Prevention Act.

Water supply storage carried out in reservoirs under the jurisdiction of this Act is similar in many aspects to such storage in reservoirs authorized by other federal legislation. However, there are major differences concerning the party desiring this storage. One such difference is that project initiation is the responsibility of the local interests. The basic reasoning underlying this somewhat unique feature is expressed in the concept that projects under the Act, although built with federal participation, are private and not governmental undertakings. The ability of the local organization to initiate projects is a very valuable asset. The party desiring the storage is not forced to wait for governmental action which in some cases must be justified (at least theoretically) on other grounds (navigation, flood control or other public purpose) but can act when the need is first anticipated. It is true that local interests have some degree of influence where other federal programs of this nature are involved, but in no other case is such a convenient avenue for local action available. Thus water supply storage is removed from its frequent role as an incidence to reservoir construction for governmental purposes and is placed in the foreground as a primary purpose of construction.

The issue of water rights relating to the impounded water supply is covered by the requirement in the Act that the local organization be responsible for the acquisition pursuant to state law of all necessary water rights. In this aspect, water supply storage in SCS reservoirs is similar to such storage in Corps of Engineers facilities.

The provisions of the Act for the assumption by the local interests of all construction costs directly attributable to the purpose of water supply also are very similar to those relating to water supply storage in Corps of Engineers projects. Although the Act prohibits direct federal assistance in water supply storage, local interests acquire storage for less money in a flood control structure than in one devoted completely to water supply. Cost allocations are prorated according to the amount of storage for each purpose. Part of the savings to private interests results from the fact that an earthen dam, of the type frequently constructed by the SCS, must contain some excess capacity for flood storage. This excess minimizes the flood peaks to be passed by the dam at any given time. Spillway costs are a function of the frequency and the quantity of water to be passed. A structure without excess flood storage would require a concrete spillway to pass large volumes of water with a high frequency. Improved technology in earth moving has made it more economical, in SCS projects, to build larger dams with less expensive spillways rather than smaller dams with expensive concrete spillways. A single purpose dam for water supply would also need excess capacity or an expensive spillway. Thus a participator in an SCS project benefits because the cost of this safety factor will be shared between the Government and the water supply participant. In addition, each structure must contain a conservation pool. This excess storage provides space for the siltation which will occur during the life of the project. If siltation occurs uniformly during the project life, the intended storage will be available at the end of the design period, and varying amounts of excess capacity will exist in the early stages. The cost of this conservation pool is not allocated between users but is borne by the Government, whereas this cost would be an expense to the owner of a private, single-purpose reservoir. Again the water supply storer has an economic benefit in a joint project which would not be available in a single purpose structure for water supply only.

FEDERAL WATER POWER ACT

The jurisdiction of the Federal Water Power Act[203] generally is not associated with water supply storage. However, recent amendments to the Act suggest that storage for this and other new purposes is likely to receive more attention in the future. Consideration of the new legislation and a closer scrutiny of existing provisions of the Act seem to reveal authority for the Federal Power Commission, the Agency responsible for the administration of the Act, to play a much larger role in the use of federal and non-federal structures for water supply purposes.

Non-Federal Structures

Prior to the passage of the Federal Water Power Act in 1920, the licensing of non-federal projects on navigable rivers was handled on an individual basis by Congress. This responsibility shifted to the Federal Power Commission with the enactment of the FWPA. The preamble to the Act sets forth its general purpose.

> *An Act To create a Federal Power Commission; to provide for the improvement of navigation; the development of water power; the use of the public lands in relation thereto, and to repeal section 18 of the River and Harbor Appropriation Act, approved August 8, 1917, and for other purposes.*[204]

The crux of the authority of the FPC is its ability to license certain activities. Section 4(e) of the Act defines this authority.

> *The Commission is hereby authorized and empowered...*
>
> *(e) To issue licenses to citizens of the United States, or to any association of such citizens, or to any corporation organized under the laws of the United States or any State thereof, or to any State or municipality for the purpose of constructing, operating, and maintaining dams, water conduits, reservoirs, power houses, transmission lines, or other project works necessary or convenient for the development and improvement of navigation and for the development, transmission, and utilization of power across, along, from, or in any of the streams or other bodies of water over which Congress has jurisdiction under its authority to regulate commerce with foreign nations and among the several States, or upon any part of the public lands and reservations of the United States (including the Territories), or for the purpose of utilizing the surplus water or water power from any Government dam, except as herein provided:...*[205]

By the terms of the Act, the Commission was directed to think in terms of comprehensive plans of development. Section 10(a) sets forth the uses for which licenses can be issued.

That the project adopted, including the maps, plans, and specifications, 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 water-power development, and for other beneficial public uses, including recreational purposes; and if necessary in order to secure such plan the Commission shall have authority to require the modification of any project and of the plans and specification of the project works before approval.[206]

It was recognized in the original legislation that the Commission could not fully discharge its responsibility unless some flexibility was provided for it to act in certain situations after a license had been issued. Section 10(c)[207] was once the only provision of the Act permitting the Commission to impose additional requirements after the issuance of the license, and these restrictions were limited to the protection of life, health, or property. In recent years the Commission, aware that it is unable at the time of license issuance to solve all of the problems that subsequently may have to be met if comprehensive development is to be maintained, has attempted to produce greater flexibility through use of special license provisions. These provisions are in the form of limited subject open-end conditions that permit the alteration of requirements during the license term. Typical open-end conditions relate to water releases, joint use of project reservoirs and properties by the licensee and others, installation of additional capacity, etc. These open-ended provisions are subject to a prohibition in the Act against unilateral license alteration.

Licenses may be revoked only for the reasons and in the manner prescribed under the provisions of this Act, and may be altered or surrendered only upon mutual agreement between the licensee and the Commission after thirty days' public notice.[208]

Although this section imposes some limitation on the actions which the Commission may take during the license term, it does not preclude the Commission from imposing, at the time of license issuance, a condition reserving its ability subsequently to act. Section 6 merely requires that the ground rules be reasonably specified at the time of license issuance but does not preclude the alteration of requirements or the imposition of additional burdens during the license term if the licensee is timely appraised of this potential vulnerability.[209]

The case of Rumford Falls Power Company v. FPC[210] is one of the few examples, if not the only one, where an open-end condition has been challenged. The question in this case was not an absence of authority on the part of the Commission but was based on the ground of vagueness regarding an open-end clause[211] inserted into a license by the FPC to test whether it could require applicants for hydroelectric licenses to accept the following conditions before receiving the license:

(1) [T]hat any person, corporation, or government agency may apply to the Commission for permission to make joint use of the licensee's facilities;

(2) that the Commission may grant such right of use if it would be in the interest of proper utilization and comprehensive development of the waterway; and

(3) that if such permission is granted the licensee shall receive reasonable compensation, amounting at least to reimbursement for any damages or expenses which the joint use causes it to incur.[212]

On review the First Circuit Court found that Article 31 (the contested open-end clause) was unclear in a number of respects, and it remanded "...for clarification, either by revision of the article itself, or by way of an opinion responsive to the questions...raised...."[213] The first question raised by the court was, "Does a person, in order to apply for joint use of a reservoir or other property in a license project, have to possess necessary state water rights?"[214] The answer to this question is of prime concern to those seeking to use water for a municipal or industrial water supply. The Commission responded in an opinion issued pursuant to the Rumford Falls case.

> *Article 31 contemplates that when water rights needed for a joint use are owned by some entity other than the licensee or by the licensee for non-project uses, such as for industrial processing, the joint user secure the necessary water rights under state law or interstate compact. The article does not require, however, that in every case the person must have the rights before he files the application or the Commission acts on it. If the joint user has the capacity to obtain the rights and the intention to do so, it may be sufficient that he so aver. This makes it possible for the applicant to proceed simultaneously in securing permission to make joint use of project property and in obtaining necessary water rights. It also resolves the difficulty, which an applicant may face in some states, of having to be able to put the water to beneficial use before being able to obtain rights in it. If the Commission were to grant an application to make joint use before the applicant had the necessary water rights, the grant would be made subject to his perfecting these rights.*[215]

The Commission stated that the party obtaining such rights would not have the benefit of eminent domain and must proceed under state law.[216]

The second question was concerned with whether project property could be used for private, non-municipal uses. The Commission replied:

> *It appears from its context in the Act that the phrase "beneficial public use" does not mean that the uses must be by public agencies.... In our view, a joint use is a public use if it has a public benefit, and it has a public benefit if it is consistent with a comprehensive plan for development of the water....*[217]

The third question dealt with whether the joint use could adversely effect the power licensee and the fourth with compensation. The Commission answered in the affirmative

with respect to permitting an adverse use and deleted a clause in article 31 which had provided that the joint use "...must be consistent with the primary objective of the project."[218] With regard to compensation, the Commission stated that the licensee should at least be able to recover any damages or expenses the joint use causes him to incur. The Commission indicated that in some circumstances, it might be appropriate for a joint user to make a payment in addition to damages or expenses incurred by the licensee.[219]

Section 15 of the Federal Water Power Act was amended August 3, 1968.[220] The amendment appears to codify the substantive content of Article 31, which was the subject of litigation in the Rumford Falls case, and reads in part as follows:

> ***...(b) In issuing any licenses under this section except an annual license, the Commission, on its own motion or upon application of any licensee, person, State, municipality, or State Commission, after notice to each State Commission and licensee affected, and after opportunity for hearing, whenever it finds that in conformity with a comprehensive plan for improving or developing a waterway or waterways for beneficial public uses all or part of any licensed project should no longer be used or adapted for use for power purposes, may license all or part of the project works for nonpower use. [emphasis added]***[221]

The interpretation to be given this new amendment is probably reflected in the Commission's opinion issued pursuant to the Rumford Falls case and discussed above.

It thus appears that, in the case of new licenses or the renewal of old ones, non-power uses such as water supply may well be incorporated into the new agreements. The role or impact of the FPC in these very important areas of water resource development will probably expand.

Federal Structures

Section 4(e) of the Federal Water Power Act, set out earlier in the text, seems by the repetition of the phrase "for the purpose of" to establish two situations in which the FPC can legally issue licenses. The FPC has jurisdiction to issue licenses (1) for power projects constructed in navigable waters of the United States or on public lands and (2) for the purpose of utilizing the surplus water or water power from any Government dam.

The second purpose, "To issue licenses to citizens of the United States,... for the purpose of utilizing the surplus water or water power from any Government dam, except as herein provided:..."[222] suggests that the FPC may issue a license for purposes other than power development, e.g., water supply. Thus the FPC may have the authority to issue licenses for the use of surplus water for water supply from federal dams which did not include this use as one of the original project objectives.

Section 10(a), which conditions the issuance of licenses as provided for in section 4(e), is of interest with respect to the question concerning the purposes for which licenses may be issued.

> *[T]he 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 water power development, and for other beneficial public uses, [emphasis added]....*[223]

The language "and for other beneficial public uses" merits particular attention. Beneficial public use covers a broad area, an area from which water supply could not easily be excluded. Therefore, the issuance under section 4(e) of a license for utilization of the surplus water from a Government dam for water supply would most certainly conform with the intentions of 10(a).

There appears to be no definitive interpretation of the language in question. Section 4(e) has been considered by the courts on several occasions, but primarily with reference to provisions other than those dealing with surplus water.[224] The same situation prevails when examining the legislative history of the Act. However, hearings before the Water Power Committee contain certain discussions concerning the scope of the licensing authority of the FPC. Although not specifically concerning the use of surplus water from Government dams, the following conversation between Mr. Lever, a member of the Water Power Committee, and Mr. Merrill, a member of the Department of Agriculture who was instrumental in writing the bill, is of interest:

> *Mr. LEVER. Let us find out from Mr. Merrill just what the situation in the bill is. After the water has been utilized for power purposes, have you the power in this bill to fix in the terms of the license what shall be done with the water?*
>
> *Mr. MERRILL. I think we would have this authority under the bill. We would have authority to fix conditions in the license that the water power should be developed in such a manner that if the licensee himself did not utilize the water that passed his plant for irrigation, his use should not interfere with anybody else taking it and using it for that purpose; under the provisions of subparagraph (a) of section 10, the commission would have authority, in considering licenses or application for licenses, to require that all the uses of that water be considered and the relation of the different uses to water-power development before granting a license for a water power.*
>
> *Mr. LEVER. In other words, the conditions of your license will be such that you will not only use this water for navigation or water-power development, but in the language of the bill, for "other beneficial public use"?*
>
> *Mr. MERRILL. Yes; and they can take into consideration any beneficial public uses.*[225]

At another point in the hearings, Mr. Raker, a member of the Water Power Committee who was avidly interested in including irrigation in the proposed bill, and David F. Houston, Secretary of Agriculture, discuss the phrase "and other beneficial public uses" which appears in section 10(a) of the FWPA.

> *Mr. RAKER. Well, now this brings me to the next question, on page 14, section 10, subdivision A:*
>
> *[Section 10(a) of the FWPA which contains the phrase "and other beneficial public purposes" and has been quoted above is quoted at this point in the text of the hearings.]*
>
> *Now, such an examination and analysis of any particular territory would take in every conceivable use that could be made of the project or scheme, namely, for navigation, preventing floods, water-power development, irrigation, and <u>any</u> <u>other</u> <u>matter</u> that may be connected with it, and they all ought to be considered in adopting a scheme, should they not?] emphasis added]*
>
> *Secretary HOUSTON. It is not improbable that in some cases power developments might involve flood control and the other matters you suggest. In many cases they would not. Probably in the majority of cases they would only remotely relate to the broader water-power plans contemplated under the Newlands bill. Of course, if they should, then clearly they ought to be handled in close cooperation with the commission created for the general purpose.*[226]

These excerpts from the hearings before the Committee on Water Power do not specifically concern the use of surplus water from Government dams for water supply purposes. The primary non-power water use under consideration was irrigation, and private hydroelectric power projects were involved rather than federal reservoirs. Yet these quotations suggest the thinking behind the use of the phrase "other beneficial public uses" and indicate that the Federal Power Commission can give consideration to non-power as well as power-related water uses in the issuance of licenses. In light of these considerations, the interpretation of section 4(e) taken herein appears plausible.

In further support of the interpretation that section 4(e) encompasses the licensing of surplus water for water supply purposes, reference is made to an Act passed by the 65th Congress making appropriations for the construction, repair, and preservation of certain public works on rivers and harbors, and for other purposes.[227] Section 18 is relevant.

> *That a commission, to be known as the Waterways Commission, ...is hereby created and authorized,...to bring into coordination and cooperation the engineering, scientific, and constructive services,...to study, development, or control of waterways and water resources and subjects related thereto, or to the development and regulation of interstate and foreign commerce, with a view to uniting such services in investigating, with respect to all watersheds in the United States, questions relating to the development, improvement, regulation, and control of navigation as a part of interstate and foreign commerce, including*

therein the related questions of irrigation, drainage, forestry, arid and swamp land reclamation, clarification of streams, regulation of flow, control of floods, utilization of water power, prevention of soil erosion and waste, storage, and conservation of water for agriculture, industrial, municipal, and domestic uses,... [emphasis added][228]

It is interesting to note that section 18 was specifically repealed by section 29 of the Federal Water Power Act. It must be presumed that the FWPA was intended to assume at least partial jurisdiction over problems originally intended to be dealt with by section 18 of the aforementioned Act, hence providing a plausible reason for repealing this section before it had time to take effect. Since section 18 was concerned partially with water for industrial, municipal, and domestic uses, it is conceivable that the FWPA was intended to assume some jurisdiction over water supply purposes.

The hearings concerning the FWPA indicate that the FPC was not intended to assume complete jurisdiction over all matters covered by the repealed section 18. However, certain discussions during the FWPA hearings which concern section 18 provide more evidence that the scope of the FPC authority encompasses more than the licensing for water power and therefore includes some of the intended jurisdiction of section 18. The statements of Franklin K. Lane, Secretary of the Interior, are pertinent at this time.

Secretary LANE. You know that Congress passed a bill authorizing the establishment of a commission which was to take up that whole question of the utilization of our waters and conservation of our forests and this commission itself would, under your intention, I presume, supersede that commission, would it not?

Mr. RAKER. It seems to me that in all schemes we should provide for what is the highest use that is going to be made of this development. If the commission is granted in broad terms power to seek all uses that can be made of the water, then you have the power and can utilize it. If the commission does not actually do the work they can utilize the information obtained from the commission already established in getting at the highest use that can be had of the water. Do you not believe it would be a good thing to enlarge its power in the way of taking in the whole subject rather than to curtail their power?

Secretary LANE. Well, I do not know whether this commission ought to supplant the other commission that was proposed and take in the whole study of the waters of the country or not. It strikes me that is a little broader power than these three men ought to have.

Mr. RAKER. Well, we ought by some means to provide for the highest utilization, and this commission in locating the project should have the benefit of all information touching what may be for the best possible use of the water. That is your view, is it not?

Secretary LANE. Yes;...[229]

In conclusion, it appears that the jurisdiction of the FWPA has been expanded to include nonpower water uses such as water supply as well as water power development. A recent amendment authorizes the issuance of licenses for the use of private hydroelectric power project facilities for non-power purposes. Although the issue regarding the licensing of the use of surplus water from Government dams for non-power uses remains unresolved, there is evidence to support this interpretation of section 4(e) of the FWPA. In the language "or for the purpose of utilizing the surplus water or water power from any Government dam [emphasis added]"[230] can be seen a new purpose, apparently different from the development and utilization of water power. This interpretation seems consistent with both the language of section 4(e) itself and the qualifying conditions established in section 10(a) of the Act. This interpretation supplies a logical reason for repealing the heretofore discussed section 18 and is in keeping with the general discussions found in the Congressional Hearing records.

FLOOD CONTROL ACT OF 1944

During 1942 and 1943, widespread and damaging floods occurred throughout the United States. At this time flood disasters were recognized as one of the major problems of the nation. Also acknowledged were the expense and additional disaster that had been prevented due to flood control dams already in existence as a result of previous flood control legislation.[231] Surveys authorized by Congress and reviewed by the Board of Engineers of Rivers and Harbors showed the success of these relatively few flood control projects already in operation and the need for further protection against flood disaster. As a result of these surveys and hearings held by the Flood Control Committee,[232] Congress enacted legislation in 1944 aimed at a post-war increase in the number of flood control projects throughout the country.[233] The 1944 amendments provided that the planning and execution of flood control projects should be a function of the United States Army Corps of Engineers.[234] The legislative history describes the goals to be achieved under the amendments.

> *The plans are comprehensive in scope and contemplate the most practicable and economical method of providing flood control and, where practicable, of conserving the flood waters for beneficial uses. In each case, they have been planned with a view to produce the greatest good to the greatest number of people. The plans include multiple-use reservoirs which will permit the development of economical hydroelectric power in addition for providing storage for flood control, irrigation, water supply, pollution control, and other purposes.*[235]

A new feature in flood control legislation was added by section 6 of the 1944 amendments. It provides for the sale of surplus water in the reservoirs for domestic and industrial use.

> *The Secretary of War is authorized to make contracts with States, municipalities, private concerns or individuals, at such prices and on such terms as he may deem reasonable, for domestic and industrial uses for surplus water that may be available at any reservoir under the control of the War Department: Provided, That no contracts for such water shall adversely affect then existing lawful uses of such water.*[236]

The "provided" clause, offering protection to existing water uses, was added to protect appropriative rights in the western states. In hearings before the Senate Flood Control Committee, Clifford H. Stone, Director of the Colorado Water Conservation Board, spoke in favor of an addition to section 6 which would insure that a user receiving surplus water from a federal flood control reservoir would be required to comply with state law with respect to appropriation. The amendment to section 6 was intended to prevent the sale of water to a party having no appropriation right to the detriment of those who lawfully had appropriated water under state law.[237] Mr. Stone discusses the type of situation to be avoided in the following passage:

Taking up the situation in the arid section where water is appropriated in accordance with State laws, the section has particular application for this reason. In many cases the water which would be impounded by a flood-control reservoir and which might contain some conservation capacity of some surplus water which could be sold, is water which heretofore has been appropriated as flood water by irrigation interests. That water would be available when it came. In many cases it would come at a time when it would be of little help to the farmer.

When that water is caught in a flood-control reservoir, and if that is strictly a flood-control reservoir, and the water released after the flood, then the farmers below would not be adversely affected but on the contrary would be benefited. The water would be regulated and would be more useful to them. On the other hand if some of that water is retained as surplus water in that reservoir and then disposed of to a municipality or a private concern it might and in many cases would be water which belonged under the appropriation to some farmer or group of farmers.[238]

The proposed addition to section 6 was directed primarily to those states following the doctrine of appropriation; however, recognition was given to its possible application to the eastern states. In commenting on the amendment in its original form as introduced by Senator Millikin of Colorado, Mr. Stone made this statement:

That provision has particular significance to the arid West, the section of the country west of the ninety-seventh meridian.

It however, does not in any way interfere with the situation east of that line. If there are any applicable laws in the eastern area, then it becomes applicable; if there are no laws that pertain to the situation, then it would have no effect.[239]

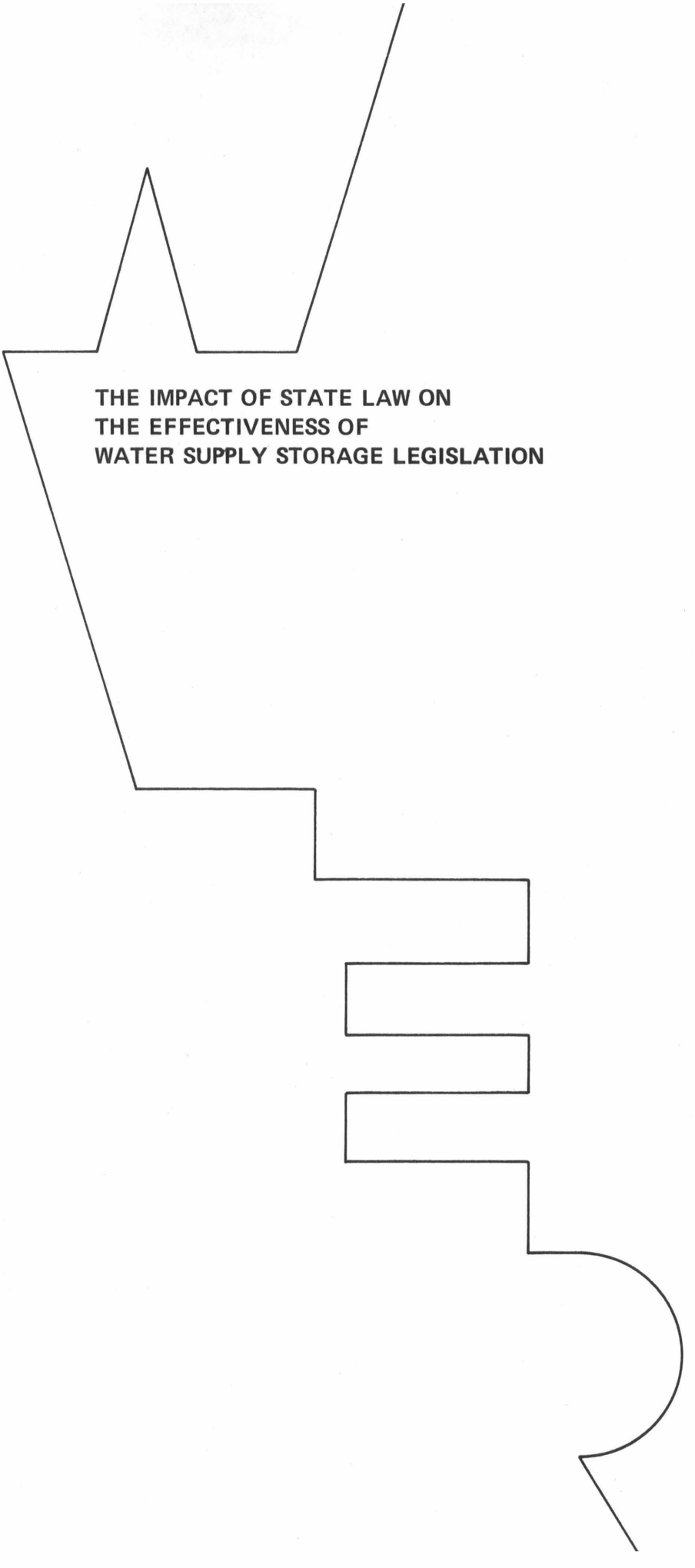
East of the ninety-seventh meridian I imagine that in most cases the amendment would not be applicable because there probably would not be any applicable laws, therefore it does not work against the interests of any other section of the country, and we do not desire that it should....[240]

The final version of the amendment states that contracts for the sale of the water cannot affect any "existing lawful use" and therefore would seem to be broad enough to include the riparian right of user found in the law of the eastern states as well as the rights of the appropriator under the law of the western states.

Section 6 was temporarily repealed in 1951 due to "inadvertance" on the part of Congress by including it in legislation providing for the amendment or repeal of certain Government property laws.[241] It was realized in 1952 that a mistake had been made in including section 6 in the repealed legislation, and section 6 was then revived and reenacted.[242] In the bill to recommend reenactment of section 6, the Senate Committee on Public Works stated:

Section 6 was carefully developed by Congress in 1944 in order to provide a means of permitting the disposal of surplus water for domestic and industrial uses with the specific limitation that no contracts for such water shall adversely affect then existing lawful uses of water. This language met with the approval of groups in the West where water rights and the conservation and use of water is of the greatest importance. All of those who are interested in this matter have requested prompt restoration of the original legislation.[243]

Thus the Flood Control Act of 1944 constitutes a part of water supply legislation. The authority contained in section 6 for the sale of surplus water from Corps of Engineers' reservoirs for supply purposes offers an additional source of water to satisfy the demands in this area.



THE IMPACT OF STATE LAW ON THE EFFECTIVENESS OF WATER SUPPLY STORAGE LEGISLATION

INTRODUCTION

Consideration of the enabling legislation for water supply storage has shown that its effectiveness may be somewhat dependent on property rights in water as defined by state law. This dependency exists for two principal reasons. First, the federal legislation makes the acquisition of water rights for such storage subject to state law. Second, stored water released into a natural stream to be transported to its place of use depends on state law to be preserved in quantity and quality.

The exact effect of state law on the acquisition process depends on which federal agency is responsibile for the storage. In the case of the Bureau of Reclamation, the Government obtains the water rights pursuant to the provisions of the Reclamation Act.[244] The Supreme Court interpretations of reclamation law appear to have limited state law to the role of defining water rights for which compensation is to be made by the United States.[245] With respect to projects under the authority of the Corps of Engineers[246] and the Soil Conservation Service,[247] water rights for water supply storage must be acquired in accordance with state law by the party contracting for the storage.

In some situations the location of the reservoir for water supply is many miles upstream from the place of use. The economics of water conveyance suggests that the natural stream channel be used as a conduit wherever possible. There may exist under state law intervening water rights to water flowing in a natural stream between the reservoir and place of use. Thus the situation exists whereby the application of the stored water to its intended purpose may be jeopardized and the intent of the federal legislation frustrated if this natural means of transportation is used.

An investigation into these significant problem areas and general consideration of the impact of state law on water supply storage require study of the character of the individual's water rights. The rights of parties storing water for supply purposes cannot be considered independently of the rights of others whose uses may conflict with water supply.

No attempt will be made to analyze all aspects of state water law, but only those parts likely to have a significant impact on water supply storage will be considered. The rights of parties contracting for water supply storage in federal reservoirs will be investigated. The rights of other water users also will be reviewed to the extent they effect the storage of water for supply purposes and the transportation of stored water via natural stream channels.

Individual water rights are defined somewhat differently in each state, and the exact effect of state law on the federal legislation in question depends on the particular state under consideration. Although the water law of each state is somewhat unique, there are certain generalities which exist because of the fundamental reliance on two basic water law doctrines, the riparian and the appropriative.

Under the riparian doctrine, water rights arise through the ownership of property which borders or is traversed by a natural body of water. All owners of such property (called riparian owners) have certain rights to use the water. The exact limit of this right varies from state to state, but riparian owners generally can make a "reasonable" use of the water. Reasonableness is a relative matter depending on the circumstances of the individual situation.

In the case of the doctrine of appropriation, water rights arise by application of water to a beneficial use and do not depend on the ownership of riparian land. In some states appropriated water may be tied to specific parcels of land but it need not be riparian land. Rights are not on an equal basis as in the riparian case, but the right first vested in time is superior.

The eastern states (those east of the ninety-seventh meridian) traditionally have adhered to the riparian doctrine, while the western states basically have followed the doctrine of prior appropriation. Some states have abided rather strictly by one of the two doctrines. Others have used one doctrine primarily but have adopted certain features of the other. Still others have recognized both doctrines, and both exist as part of the state law.

Research has shown that the water law of no one state serves as the typical example of either a riparian or appropriative jurisdiction. The law is at different stages of development in the various states, with some aspects of the law in each individual state having received little or no attention. Therefore, consideration has been given to the water law of several riparian and appropriative states in an attempt to determine the general provisions relating to water supply storage in each type of jurisdiction.

THE RIPARIAN WATER RIGHT

The riparian right is a usufructuary right attaching to land bordered or traversed by a natural watercourse. It is recognized as a vested property right and as such cannot be taken without due process of law.

> *These respective riparian rights of user are in no sense easements, but are qualified property rights incident to the ownership of the soil through or by which the waters of the stream flow.*[248]

Although riparian rights normally are incident to the ownership of riparian land, a growing number of states now permit the water right to be severed from the land to which it was originally attached. This right to sever was recently reaffirmed in Virginia.

> *It is generally held that riparian rights may be separated from the ownership of the land to which they are appurtenant, either by a grant of such rights to another, or by a reservation thereof in the conveyance of the land.*[249]

Reasonable Use Concept

The exact extent of the riparian right is controlled by state law, but in general the owner of riparian land may make any use of the water in connection with his riparian property so long as such use is reasonable with respect to others having a similar right.

> *A proprietor may make any reasonable use of the water of the stream in connection with his riparian estate and for lawful purposes within the watershed, provided he leaves the current diminished by no more than is reasonable, having regard for the like right to enjoy the common property by other riparian owners.*[250]

A fundamental feature of the reasonable use concept is that each riparian owner has a right to use the water even if the use diminishes the flow or reduces its quality and thereby interferes somewhat with another's use, provided the use by the upper owner is reasonable with respect to all other uses on the stream. Each riparian proprietor must expect some reduction in the quantity and quality of the natural flow as the result of the reasonable uses of the upper proprietors. He, in turn, is allowed to make a reasonable use of the water without complaint from those located at lower points on the stream.

"Reasonableness" is a relative term and does not lend itself to an exact definition. The following quotation discusses factors to be considered in determining reasonableness and indicates the flexibility involved in evaluating the various factors:

The reasonableness of the use depends upon the nature and size of the stream, the business or purposes to which it is made subservient, and on the ever varying circumstances of each particular case. Each case must therefore stand upon its own facts, and can be a guide in other cases only as it may illustrate the application of general principles.[251]

The following statement concerns the reasonableness of quantitative water uses:

What is a reasonable amount varies with the circumstance of each particular case and also varies from year to year, for the amount which might be reasonable in a season of plenty might be manifestly unreasonable in a season of drought. Nor is the question of reasonableness to be tested solely by the needs of the upper riparian proprietor. The rights of riparian proprietors are correlative, and the "reasonableness" amount to which any one reparian is entitled is to be measured by comparison with the needs of the other riparian proprietors.[252]

It has been suggested that the flow might be completely exhausted for the satisfaction of domestic needs.[253]

With respect to the reasonableness of water pollution, this general statement is pertinent:

In order to determine whether or not the pollution of a stream caused damages to another riparian owner, it is not enough to determine the extent and nature of the impurities projected into the stream. The location of the complainant's property and the use to which it is devoted must be taken into consideration, as well as the effect upon such use by any impurities in the stream and the extent to which the pollution of the water may have been attributable to other sources and causes than those charged by the complainant. All of these matters bear upon the question of reasonable use.[254]

Unreasonable water pollution is frequently resolved in common law on the grounds of nuisance. The following statement is typical:

But any use that materially fouls and adulterates the water, or the deposit or discharge therein of any filthy or noxious substance, that so far affects the water as to impair its value for the ordinary purposes of life, will be deemed a violation of the rights of the lower riparian proprietor, and for which he will be entitled to redress. Anything that renders the water less wholesome than when in its ordinary natural state, or which renders it offensive to taste or smell, or that is naturally calculated to excite disgust in those using the water for the ordinary purposes of life, will constitute a nuisance,....[255]

It should be noted that the reasonable use concept is no longer the primary legal control over water pollution. Regulation of this aspect of water use in riparian jurisdictions is accomplished through state statutes. These statutes usually provide for a pollution control agency and the issuance of permits or licenses for water pollution.[256] Such permits or licenses allow pollution up to a limit consistent with water quality standards set in accordance with provisions of the Water Quality Act of 1965.[257]

With regard to the reasonable use concept in general, the primary factor upon which the reasonableness of a water use appears to be based is the effect of the use on other riparians. Since all have equal rights, the uses must be consistant with one another.

> *[T]he general principle of law is that all riparian proprietors upon the same stream have the same right to the use and enjoyment of its waters--the right of no one is absolute--but is qualified by the right of the others to have the stream substantially preserved in its size, flow, and purity, and to be protected against any material pollution of its waters. This is the common right of all. The use of one must not, therefore, be inconsistent with the rights of others.*[258]

Certain uses of water are normally considered to be unreasonable and therefore unlawful in riparian jurisdictions. For example, the above quotation from Virginia Hot Springs Co. v. Hoover[259] suggests that a riparian owner can make any reasonable use of the water of a stream "in connection with his riparian estate," thereby implying that all nonriparian uses are unreasonable. However, the court in this case indicated that a lower riparian has no right to complain of diversion of water to nonriparian land by an upper owner unless damage to some present or future water use is inflicted upon him.

> *If he [upper riparian owner] diverts the water to a point outside the watershed or upon a disconnected estate [nonriparian land], the only question is whether there is actual injury to the lower estate for any present or future reasonable use. The diversion alone, without evidence of such damage, does not warrant a recovery even of nonimal damages.*[260]

The requirement that the plaintiff sustain actual damages as a prerequisite to recovery appears to apply to all situations without regard to whether the use was on nonriparian or riparian land.

> *[I]n an action for damages or suit for injunction by a lower against an upper riparian landowner for wrongful diversion of water by the latter, either upon the upper riparian land or therefrom to nonriparian land, the plaintiff, in order to prevail, must show some substantial actual damage occasioned by the diminution of the quantity of the water which the plaintiff has the right to use, or (in cases of suits for injunction) threatened damage, [emphasis added]....*[261]

> *The stream might furnish water enough to supply this unreasonable use of the defendants and the reasonable demands of the orators, in which case the latter could not be heard to complain. The mere fact that the defendants reduce the natural flow of the stream would not be decisive. To entitle the orators to relief, they must show that they suffer an injury to the use of the water which the lat recognizes as belonging to them.*[262]

The requirement that injury must be present before the riparian owner can take legal action to restrain a water use by another has had significant consequences. Litigation between individual water users has been the principle method for the determination of water rights and the regulation of water use under the riparian doctrine. In general, there have been no statutory regulations on the quantitative use of water. The result of this complete reliance on court actions brought by injured parties is that water use cannot be restrained solely on the basis that an abstract water right has been violated.[263] Any such action to restrain must be based on the actual injury to the party bringing the legal action and not on the lack of right for the other party to make use of the water. This restraint on legal action has slowed significantly the development of water law in most riparian jurisdictions.

Any riparian owner who has no present need for the water to which he is entitled retains the option of exercising his right at a future date because riparian rights are not lost by mere nonuse.[264] Whenever any such riparian proprietor desires to utilize the previously unused water and finds that it is being used by another to his potential or actual injury, the water use by the party possessing no water right becomes unlawful and subject to legal action by the riparian owner.

Although a riparian water right cannot be lost by mere nonuse, it can be lost through prescription. Prescription, as related to water law, is the means by which the right to use water is acquired by other than grant or deed. There are several requisite elements of a water use in order to afford a foundation for a prescriptive right. The use must be open, notorious, and visible; and it must be exercised or asserted in such a way that those to be affected thereby may know of its adverse character. It must convey to the mind of a reasonable person the fact that a continuous right to enjoyment is being asserted and should be resisted; therefore it cannot be clandestine, fraudulent, or secret. The use must be continuous throughout the statutory period, which varies from five years in California to twenty years in North Carolina.

In order to give rise to a prescriptive right, the use of the water must have inflicted some injury, detriment, or deprivation on the person whose rights are claimed to have been extinguished or impaired. There must be an invasion of or infringement on another's right, and the extent of the invasion must be shown.

The nature and extent of the prescriptive right, once acquired, is measured by the use originally made and actually enjoyed during the period when prescription was running. Thus the prescriptive right obtained does not justify a use differing in any appreciable degree from that which was made during the statutory period.

In riparian jurisdiction, the acquisition of a prescriptive right would require an unreasonable use by one riparian resulting in immediate or imminent injury to another. Although a proposed use may be unreasonable in terms of others having a similar right, such action would not begin the running of the statute unless the adverse action gave rise to injury to a downstream user.[265]

Water Subject to Riparian Rights

The "reasonable use" concept as defined above applies to the "water of the stream." Unresolved are several questions regarding the meaning of this latter phrase. Does it refer to all waters which conceivably could flow in the stream under all situations? This question might arise with respect to water above the normal or average stream flow. Is it possible for water to flow in a watercourse to which the rights of the riparian do not attach? Of special interest to this study are rights in flood waters and waters artificially introduced into a stream by other parties.

Flood Water

The right of the riparian in flood flows is important because the storage of water in reservoirs normally involves impoundment during periods of high flow for use during periods of low-flow. The capture of flood flows would interfere with any downstream rights to use such flows. In addition, the right of the riparian owner in the stored water if it is subsequently returned to the stream may be dependent on his right in the water before it is impounded, i.e., while it is still flood water.

The rights in flood waters appear to have been given more extensive consideration in California than elsewhere. The California courts have distinguished between ordinary flood waters and extraordinary flood waters. Ordinary flood waters, or those which occur regularly, have been held to be part of the natural flow of a stream and subject to the law of the riparian doctrine. In Lindblom v. Round Valley Water Co.;[266] it was held that run-off from usual and annually recurring rainfall and snow "when running in a defined stream constituted a water course to which the riparian proprietor's rights attach...."[267]

The natural irrigation of land by seasonal overflows of flood water is an example of a situation where riparian rights in flood flows have been held to exist. In Herminghaus v. Southern California Edison Co.,[268] a power project was enjoined because of interference

with such natural irrigation. The right of the riparian under California law to these periodic inundations by seasonal overflows was also recognized by the Supreme Court in United States v. Gerlach Live Stock Co.[269]

In general, the California courts have not recognized riparian rights in extraordinary flood waters, those of an unpredictable nature resulting from unusually heavy rains. The theory of the holdings seems to be predicated on the principle that rights do not exist in water, of no substantial benefit to the riparian owner.

> *These decisions, in effect establish the just rule that flood waters which are of no substantial benefit to the riparian owner or to his land, and are not used by him, may be taken at will by any person who can lawfully gain access to the stream, and conducted to lands not riparian, and even beyond the watershed, without the consent of the riparian owner and without compensation to him. They are not part of the flow of the stream which constitutes 'parcel' of his land, within the meaning of the law of riparian rights.*[270]

The "beneficial use" test appears to have replaced in some cases the normal distinction between ordinary and extraordinary flood waters. Rather than relying on the frequency of recurrance or predictableness of flood waters as a means of determining whether riparian rights exist, the California courts often have relied solely on the principle of usefulness of the water to the riparian proprietor. The position taken in these cases seems to be that if a water use by another does not injure a riparian owner, the use is not a violation of the riparian's rights which should be restrained by law. This principle would seem to deny the existence of riparian rights in all flood water not put to beneficial use by the riparian proprietor, regardless of whether or not the water was the result of normally recurring, predictable flooding.

The application of these principles of California law regarding flood waters to other riparian states may not appear relevant because California adheres to the beneficial use concept. This concept is fundamental to California water law because of a constitutional requirement that all water uses be beneficial.[271] Beneficial use normally is not used in any discussion of riparian law in the eastern states; however, the basic concept appears to exist in this law without being stated explicitly. The riparian owner in the East cannot prevail in a legal action against another water user without the presence of injury.[272] Thus, water rights effectively have been curtailed to that amount of water useful or beneficial to him. It therefore would seem logical to conclude that the principle of California law limiting riparian rights in flood waters to those waters put to beneficial use would apply in the other riparian jurisdictions as well.

In the past, riparian rights in flood waters have received very little attention. The question does not appear to have been considered by the highest court in any of the eastern states. Flood waters are more often viewed as something to be avoided rather than a

commodity desired for use. In a majority of cases, the person seeking to capture such water for impoundment would not be confronted with the existence of such rights, but he should be aware of such a contingency.

Introduced Waters

The rights of the riparian owner to use water added to the natural flow of a stream must be considered because of the effect on the rights of the party introducing the water. Of principal interest is the situation where a party who has stored water for supply purposes desires to use a natural stream channel to transport water past the lands of other riparian proprietors. Certain unanswered questions regarding the rights of these parties require consideration. Does the water storer have the right to use the stream as a conduit and receive the water at the point of use in the same quantity and quality existing when the water was released from storage? Conversely, can the intervening riparian proprietors treat the water as part of the natural flow and subject it to reasonable use regardless of possible adverse affects on the quantity and quality of the extra flow?

Foreign Water

For the purposes of this discussion foreign waters are those arising in one watershed and transferred to another. The right of the riparian owner in foreign water has not come before the courts on many occasions. The courts in California (where the doctrines of riparian rights and appropriation are recognized) have held that riparian rights do not attach to such water. The applicability of the principles underlying California law to the majority of the eastern riparian states is questionable. The only court in the eastern states to consider the rights of riparians to foreign waters displayed a reluctance to adopt principles of California law because of that state's recognition of the doctrine of appropriation. The court in Druley v. Adam[273] distinguished some California cases on the basis of the dissimilar nature of water rights existing in that jurisdiction[274] and reached a conclusion contrary to those in the California courts. In spite of its age, this 1882 decision merits careful consideration because it is one of the few cases from a strictly riparian jurisdiction to deal with the question of riparian rights in foreign water.

The Druley case arose out of the conflicting water uses of two mill owners and involved rights in water introduced into the stream in excess of the natural flow. The plaintiff owned a mill on the Des Plaines River and based his rights on the ownership of riparian property. The defendant owned a mill on the Illinois and Michigan canal, which was supplied with water from the Des Plaines River upstream from plaintiff. Defendant based his rights on a lease agreement with the trustees of the canal. The respective rights of the plaintiff and the canal authorities to the natural flow of the river had been defined

previously in a written agreement. In this agreement the mill owner had given the trustees the right to supply a section of their canal with water from the stream at a point above his mill. The agreement specified that the use should be "...for supplying the said canal for the purpose of navigation, in the same manner the water in said river, in connection with other feeders, is now used for supplying said canal."[275] Before construction of defendant's mill, the unused portion of the water taken from the river for use in the canal was returned to the river above the plaintiff's mill, but after the mill was established on the canal, that portion of the water withdrawn for its operation was discharged to the river at a point below plaintiff's mill, thereby depriving plaintiff of its use.

Although the operation of defendant's mill reduced the amount of water flowing over plaintiff's dam, the quantity of water remaining was greater than that afforded by the natural flow before defendant's mill was built. This situation has resulted from an improvement by the City of Chicago causing more water to flow from Lake Michigan into the river channel. The controversy before the court concerned the property rights in this foreign water.

The decision in Druley supported the position of the plaintiff that he has a right to the entire flow, including the introduced water. The court stated that the water introduced into the river thereafter became waters of the river to which the rights of the riparian owners attached and held that "...a use [by the canal trustees] in excess of that needed for navigation, creating a motive power for the benefit of others, is a use not within the language or the spirit of the agreement."[276]

The decision in this case was affected to some extent by the existence of a written agreement defining the rights of the parties and the special circumstances of the case. The additional flow had not been introduced by either of the litigants. The defendant was not a riparian owner but based his rights on a contractual agreement. This fact situation is considerably different from that where a storer of water desires to use a natural stream as a conduit to convey water past intervening riparian owners. Nevertheless, the reasoning of the Druley court concerning riparian rights in introduced water does not appear to have been affected by the fact situation of the case. The following quotation appears applicable to all introduced water, including water stored in reservoirs:

> *It would seem, when it is once established, that the only property right recognized by the law, as respects running water, is in its use as it passes along and as incident to the soil over which it passes,--it could make but little difference how, in the first instance, the water became running water, for if it were raised from wells, or brought out of reservoirs, the moment the individual thus producing it should allow it to flow into a natural stream, and mingling with its waters thence on towards its mouth, over the soil of another, he would have voluntarily placed it beyond his power of legal reclamation or control; for, without becoming a trespasser upon the soil of that other, or obtaining a license from him, he could then do no act to arrest its onward flow, or divert its course,*

or in anywise enjoy its use. It would, in our opinion, be conclusive evidence of an abandonment of all right to enjoy the use or control the movement of such water. The principle is broadly stated in text books, but does not appear to have been often the sole point in controversy, though frequently as incidentally and pertinently before the court in adjudicated cases [emphasis added].

In Goddard's Law of Easements, (Bennett's ed.) p. 51, the author says: When a stream is natural, there can be no doubt that all waters which flow into it become a part of that stream, and subject to the same natural rights as the rest of the water, and that it makes no difference that the water so flowing to the natural stream was sent down by artificial means.

In Washburn on Easements, p. 274, sec. 33, it is said: There are some cases where a lower mill may acquire the benefit of expenditures laid out by the upper mill owner, without being liable to contribute therefor. Thus, if the owner increases the capacity of the stream, for mill purposes, by enlarging the extent of his pond, or the reservoirs which supply his mill, the lower one has a right to avail himself of the benefit of this, as something incident to the ownership and situation of his mill.

In Angell on Water Courses, sec. 95, the author says: It is also important to observe, that as each proprietor through whose land a water course passes, has a right to the natural flow and descent of a water course, subject to a like reasonable use by all others, he necessarily enjoys the benefits in the improvement made by proprietors above. If they increase the head waters, for useful purposes, by flowing increased areas of land, and by making reservoirs to preserve surplus water for dry seasons, and thus increase the volume of water for hydraulic purposes, every lower proprietor necessarily enjoys the benefit of it.[277]

Thus the court explicitly recognized riparian rights in introduced water. This holding appears to preclude the possibility of any party retaining under common law principles exclusive rights in added water. However, the following additional language from Druley has been seen by the authors of Water-Use Law in Illinois[278] as an indication that the court acknowledged the possibility that such control over added water could be retained as it is conveyed from one point on a stream to another:

[W]here, by the accomplishment of a single and entire work water is both added to and diverted from a stream, a lower riparian proprietor can not complain, provided the same amount and quality of water shall continue to flow to him after as before. The work is regarded as a single act, and its ultimate result, in that view, whether injurious or beneficial, is alone considered. This view is, however, manifestly inapplicable in an action at law, where the party adding the water, in a legal point of view, abandons it, so that the lower riparian proprietor has a legal right, technical though it may be, to have the added water flow down over his land as a part of the waters of the stream;...[279]

The above statement from the Druley court specifies an essential element for the retention of rights in added water. The addition of water and its downstream diversion must be accomplished as part of a single act or project. In applying this concept to the case before it, the court noted that the construction of the improvement and the application of the water to the operation of defendant's mill were not part of a single act.

> *The deepening of the Summit level, and the cutting of the tunnel, and doing of the other work enabling appellant to withdraw water from the canal to propel his machinery, were not concurrent acts, nor parts of a single improvement. The acts were disconnected in point of time, and disconnected in purpose. Appellant's water power was obtained by him from the Board of Canal Commissioners long subsequent to the deepening of the Summit level, and, for aught that is disclosed in this record, it was not even thought of while that work was in progress, nor until some time after its completion.*[280]

The court distinguished the decision in the Society for Establishing Useful Manufactures v. The Morris Canal and Banking Co.,[281] which recognized the right of a canal company to introduce water from an outside source into a watercourse and remove the same quantity at a downstream point. In discussing the case, the Druley court noted that a single enterprise only was involved, and the turning of the additional water into a stream and its removal at a lower point were concurrent acts and parts of one common whole. There appeared to be no basis for a claim of abandonment.[282] With regard to a case before it, the court was of the opinion that the sole purpose of the improvement producing the additional water was navigation and that the water had been abandoned for all other purposes when returned to the river.

In reaching this decision, the court developed several principles for the establishment of abandonment. One involved the element of ownership of the property traversed by a stream carrying the added flows. The court stated that the act of allowing added water to mingle with that of a natural stream and to flow over the soil of another was conclusive evidence of an abandonment of all right to enjoy the use or control the movement of such water.[283] The extent to which abandonment was related to the ownership of the soil over which the water flowed is shown in the following quote:

> ***The principle thus recognized is not restricted, as seems to be supposed by counsel for appellant in argument, to the more remote riparian proprietor, but is equally applicable to those who are proximate to the party causing the artificial addition to the waters, and this will be obvious when it is reflected that intermingled waters become indistinguishable and inseparable, and the right to flowing water is not a right in the water itself, but simply a right to its use as it flows, as an incident to the ownership of the soil over which it passes, and so the party causing the artificial addition has as effectually abandoned all right to use and control it, the moment he has caused or permitted it to commingle with***

other waters and flow upon the land of another, as he has after permitting it to flow continuously over the soil of numbers of successive proprietors, and to become commingled with the waters of many additional streams. Whether sooner or later, the moment he has placed the water beyond his right of legal reclamation or control, he has, in a legal sense, abandoned it, and it is, thereafter, to him only as any other running water.[284]

It would appear that the Druley decision could have been reached without invoking the land ownership principle. The court pointed out that the improvement creating the added flow and the application of this added water to the operation of defendant's mill were disconnected in both time and purpose.[285] This fact alone would seem to provide adequate evidence that the original intent of the canal authorities was to abandon the added water after using it for purposes of navigation. Nevertheless, the holding of the court established an early precedent that water released into a stream and allowed to flow over the land of another will be considered abandoned water.

In spite of its age, the Druley case is an important decision because it appears to be one of the few in riparian states to have considered the rights of riparians to foreign water. Two earlier cases might have entertained the question but were decided on other grounds. In Society for Establishing Useful Manufacturers v. The Morris Canal and Banking Co.,[286] the plaintiff was denied an injunction prohibiting the defendant from introducing water into a stream and withdrawing it at a lower point downstream. In this fact situation, the additional water never flowed over the plaintiff's soil. He was not situated so as to have access to the added water as an intervening owner. The question of the rights of the plaintiff to make a reasonable use of the water as it flowed by his land was not an issue before the court.

The decision in Whittier v. The Cocheco Manf. Co.[287] in effect denied the plaintiff landowner the right he claimed to the use of added water, but the decision resulted from unusual circumstances. The defendant in this case possessed a mill at the same dam where plaintiff operated a mill. The defendant also owned an upstream reservoir and factories located downstream from the mills. The controversy concerned the right of the defendant to release water into the stream from the upstream reservoir and let it then flow through open gates at the mill to the downstream factories. The court held that the defendant was under no obligation to pen up the additional water at the mill for the plaintiff's benefit and could therefore allow it to pass through open gates to be used at the downstream factories. The issue in this case concerned the right of plaintiff to have the defendant retain the water for plaintiff's use. The court did not decide the question of whether the plaintiff had the right to make a reasonable use of the water as it flowed by his land.

Stored Water

California appears to be the only state to have considered rights in stored water released to flow again as part of the stream from which it was originally taken. The court in

City of Los Angeles v. City of Glendale[288] indicated that riparian rights would attach to such water.

> *Moreover, waters that are released to rejoin the body of water of which they are naturally a part are treated as natural parts of such streams.*[289]

The qualification in the above quotation that the released waters be "naturally a part" of the stream is important. Under California law, water is a part of a natural stream within the meaning of the law of riparian rights, only when it is of substantial benefit to the riparian owner.[290] It therefore would appear that storage consisting of flood waters, of no benefit to riparian owners, would not become a part of the natural flow of the stream upon release. It might also be argued that such water becomes available through the efforts of others and as such conceivably could partake of the character of foreign waters to which riparian rights do not attach in this jurisdiction.

Rights in stored water released back into its stream of origin have not been directly considered in other states. The case of Druley v. Adam[291] gives insight into the way the issue might be resolved in Illinois. While holding that riparian rights existed in the foreign water involved in the case before it, the court made the following statement regarding the effect of the source of the introduced water:

> *[I]t could make but little difference how, in the first instance, the water becomes running water, for if it were raised from wells, or brought out of reservoirs, the moment the individual thus producing it should allow it to flow into a natural stream, and mingling with its waters thence on towards its mouth, over the soil of another, he would have voluntarily placed it beyond his power of legal reclamation or control;... [emphasis added]*[292]

If the reasoning of this court were followed, the rights of the riparian owner in the added water, regardless of its source, would be upheld.

Water Rights of Municipalities

The water rights of municipalities in riparian jurisdictions are of special interest in this study since municipal water supply will be one of the major purposes of water supply storage. Municipal water rights may vary depending on whether the water is to be taken from a navigable or nonnavigable stream.

In the case of a nonnavigable stream, municipal use has been distinguished from the riparian right of the individual to make a reasonable domestic use of water and in so doing to legally diminish the flow of a stream.

[A] municipal corporation, in its construction and operation of a water supply system, by which it impounds the water of a private stream and distributes such water to its inhabitants, receiving compensation therefor, is not in the exercise of the traditional right of a riparian owner to make a reasonable domestic use of the water without accountability to other riparian owners who may be injured by its diversion or diminution....[293]

Therefore a municipality that takes its water supply from a nonnavigable stream is liable for any damages resulting to lower riparian owners. In the event of such damage, the settlement of the issue is likely to consist of acquisition of the necessary water rights by the municipality through eminent domain condemnation. In Town of Purcellville v. Potts,[294] it was pointed out that a lower court has suspended the operation of an injunction for the removal of municipal dams to provide time for the municipality to proceed to acquire the riparian rights of the plaintiffs by such condemnation proceedings.[295] This solution is likely to be the most equitable in a majority of cases because of the public importance of municipal water supply.

It does not appear that a municipality would be restrained from taking its water supply from a navigable stream if no damage were caused thereby. This conclusi n is based on decisions in riparian jurisdictions holding injury to be necessary before a riparian owner cna prevail in a legal action.[296] It is conceivable that this concept may allow a nonriparian municipality to use water from a nonnavigable stream. The case of Virginia Hot Springs v. Hoover[297] implies that nonriparian water use must inflict damage on riparian owners before legal action will be successful.

A different conclusion concerning the riparian rights of municipalities may result if a navigable stream is utilized as the source of supply. The court in Loranger v. City of Flint[298] came to the following conclusions regarding the respective rights of a city and a downstream mill owner who was injured by the city's diversion:

(1) The Flint river is in fact and in law a public navigable stream flowing through the heart of the city of Flint.

(2) The city of Flint is a riparian owner situated upon the banks of said river, and as such, and as an incident to such ownership, it is entitled to take from said river so much water as is reasonably necessary for the personal use of its inhabitants and its ordinary municipal needs without compensation to complainant. ...

(4) The rule announced as to small private streams...or as to small inland lakes...has no application to the case at bar, which involves a public navigable river passing through the heart of defendant city.[299]

This holding seems to be based on the concept that municipal water use is by nature a public use to which the rights of individual riparian owners are subservient.[300] Thus the

court gave municipal use a preferred status previously reserved for navigation. It should be noted that this preferred treatment of municipal water use appears to be a somewhat unique holding.

Rights to Store Water

The riparian doctrine distinguishes between the right to make an immediate use of water and the right to store water for use at a future time. Storage rights do exist in certain situations but in general are quite restricted. Adjudication of such rights primarily has been in connection with storage for utilization as water power.

In Davis v. Town of Harrisonburg,[301] the plaintiff brought an action to enjoin defendant city from retaining water for purposes of power generation. The court recognized the right of gathering water into reservoirs "...when it is done in good faith, for a useful purpose, and with as little interference with the rights of other proprietors as is reasonably practicable under the circumstances."[302] In applying this reasoning, the court held that "...in times of unusual drought it is not an unreasonable use of a stream for the owner of machinery, which the power of the stream in its ordinary stages is adequate to propel, to detain so much of the water and for such reasonable time as may be necessary to enable him to use such machinery advantageously."[303] However, the court qualified the right to store with the following statement:

> *It is an unreasonable detention of the water to gather it into reservoirs for future use in a dry season, or for the purpose of obtaining a greater supply than the stream affords by its natural flow in ordinary stages.*[304]

A statement by a California court is to the same effect:

> *"A riparian owner has a right to erect a dam across the stream on his land, and to detain the water for such reasonable time as may be necessary to raise the requisite head, and accumulate such a quantity as will enable him to use the water for the purpose of his machinery; but he cannot, as against a lower riparian owner, by means of a storage dam erected on his own land, detain such surplus water of the stream as he may not require for his present use until it may be wanted by him in a dry season.... Nor has he a right to create a reservoir, and detain and store the water therein for future use in a dry season.*[305]

The prohibition contained in the previous two quotes against the storage of water for future use in a dry season could have serious consequences, if strictly upheld, for those desiring water supply storage. An unanswered question is whether or not such storage would be permissible if no damage was caused thereby. Such a qualification, although not specifically stated, might be presumed from general consideration of the laws of the states involved. With respect to the law of Virginia, the court in Town of Gordonsville v. Zinn[306] pointed out that damage is a necessary prerequisite for an action at law, or threatened

damage in a suit for injunction. Therefore storage would not be an actionable offense without damage. In California, such storage would be in conformity with the policy of the state as evidenced by the following statement:

> *[T]he decisions of this state have long since encouraged the impounding and distribution of unused and storm and flood waters.... [T]he fundamental law of the state now commands it when it can be done without substantial damage to the existing rights of others....*[307]

Water Supply Storage In Riparian Jurisdictions

Consideration of the nature of the riparian doctrine indicates that the storage and use of water for supply purposes is likely to be affected in two principal areas: the actual storage of the water for application to this purpose and the conveyance of the water to its place of use in the event a natural stream channel is utilized as a conduit. Not all aspects of the water rights related to water supply storage have been defined clearly in the various riparian jurisdictions, but certain conclusions can be drawn with respect to the rights regarding these two general areas.

Acquisition of Storage Rights

The primary water uses contemplated under federal water supply legislation are municipal and industrial water supply. There is some authority that a municipality may use the water of a navigable stream for supply purposes, but it is generally accepted that a municipal use is not a riparian right on nonnavigable streams. The rights concerning industrial use are more variable. These rights are governed by the reasonableness of the use in relation to other uses on the stream and vary as to location and point of time.

The rights to store water for future municipal and industrial use in riparian jurisdictions may be more limited than the rights to make immediate use of the water for these same purposes. Rights with respect to such storage have not been completely defined. A few cases have held that the storage of water for future use in a dry season is not a riparian right. These cases all involved the use of water for power purposes. A different result might be reached with respect to water supply storage because this use is more fundamental than its use for power. In addition, the benefits derived from such storage would appear to outweigh the disadvantages to lower riparian users. Nevertheless, the potential significance of the power cases is increased because of an apparent absence of decisions recognizing such storage rights.

If storage for municipal and industrial uses were not to be recognized as a riparian right, such storage still might be carried out under riparian law if no damage occurred to other riparian users. The riparian doctrine requires injury to sustain a legal action, and the courts suggest that non-recognized water uses might not be prevented by law in the absence of interference with the rights of others. The reasonable use of water in exercise of a riparian right legally may cause some interference with other water uses, but such

interference would not be sanctioned for a water use not recognized under the riparian doctrine. Therefore, lack of recognition of storage for supply purposes as a riparian right would limit storage to excess water not needed by other riparian proprietors.

It is necessary to consider whether such parties not possessing water rights formally recognized under state law can partake of the benefits of water supply storage in federal reservoirs under the terms of applicable federal water supply legislation. Can a riparian owner participate in such storage for purposes not given legal recognition? Can municipalities or industries nonriparian to a stream contract for storage, or would all such potential water storers be excluded from participation in federal projects? These questions are especially significant where water supply storage is to be accomplished pursuant to federal legislation under which the water user assumes responsibility for acquiring all related water rights according to state law.

Federal legislation specifying acquisition of water rights pursuant to state law would require compliance with any existing procedure for attaining state permission to use water (e.g., appropriation proceedings in the western states). A provision of this type would have a different effect in riparian jurisdictions where state permission to use water for consumptive purposes is generally unnecessary. Water rights under the riparian doctrine are defined through litigation arising out of conflicts between water users and not by grant from the state. Thus, all water rights asserted, pending an adjudication by the courts upon being challenged, are tentative. In the absence of a complaint (as in the case where supply of water exceeds all demands), it seems likely that any party desiring water supply storage could participate in federal projects without possessing a riparian right.

Water supply storage in a federal reservoir might be prevented by a successful suit to have such storage enjoined on the grounds of potential damage to the rights of others. In the event such complaints were voiced before reservoir construction, the potential storer would be required to settle all claims upheld by the courts. If the potential storer is a municipality or other organization possessing the powers of eminent domain, the contemplated water supply storage would be contingent on the acquisition of the necessary water rights through condemnation proceedings. Parties not possessing such powers would be restricted to the purchase of any necessary rights at market value. The price of such water rights might preclude participation in the project.

The contracting party also might be subject to an action for damages and/or injunctive relief after construction of the reservoir with water supply storage. Injunctive relief against the use of such storage after reservoir construction would have severe consequences since the user of the storage space already would have entered into a contract with the Government regarding the repayment of costs associated with such storage. Storers with powers of condemnation could avoid such loss by the acquisition of the necessary water rights. The ability to condemn water rights after the construction of facilities makes it feasible to participate in federal reservoir projects without having acquired title to riparian

rights before initiating construction. Without this power of condemnation, the risk of injunctive relief and the accompanying financial loss would appear to raise questions concerning the desirability of participating in such projects without prior title to all the necessary water rights.

However, the position of the water user without the requisite water rights, who contracts for storage in a federal reservoir located in a riparian jurisdiction may be more secure, as a practical matter, than appears at first glance. First, there must be a showing of injury as a basis for a legal action. Conclusive proof of damages resulting from such injury creates some formidable evidence problems. Second, a large user of water would not likely locate on a stream where the supply of water was not readily available and uncontested. For example, it would be considered imprudent by most companies to make a substantial investment in plant facilities knowing that a successful law action would have to be maintained to insure the water supply necessary to operate an industrial facility. Third, the storage of water in a federal reservoir would probably permit the storer of such water to vicariously partake of benefits available to the Sovereign. Although there is no basis in law for such an assumption, it may well deter all but those with the most acute type of water problems.

Prescription

It appears that the riparian doctrine as enunciated by the cases does not include the right to store for future use. The few cases specifically considering the question of storage have consistently held that storage is limited to the swelling of the streams for immediate use but does not extend to storage for use during a dry period.

Since storage is not a matter of right, the question arises as to whether prescription might be a method for creating such a right. In the case of water, there is a difference between a prescriptive right to store water for future use and the prescriptive title to the corpus of any water stored.

The essential element in acquiring a prescriptive right to the corpus of the water is the matter of reducing it to possession. In Akron Canal & Hydraulic Co. v. Fontaine,[308] the court stated:

> *The impounding of water by means of a dam on a stream is not a reducing of the water to possession in such a sense as to change its legal character and make it property.*[309]

It thus appears that although the water was stored for the statutory period and the other requirements of prescription satisfied, the mere storing of the water is not sufficient to reduce the water to possession. It is doubtful if such a concept were recognized that it would have meaningful significance since only the quantities of water stored for the statutory period would be available for water supply purposes at a future time.

It is, however, the acquisition of the prescriptive right to store water for future use which may be of significance to both the riparian and nonriparian who seek to avail themselves of the opportunity to store in federal structures. The mere storage of water in a structure for the statutory period would meet all of the requirements for the establishment of a prescriptive right except the one concerned with adversity. The storage would not be adverse to downstream riparian proprietors unless they sustain an injury as a result of the storage. The statutory period would not commence to run until damages had occurred. It would appear that a prescriptive right to store could be acquired by storers in federal structures against all riparian proprietors who had sustained damages during the statutory period. The prescriptive right would be limited to the smallest amount of storage space which had been regularly used for storage during the required period--the right to store larger amounts by contract notwithstanding.

Any question as to whether a nonriparian could acquire a prescriptive right was resolved in the case of Pabst v. Finmand,[310] the court stated:

> *In the instant case the adverse use of the water on nonriparian land was continued "openly and notoriously" for a period longer than five years, and the slightest use by the owners of these land being notice to all the lower riparian owners that a hostile right was being asserted, a prescriptive right was acquired by such adverse use by those lands.*[311]

In general, the nature and extend of the prescriptive right once acquired is measured by the use originally made and actually enjoyed during the period when prescription was running. If this concept were strictly construed, it would hold that the storage per se was the only use to which the water could be applied after the prescriptive period. It would have the effect of nullifying the impact of acquiring water supply storage through prescription, since storage for storage sake would be the only recognized use. As a practical matter the courts generally view storage as an intermediate step in the application of water to use. A California court in considering this point stated:

> *Storage of water in a reservoir is not in itself a beneficial use. It is a mere means to the end of applying the water to such use.*[312]

There is also support for the idea that a person acquiring a prescriptive use to water is not necessarily limited to the use made of the water during the prescriptive period if the change in use does not injure another.

> *It is sufficient to observe, that in order to acquire this right by prescription, the law requires that the mode or manner of using the water, during the period necessary to found the right upon, should not be materially varied to the prejudice of other owners. He is not bound to use the water in precisely the same manner, or apply it in the same way;... a change in the mode and objects*

of use is allowed, the only restrictions being, that the alternations made shall not be injurious to those whose interests are involved.[313]

As a general rule, a lower riparian owner cannot obtain a prescriptive right against an upper owner because the water use by the lower owner cannot be adverse to the rights of the upper owner. California, however, recognizes a situation wherein an upper riparian owner may be denied the right to enjoin a lower water use and forced to take compensation for the loss of his right. The following quotation explains the underlying principle of this doctrine of "public use intervention":

That where a person has suffered property belonging to him and under his control to be taken and devoted to a public use by one engaged in administering such use, and the matter has gone on so far that the beneficiaries thereof rely on its continuance and adjust their affairs accordingly, such owner having knowledge thereof and making no objection or protest, this conduct will be regarded by the courts as a dedication by such owner of the property to the particular public use, and he cannot thereafter interrupt nor prevent the same, his only remedy being to seek compensation for the property he has thus allowed to be taken....[314]

It is conceivable that water rights for water supply storage could be acquired in this manner.

In riparian jurisdictions, most of the storage available in federal structures would be in projects sponsored by the Corps of Engineers or the Soil Conservation Service. Both agencies shift the responsibility for the acquisition of water rights to the storer. Nevertheless, those riparian proprietors seeking to resist the claim of a prescriptive right by a storer might assert that the action of the storer would not be possible without the cooperation of the Government. If it were held that it took the joint action of the Government and the storer to perfect the claim to a prescriptive right to store, the prescriptive claim would not be negated. It has generally been held that the Government can acquire prescriptive rights as fully as a natural or corporate person.[315]

In general, the prescriptive right to store does not vary between riparians on either a navigable or nonnavigable stream. However, in the case of navigable streams a prescriptive right to store could not be acquired to the prejudice of those interests held in trust by the state.[316]

Conveyance of Stored Water

The right to convey water stored for supply purposes via natural stream channels has not been defined completely. It appears that the water supply storer who attempts to transport the water to the place of use by utilizing a natural stream channel may jeopardize his interest in the water. In order for his interest to be protected, the riparian doctrine would have to limit or prohibit the use of such added water by riparian proprietors. There

apparently have been no court decisions having this effect. The cases having applicability to this issue indicate that riparian rights generally attach to all water flowing over the land of the riparian owner.

If all the riparian owners located between the point of release and the downstream point of diversion have the right to make a reasonable use of the waters of the stream, including the added flow, the situation exists whereby both the quantity and quality of the stored water may be affected adversely. This result is possible if the added water is treated as part of the normal, ordinary flow. The riparian doctrine contemplates some diminution in quantity and reduction in quality as a necessary consequence of the reasonable use of this water by the riparian landowners.

The potential reduction in quality would become especially important where the stream used to transport the water supply had low quality standards established with respect to applicable state and federal legislation. The existence of low stream standards in most situations would not preclude the water storer from seeking relief against unreasonable pollution through the courts. However, the establishment of low quality standards might be viewed as recognition that certain pollutional water uses are a necessity. This view could prejudice the storer's position that a particular source of pollution constituted an unreasonable water use. Introduction of stored water into streams of low water quality might be viewed as an assumption of a certain risk on the part of the water supply storer.

Although the right of the water supply storer to use natural stream channels as conduits for transporting stored water without interference from intervening landowners has not been recognized, it should be noted that such rights have not been denied conclusively. This aspect of water rights under the riparian doctrine is notable for its lack of development. The holding of the court in Druley v. Adam,[317] perhaps the major case having possible applicability to this issue existing in the eastern riparian states, is not encouraging with respect to these rights. The greatest obstacle created by this decision is the position taken that water, regardless of its origin, is completely and conclusively abandoned when it is allowed to flow onto the land of another. This view of abandonment is predicated on the premise that once the water has been introduced into the stream, the discharger is without means of asserting control or dominion over water once it passes onto the land of another. The consequences of this concept for parties desiring to transport water stored for supply purposes via a stream passing through the land of intervening riparian owners are obvious. Intervening landowners would probably exist in a majority of cases. Their number might range from a few where the municipality is located relatively close to the storage reservoir to a considerable number where the municipality is situated many miles downstream. Widespread acceptance of this concept of abandonment would deny, in most instances, a water storer the right to use a natural watercourse as a conduit. This position does not appear as yet to have received widespread adoption.

The fact situation in the Druley case can be distinguished from that involving a water supply storer and intervening riparian owners. In Druley, the right to the use of water added

to the flow of a river was being contested by a riparian owner and another water user, neither of which was responsible for the added flow. The rights of the party introducing the water were not an issue before the court although the statements concerning abandonment reflect on these rights. In the case of the water supply storer and the intervening landowner, the controversy concerning the use of the added flow would be between the party introducing the flow and those claiming rights by virtue of the ownership of riparian lands. Another distinction between the two situations is that the release of the water supply and its subsequent diversion would be of the nature of a single project, a necessary condition estabiished by the Druley court for retention of rights in added water. These factors which distinguish the situation under consideration from those in Druley may be sufficient to produce a decision in favor of the party introducing stored water into a stream, provided that the concept of abandonment developed in this early case is not followed.

A final aspect of the rights concerning conveyance to be considered is the possible effect of prescription in this area. Apparently unresolved is the question as to whether a conclusive prescriptive right to store water can have any effect on the subsequent rights in such water when it is released from storage. Generally, flowing water admits of only a transient, usufructuary property, and if it escapes for a moment, the right to it is gone forever; the qualified owner having no power of reclamation.[318] A very early case seems to support the premise that a prescriptive right to water once acquired cannot be lost by releasing the water back into its natural watercourse. A close examination of the facts in the case tends to mitigate the effect of the holding. The defendent water company discharged water from a dam to which it had acquired a prescriptive interest into another reservoir only 400 feet away. The court held that the defendants had not relinquished control of the water. Considering the close proximity of the dams, it is difficult to ascertain whether the water can be characterized as having been discharged back into the stream.[319] The antiquity of this 1910 case and the special fact situation existing would seem to weaken its standing as persuasive authority. This fact and the apparent absence of other holdings in this area preclude the formation of general conclusions on this issue.

THE APPROPRIATIVE WATER RIGHT

The appropriative water right, like the riparian right, is viewed as property;[320] however, the similarity ends here. The major distinction is that the appropriative right does not exist as an incidence to the ownership of riparian land, and nonriparians as well as riparians can acquire such water rights.[321] However, this right in some states does attach to land,[322] although not necessarily riparian.

The appropriative right is created or acquired when water is taken from its source and applied to a beneficial use. This system of rights is based on the concept of preemption, and between different appropriators from the same stream, the one whose appropriation is first in time possesses the superior right.[323] Thus, there is no concept of equality of right as exists in riparian law. The United States Supreme Court made the following statement concerning appropriation in Arizona v. California:[324]

> ***To appropriate water means to take and divert a specified quantity thereof and put it to beneficial use in accordance with the laws of the State where such water is found, and, by so doing, to acquire under such laws, a vested right to take and divert from the same source, and to use and consume the same quantity of water annually....***[325]

Although the basis of the traditional common law concept of appropriation is the application of water to a beneficial use, state statutory enactments and constitutional provisions impose specific terms and conditions which control the appropriation process. One important requirement in some jurisdictions is the attainment of a state permit or license to appropriate.[326] The procedure to obtain such permission varies between states but usually is initiated by application to a designated state officer or agency. This application generally must contain certain information specified by statute about the water user, the purpose and nature of the desired appropriation, and the source of water. A valid appropriation requires compliance with all applicable provisions of state law.[327]

State statutes and constitutions may modify elements of the general appropriative doctrine. Established priorities are an important modification altering the basic rule that first in time creates the superior water right. For example, the Colorado Constitution establishes priority of use as (1) domestic, (2) irrigation, and (3) industrial.[328] The significance of this order of preference is to give a preferred use the right to acquire a prior water right of a lower preference by condemnation and the payment of compensation.[329] Priorities of this nature would have no effect on the respective rights of parties using water for purposes having the same order of preference.

Although the acquisition of appropriation rights is regulated by statute, there is some evidence that it can be acquired by prescription. The following statement from a California case generally describes the prescriptive right:

Prescriptive rights are not acquired by the taking of surplus or excess water, since no injunction may issue against the taking and the appropriator may take the surplus without giving compensation; however, both overlying owners and appropriators are entitled to the protection of the courts against any substantial infringement of their rights in water which they reasonably and beneficially need. ...Accordingly, an appropriative taking of water which is not surplus is wrongful and may ripen into a prescriptive right where the use is actual, open and notorious, hostile and adverse to the original owner, continuous and uninterrupted for the statutory period of five years, and under claim of right....To perfect a claim based upon prescription there must, of course, be conduct which constitutes an actual invasion of the former owner's rights so as to entitle him to bring an action.[330]

There has been an argument advanced that California's exclusive method of appropriation, established by the first water code in 1913, has abolished the prescriptive right to water in that jurisdiction.[331] The courts have never reached this conclusion, and their decisions indicate that prescription is still part of the state's water law.[332]

If prescription has not been abolished by California's appropriation statute, other considerations suggest that prescription may have limited application. In order for the prescriptive right to ripen, adverse use must be made of the water to the detriment of the original appropriator for the full prescriptive period. This adverse use implies at least partial nonuse by the appropriator, thus creating the possibility the right may be lost. The portion of a valid appropriation not applied to beneficial use is likely to be lost if the nonuse continues for a period of three years. After this period, the water not used becomes unappropriated water even though the original appropriator could have applied it to beneficial use, had he elected to do so. The use of this water by another would not ripen into a prescriptive right until five years had elapsed under California law. Therefore, the unused water would have assumed the status of unappropriated water prior to the running of the prescriptive period. Once water is characterized as unappropriated it becomes subject to the appropriation statute of the state.

Water Subject to Appropriation

The appropriation of water requires the existence of "unappropriated" water. This term is defined by statute in some jurisdictions. Among the various classifications of water defined as "unappropriated" by California, for example, are waters never appropriated, water no longer applied to the beneficial use for which it was appropriated, and water which after use has flowed back into a natural body of water.[333] Thus, all water in a natural stream which is not being put to a beneficial use is surplus water subject to appropriation.[334]

The fact that appropriation is precluded in the absence of unappropriated water offers protection to the rights of those already possessing valid appropriations. This concept may be important to some appropriators as it provides security for the appropriation until the water is put to use and permits the transportation of water through natural stream channels. The right to use the channel of a natural stream as a conduit also has been recognized by the federal courts.

> *In point of law the general principle upon which plaintiff relies is scarcely open to controversy; one who by the expenditure of money and labor diverts appropriable water from a stream and thus makes it available for fruitful purposes, is entitled to its exclusive control so long as he is able and willing to apply it to beneficial uses, and such right extends to what is commonly known as wastage from surface run-off and deep percolation, necessarily incident to practical irrigation. Considerations of both public policy and natural justice strongly support such a rule. Nor is it essential to his control that the appropriator maintain continuous actual possession of such water. So long as he does not abandon it or forfeit it by failure to use, he may assert his rights. It is not necessary that he confine it upon land or convey it in an artificial conduit. It is requisite of course that he be able to identify it; but subject to that limitation he may conduct it through natural channels and may even commingle it or suffer it to commingle with other waters.*[335]

The right to use a stream as a conduit is specifically recognized by statute in most western states. The exact terms of the statutory provisions employed vary between states. In California, the right is limited to the use of one stream to carry the waters of another.

> *Water which has been appropriated may be turned into the channel of another stream, mingled with its water, and then reclaimed; but in reclaiming it the water already appropriated by another shall not be diminished.*[336]

Oklahoma appears to have a more general statute without this restriction.

> *Water turned into any natural or artificial watercourse by any party entitled to the use of such water may be reclaimed below and diverted therefrom by such party, subject to existing rights, due allowance for losses being made by the State Engineer.*[337]

Details of other such statutes are contained in the appendix.

Beneficial Use Concept

Although the appropriation of water involves compliance with the various provisions of state law, application to beneficial use is the essential element of the water right.[338] In

most western states it is the basis, the measure, and the limit of the appropriative right. Notwithstanding its importance in defining a water right, no precise definition is usually given in state law as to what constitutes "beneficial use." The determination is a question of fact depending upon the circumstances of each individual case.[339]

Generally, the right of the appropriator is not established by the amount of water diverted but rather by the amount actually put to beneficial use.[340] All right to water not put to beneficial use is lost. If water is never put to actual use, the appropriative right never ripens.[341] If the right is established, it may be lost through abandonment arising out of cessation of application of the water to beneficial use. To abandon, as applied to water law, means to desert or forsake a water right with no intention to repossess it.[342] Thus, simple nonuse usually is not sufficient to establish an abandonment. An intention to abandon is an essential requirement.[343] Whether or not a water right has been abandoned must ordinarily be determined as a question of fact in each case. The burden of proof rests on the party asserting the existence of the abandonment.[344] It has been held that using less than the entire amount of an appropriation implies an abandonment of all water above the amount in use.[345]

Water Rights of Municipalities

Municipalities appear to be given special status in some appropriative jurisdictions. For example, municipal water use in Colorado has been included in the preferred domestic class.[346] Municipalities also are exempt to some extent from the restriction that only so much water as can be applied to a beneficial use can be appropriated. Under the traditional view of appropriative water rights, all water diverted must be applied to a beneficial use in order to be subject to a valid appropriation. The following quotation from a Colorado decision sets forth the basis of the exception:

> *The concern of the city is to assure an adequate water supply to the public which it serves. In establishing a beneficial use of water under such circumstances the factors are not as simple and are more numerous than the application of water to 160 acres of land used for agricultural purposes. A specified tract of land does not increase in size, but populations do, and in short periods of time. With that flexibility in mind, it is not speculation but the highest prudence on the part of the city to obtain appropriations of water that will satisfy the needs resulting from a normal increase in population within a reasonable period of time.*[347]

The court did not attempt to change the rule requiring application to a beneficial use. It said simply that since "beneficial use" was not defined in Colorado, what is a beneficial use is a question of fact, and "the factors which enter into a beneficial need here...are more flexible than those relating to the use of water on agricultural land."[348]

The above quotation seems to establish the beginning of a double standard for individuals and municipalities. A later case concerning this issue appears by its language to deny that a city should have rights superior than those of the individual. It did, however, affirm a lower court's decision granting the city of Denver an appropriation in excess of its needs at that time. The following statement from the case is pertinent:

> *We cannot hold that a city more than others is entitled to decree for water beyond its own needs. However, an appropriator has a reasonable time in which to effect his originally intended use as well as to complete his originally intended means of diversion, and when appropriations are sought by a growing city, regard should be given to its reasonably anticipated requirements.*[349]

A more recent case,[350] although not dealing with this problem directly, seems to indicate approval for allowing municipalities to appropriate to meet projected needs.

Right to Store

The storage of water in itself does not appear to be a beneficial use under the appropriative doctrine. However, the necessity of storing water as an essential step in its application to a beneficial use in certain situations has been recognized.

> *Storage of water in a reservoir is not in itself a beneficial use. It is a mere means to the end of applying the water to such use.*[351]

In accordance with this principle, the court in the California case quoted above denied the right of a water company to hold water in a reservoir for long periods of time for the purpose of selling the water. The court did suggest that the right to store might be appropriate under certain conditions. This storage is not limited to that required for present needs but includes a sufficient excess to provide for reasonably anticipated growth in demand, transportation, losses, and emergencies such as water shortages caused by drought.[352]

The right to store water for future use receives additional recognition in the California case of Meridian, Ltd. v. City and County of San Francisco[353] where the court stated:

> *[I]t is necessary and appropriate to declare...that the storage of water for the purpose of flood control, equilization and stabilization of the flow and future use, is concluded within the beneficial uses to which the waters of the rivers and streams of the state may be put within the intent of the constitutional amendment.*[354]

Storage rights also are recognized under Colorado's appropriative system. The right to store water in this jurisdiction is viewed as a different type of appropriation than one for

direct use.[355] In general, a decree for direct appropriation is limited as to both quantity and time of use[356] and does not allow storage for later use.[357] A storage decree must be obtained if the water is to be held in a reservoir for future use.[358] After the water subsequently is put to beneficial use, the appropriation for storage "...shall be superior to an appropriation of water for direct application claiming a date of priority subsequent in time to that of such reservoirs."[359] It appears that Colorado law restricts the storer to one reservoir filling per year unless all junior rights have been filled.[360]

A number of Colorado court decisions have held that an appropriation for direct use cannot be converted into one for storage having the same date of priority as existed for the direct use.[361] The priority of the right to store water is based on the date of the storage decree itself.

Water Supply Storage in Appropriative Jurisdictions

The rights concerning water supply storage are defined somewhat more clearly in appropriative water law than they are under the riparian doctrine. The two general areas of acquisition of water to store and its later conveyance through natural stream channels will be considered separately.

Acquisition of Water to Store

The municipality or industrial water user desiring water supply storage in Corps of Engineers or Soil Conservation Service projects is confronted with the problem of securing the necessary water rights through the framework of existing appropriative law. Municipal and industrial water supply generally would be considered "beneficial" and therefore valid purposes for which appropriations could be obtained upon compliance with applicable state law. Because water is in short supply in most of the western states, the availability of such water in any given situation is somewhat doubtful. Large demands on the natural flow in some instances may limit the appropriation of the water supply storer to flood flows not previously appropriated.

In some states an order of preference among different water uses makes it possible for a preferred water use to condemn prior appropriations of a lower preference. In Colorado, municipal water use is recognized as fundamental to the welfare of the general public and is included in the domestic use classification having the highest priority. A municipality therefore could condemn water rights of those using water for irrigation or industrial purposes. Such a right of condemnation would not be available for a potential storer of industrial water since industrial use is of the lowest order of preference.[362]

Having a preferred water use does not circumvent the problems associated with the need to store water for future use. The appropriative doctrine generally favors an immediate

use of water over a right to store water. However, under certain circumstances appropriations for more water than is needed at the time of the appropriation have been allowed in the case of municipalities having a rapid population growth.[363] The reluctance on the parts of states to embrace storage as a beneficial use seems to be a carry-over from the historical policy which attempted to foster those concepts emphasizing immediate development of the economy. The shift from an agricultural and mining economy to an industrial one and the accompanying urban development suggests that further cases involving storage may receive a totally different treatment.

It does not seem likely that parties contracting for storage in Corps of Engineers or Soil Conservation Service projects located in the western states could participate without first obtaining water rights recognized under state law. The responsibility for acquiring water rights for supply purposes is placed on the user by statute or contract. Compliance with state appropriation law appears mandatory in view of the requirement that parties contracting for storage in reservoirs constructed by these two agencies acquire necessary water rights pursuant to state law. This requirement would effectively reduce or eliminate the possibility of a water supply storer obtaining a prescriptive right to store.

When water supply storage is to be included in Bureau of Reclamation projects, water rights acquisition is handled differently. The United States acquires all water rights for reclamation projects whereas the contracting party is responsible for acquisition of water supply storage rights in other federal projects. Thus the issue concerning jurisdictional problems between the federal and state governments becomes an important consideration.

The effect of state water law on the acquisition of water rights by the Government in connection with federal reclamation projects is of major importance. Section 8 of the Reclamation Act[364] states that the Secretary of the Interior shall proceed in conformity with state law in the acquisition of water rights. Supreme Court interpretations of section 8, considered in an earlier section of this report,[365] have been restrictive and have limited its effect.

These decisions give a clear indication of results to be anticipated when certain aspects of state law tend to impinge upon or limit Government action. For example, the effect of state created preferences has been considered in the case of City of Fresno v. California.[366] The Supreme Court held that such priorities are not binding on the United States. It denied the contention that the Government should be bound by state statutes relating to preferential rights of counties and watersheds of origins and to the priority of domestic over irrigation uses. Thus, statutes of this type have been precluded from affecting water supply storage.

A more general limitation imposed by a Supreme Court decision is that the operation of reclamation projects is beyond the control of state law.[367] The question then arises as to whether the storage of water for supply purposes is an operational function immune to the influence of state law. Resolution of this issue is fundamental to the determination or

storage purposes because state law defines water rights in terms of the use to be made of the water. The usual requirement for recognition under state law is that the use be "beneficial", a relative requirement varying from state to state. Decisions concerning the state's failure to recognize a reclamation project purpose as beneficial have not been found. The absence of cases on this point would be anticipated since most reclamation projects have a strong base of support at the local level. This would certainly be true with respect to those projects including water supply, but the possibility of conflict between project purposes and state law exists. The significance of such a conflict will not be known until such time as the issue is put squarely before the courts.

If it is assumed that state law will not prevent storage in federal reclamation projects for water supply purposes, the question arises as to whether state law as recognized by section 8 might serve to control the manner in which the rights for such storage are acquired. Two options are available to the Government in the absence of restrictions. If unappropriated water is available, it could acquire water rights as an appropriator under state law. The alternative would be eminent domain condemnation of existing water rights pursuant to section 7 of the Reclamation Act.[368] One possibility is that a state's failure to recognize as beneficial one of the intended project purposes may prevent the Government from appropriating water for the project purpose since water rights are defined in terms of use. The Government in this eventuality could still acquire water rights by condemnation. The states may well contend that all rights thus acquired are lost when not applied to beneficial use as defined by state law. If the right to condemn is valid this contention would probably be denied on the grounds that its effect would be to negate the benefits of condemnation.

If it is held that the Government can acquire water rights for reclamation projects apart from the question concerning project purposes, water supply storers in these projects are in a favored position relative to those seeking storage in other federal reservoirs. Although the Supreme Court has held that project water consists of appropriations by the individual water user,[369] it is apparent that the water user benefits from the privileges and immunities of the Sovereign. A water user attempting to acquire rights for the same storage purpose in the reservoir of a different federal agency would not be clothed with these advantages and is subject to any limitation existing with respect to the water rights of the individual.

Conveyance of Stored Water

It has been seen that the right to convey appropriated water through natural stream channels is recognized by the common law of the western states and through statutory enactments.[370] Examples of statutory and common law statements of this right have been given previously.

The right to convey water through natural stream channels is specifically limited to water in which a valid right has been obtained. If it is possible for a water user to acquire the right to use reclamation project water for supply purposes not recognized by state law, the

applicability of this legal protection for conveyance appears questionable. It should be noted that there is little likelihood for water supply storage not to be recognized as a beneficial use under state law; therefore, this question on conveyance rights may never arise.

In addition to the statutory and common law statements concerning conveyance rights in general, other provisions can be found having possible special applicability to the conveyance of water stored for supply purposes.

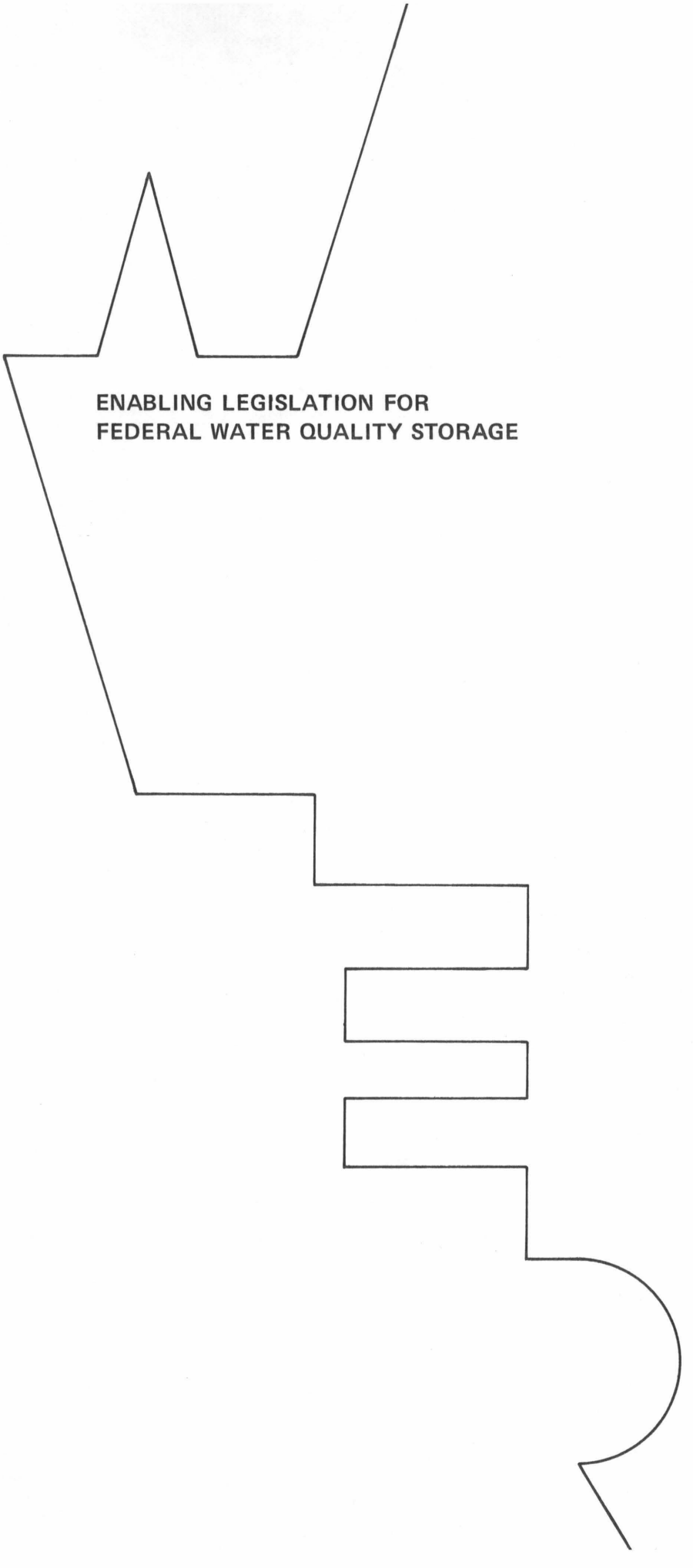
> *The owners of any reservoir may conduct the water legally stored therein into and along any of the natural streams of the state, but not so as to raise the waters thereof above ordinary high watermark, and may take the same out again at any point desired with due regard to the prior or subsequent rights of others to other waters in said natural streams. Due allowance shall be made for evaporation and other losses from natural causes for the protection of all rights to the waters flowing in said streams such losses to be determined by the state engineer.*[371]

> *[I]t shall be unlawful...for any person without an agreement with the state of Kansas to divert or take any water that has been released from storage under authority of the state of Kansas or that has been released from storage pursuant to an agreement between the state and federal government...*[372]

The first quotation concerns the conveyance of water stored in reservoirs via any stream and, therefore, includes the release of water supply storage into the stream from which it was taken. The latter provision is significant because it applies to water released from storage in federal reservoirs. The Kansas statute apparently was passed to resolve problems which might arise should water released from storage be susceptable to use before it reaches the party contracting for the storage. This statute protecting releases of water is limited to water released "...under authority of the State of Kansas or... pursuant to an agreement between the state and federal government...." The second condition is important because the Kanas Water Resources Board is authorized to enter into agreements with the Government concerning water supply storage in federal reservoirs to meet future needs.[373] Water users can subcontract for use of the stored water[374] and thereby receive the protection during conveyance afforded by this statute. The first condition for protection, "... under authority of the State of Kansas...", appears broad enough to include all municipal water supply storage since municipalities are entities created by the state. It would appear that only an industry contracting directly with the government pursuant to the Water Supply Act and not through the state as an intermediary would be excluded from the benefits conferred by this statute.

The Kansas statute helps preserve the investment of water users contracting for storage in federal reservoirs. Such statutory provisions may appear in other states as local participation in federal reservoir projects increases. In most of the western states, statutes of this type would serve to reinforce the protection offered by general legal provisions

authorizing conveyance of appropriated water. Statutes of this nature also could be enacted into riparian law. In general, no such protection to the rights of the conveyer of water exists in the eastern states at present, and the enactment of statutory protection would seem logical if these states want to encourage local participation in federal reservoirs.



ENABLING LEGISLATION FOR FEDERAL WATER QUALITY STORAGE

INTRODUCTION

Implementation of the legislation authorizing the Corps of Engineers, Bureau of Reclamation, and other federal agencies to include water quality storage in their projects may be affected by state law. The various federal agencies do not operate independently of such law, and their activities have been modified by state law in those areas where federal legislation and subsequent court interpretation have indicated this intent. Expanding the scope of agency activities to include water quality storage raises certain unresolved questions concerning the specific effects of state law in this particular area. Neither the language of the amendment nor its legislative history appears to have contemplated these potential problems relative to implementation.

The storage and use of water for quality purposes may be subjected to some control by state law in two general areas. State law may exert some regulation over the acquisition and storage of water for this purpose, and it may define the status of the water when released from storage to augment low-flows.

HISTORICAL DEVELOPMENT

Legislation specifically authorizing storage of water for purposes of pollution control through low-flow augmentation did not appear until this decade. Enabling legislation with very general language containing possible authority for dilution water storage has been inexistence for some time.

Reclamation law provides several examples. A 1920 provision authorized miscellaneous purposes.[375] This legislation has been cited previously as a possible basis for authorizing water supply storage,[376] and it would appear to apply equally to dilution water storage. Acts for individual reclamation projects are another source of authority. Some of these acts provide for stream-flow regulation without specifying the intent of such regulation. In addition, many of these acts have left the list of project purposes open-ended by allowing use of water for "other beneficial uses."[377] It would appear that the Secretary of the Interior under the authority of these provisions could in the exercise of his discretion have included low-flow augmentation for water quality control as a project purpose.[378]

The legislative history of the Flood Control Act of 1944[379] indicates that storage for water quality purposes might have been contemplated by the authors of the Act.

> *The plans include multiple-use reservoirs which will permit the development of economical hydroelectric power in addition to providing storage for... pollution control....*[380]

No specific provision for pollution control is contained in the Act, but the excerpt from the legislative history suggests this intent.

The first comprehensive federal legislation in the area of pollution control was the Water Pollution Control Act of 1948.[381] This Act did not provide for pollution abatement utilizing low-flow augmentation. The policy of Congress as declared in the Act was:

> *[T]o recognize, preserve and protect the primary responsibilities and rights of the States in controlling water pollution, to support and aid technical research to devise and perfect methods of treatment of industrial wastes which are not susceptible to known effectve methods of treatment, and to provide Federal technical servies to State and interstate agencies and to industries, and financial aid to State and interstate agencies and to municipalities...*[382]

Several amendments to the Water Pollution Control Act have been added to strengthen and extend its provisions. The first of these was enacted in 1956,[383] but the new provisions still did not provide storage for water quality purposes, An amendment in 1961[384] contained specific authorization for storage in federal reservoirs for water quality control. Since 1961 other important additions to federal pollution control legislation have been

enacted. These include the Water Quality Act of 1965,[385] the Clean Water Restoration Act[386] passed in 1966, and the Water Quality Improvement Act of 1970 (P.L. 91-224, 84 Stat. 91). None of these acts contain additional provisions affecting pollution control through low-flow augmentation. Important provisions of these recent amendments and earlier pollution control legislation are contained in the appendix.

FEDERAL WATER POLLUTION CONTROL ACT AMENDMENT OF 1961

The 1961 amendment is the sole source of authority for inclusion of water quality storage in federal reservoirs. The applicable provision reads as follows:

> *In the survey or planning of any reservoir by the Corps of Engineers, Bureau of Reclamation, or other Federal agency, consideration shall be given to inclusion of storage for regulation of streamflow for the purpose of water quality control, except that any such storage and water releases shall not be provided as a substitute for adequate treatment or other methods of controlling waste at the source.*[387]

The hearings on this amendment included statements by federal agencies, private organizations, and individual citizens in support of the provision allowing water quality storage in federal reservoirs. The general tenor of the remarks was to the effect that low-flow regulation should be regarded primarily as a supplement to, rather than a substitute for, adequate waste treatment measures at the source. There was general agreement among those favoring the legislation that it should reflect the policy that federal financial responsibility for low-flow regulation storage be consistent with federal assistance for waste treatment measures, lest the Government provide financial inducement to states and communities to abandon their efforts to provide adequate waste treatment measures which would in effect defeat the major purpose of the Water Pollution Control Act.[388]

There were some minority views expressed. One organization offered the view that the Government should increase the amount of money authorized annually for incentive grants for waste-treatment facilities construction rather than assume a part of the cost of water storage for "flushing operations."[389] One group pointed out that federal determination to incorporate low-flow features in projects and to obtain the water to make such features workable could have far-reaching and complex effects on existing patterns of water law, fixing of priority of uses, and a host of other problems extending far beyond considerations of quality control.[390]

The constitutionality of federal control over pollution through dilution water storage does not appear to have been specifically considered. The legislative history regarding the 1961 amendment discusses the general constitutional power of the Government to control pollution in navigable waters. After citing authority for the proposition that the power of the federal government over navigable waters is without limitation except those prescribed in the Constitution,[391] the legislative history concludes:

> *If in the general interest of protecting and promoting commerce, flood control and watershed development are legitimate concerns of Congress, as the Court has said, [in United States v. Appalachian Electric Power Co.*[392]*] the protection of navigable waters against pollution which as held in Scow No. 36,*

supra, is in the interest of sanitation and health, and of the general welfare, seems quite clearly to be within the domain of congressional control.[393]

However, this consideration of the constitutional issue does not appear to have been directed toward water quality storage but rather to a provision in the amendment expanding federal jurisdiction for pollution control to all navigable waters. Furthermore, the amendment does not limit water quality storage to navigable waters. Since dilution water storage is authorized in all federal reservoirs, both navigable and nonnavigable streams are included potentially. The power of the United States to control pollution in nonnavigable streams has not been as issue before the courts.

STORAGE BY VARIOUS FEDERAL AGENCIES

The legislation authorizing water quality storage, like that for water supply, does not create a special agency to carry out its intent but rather permits such storage to be included in facilities to be constructed by established agencies. Thus the basic legislation under which these agencies operate and the case law interpretation will influence the effectiveness of this expanded activity.

General information concerning the activities and authority of the various federal agencies in the water resources field is given in an earlier section of this report. The discussion which follows will be limited to consideration of the specific problems associated with implementing the legislation authorizing water quality storage.

United States Army Corps of Engineers

The area of law surrounding water quality storage by the Corps of Engineers is somewhat undeveloped. The 1961 Amendment to the Federal Water Pollution Control Act includes the necessary authorization, but it does not establish detailed provisions for effecting such storage. This storage must therefore be accomplished solely within the framework of previously existing operational procedures of the Corps.

Some benefits may accrue to the water quality of a stream in the operation of Corps of Engineer projects for improved navigation, flood control, power generation, and other purposes. Increased flows to aid navigation, of necessity, provide additional water for dilution purposes. Operation of projects for flood control purposes involves storage of water during periods of high flow which is released at a later time providing dilution benefits by supplementing the natural flow. Similarly, power generation conserves higher flow for later use resulting in water quality improvement.

However, the incidental benefits to water quality resulting from storage for other purposes may vary with time. Because water quality improvement is not the controlling criterion, the optimum benefits to pollution abatement cannot be attained. It is readily apparent that the timing of water releases are of utmost importance if the quality improvement is to occur during the period of greatest need. Releases of water for navigation generally occur at times of lowest flow and correspond with the greatest demand for dilution water. However, the most efficient use of flood control storage requires the earliest possible release of stored waters in preparation for other flood flows. Therefore, releases are most likely to occur before the critical water quality period. Water for electric power generation is primarily used to meet peak demands. Releases for this purpose are independent of the water level in the stream and the need for dilution. Thus it seems apparent that storage specifically for dilution is needed in Corps projects in addition to storage for these other purposes if water quality improvement is to be assured.

The acquisition of water for quality control would in most situations pose little problem with regard to water rights. Water for this purpose would be accumulated during periods of high-flow for release during periods of lowest natural flow. Impoundment would likely occur during times when water is in excess of that needed for the fulfillment of downstream rights. However, water rights as defined by state law may have some impact on the storage of these higher flows. A discussion of these rights is contained in an earlier section.[394]

The legislation authorizing water quality storage in Corps of Engineer facilities leaves unresolved the question of whether the Corps constitutionally could take the water of a navigable stream for this purpose without the payment of compensation to those injured thereby. Prior decisions by the Supreme Court suggest that water can be taken for any purpose provided the project has some relation to navigation.[395] It thus appears that the right of the Corps to take without compensation the water of a navigable stream for water quality control would be upheld as a valid exercise of the Government's constitutional power to control such water. However, Corps projects authorized by the Flood Control Act of 1944[396] and later flood control legislation, are subject to section 1 of the 1944 act which qualifies the power of the Government to take water rights without compensations.[397]

Another unresolved question concerns the problems regarding rights in the stored water after it is released into a stream where dilution benefits are contemplated. This issue is given consideration in a later section concerning the impact of state law on water quality storage.

Bureau of Reclamation

The traditional difference in the mode of operation of the Bureau of Reclamation and the Corps of Engineers has been the requirement in reclamation law that water rights needed for projects must be acquired by purchase or eminent domain condemnation.[398] The restrictions that have been placed on the use of the navigational servitude by the Corps somewhat lessen this distinction.

The problem of acquiring water to store for dilution purposes is more critical in the arid western states where the Bureau operates. The storage of flood flows may eliminate the necessity of having to acquire vested rights, but where water is in short supply, the likelihood of rights existing in such flows is increased. The acquisition process may be complicated by the potential conflict in those states not recognizing dilution as a lawful use of the waters of the state. This issue is considered in a later section dealing with the effects of state law.

Intervening rights in water released by the Bureau for quality purposes might be foreclosed by state statutes protecting rights in appropriated water. However, there appears

to be a question as to whether these releases would be subject to this protection in those states not recognizing dilution as a beneficial water use. This aspect of water quality storage will also be discussed in a later section.

Soil Conservation Service

The primary water resource function of the Soil Conservation Service has been flood control. Water quality storage is compatible with storage for this purpose, but as in the case of the Corps of Engineers, benefits to both can be assured only when storage is allocated to each. Water quality storage probably will not cause problems of water rights acquisitions. It should be noted that the Watershed Protection and Flood Prevention Act[399] under which the SCS operated, provides no authority for the acquisition of vested water rights by the SCS. Whether the requirement that the local interests acquire necessary water rights for SCS projects could be interpreted to apply to the acquisition of rights for the public storage purpose of water quality control, should such acquisition be necessary, does not appear to have been determined.

Federal Power Commission

The Federal Water Power Act[400] contains no direct provision concerning water quality storage, but consideration of certain sections of the Act reveals that such storage conceivably could come under its jurisdiction. The sections of the Act having possible application to water quality storage are (1) a provision which appears to authorize the Federal Power Commission to license the use of surplus water from Government dams[401] and (2) a recent amendment concerning the use of private hydroelectric projects for non-power purposes.[402]

Surplus Water from Government Dams

If section 4(e) of the Federal Water Power Act[403] is interpreted as providing authority for the Federal Power Commission to issue licenses for the use of surplus water or water power from Government dams, the use of such water for dilution purposes would seem to be a legitimate and likely application. With regard to this proposition, the statement of Mr. Millard F. Bowen as found in the Congressional Hearings on the FWPA are pertinent.

Mr. Bowen:....

....

[T]here is nothing, not a word in the whole bill, that will enforce that idea of stopping the pollution of our waters, and this of all times I think is the proper

time to bring that forward as a policy of the Government relating to the whole of the country,

....

....

The Chairman: You think the present bill ought to be amended so as to give the commission jurisdiction over questions of pollution?

Mr. Bowen: I think so, undoubtedly, that now is the time to enforce such a rule.[404]

Apparently, the Chairman as well as Mr. Bowen felt that there were no provisions in the Act purporting to deal with pollution control or sanitary problems in general. Little time was devoted to Mr. Bowen, comparatively speaking, and his suggestions of including in the FWPA certain provisions of a treaty between the United States and Canada concerning pollution control was not adopted. On the basis of this one segment of the Hearings, the idea of relating pollution control to the Act seems remote.

However, it should be noted that no discussion was devoted to the possible interpretation of the language in section 4(e) in relation to the problem of pollution control. It appears that section 4(e) might provide for an extension of the FPC licensing power to include the licensing of surplus water for nonrestricted uses, dilution being one of them, in conformity with section 10(a).[405]

In support of this proposition, reference is made to section 18 of the Act of August 8, 1917,[406] repealed by the FWPA. The repealed section made specific reference to "clarification of streams" and "regulation of flow." If the FWPA was intended to assume some jurisdiction over problems originally covered by the repealed section, the brief statement by Mr. Bowen concerning the absence of jurisdiction over pollution measures is not entirely correct. If pollution control was contemplated, a logical means for dealing with such problems might be provided by the language under discussion. Licensing of surplus water for nonrestricted use, as distinguished from licensing for power purposes only, could prove beneficial in solving many problems concerning stream clarification and flow regulation.

It would appear that the use of surplus water from Government dams for water quality control would require no express authorization. Such use simply involves release of the water at the proper time. However, recognition of this use of the surplus water as coming within the intent of section 4(e) could prevent application of the water to other uses where water quality control was deemed to be the most beneficial use by the FPC. It also provides specific authorization for use of this surplus water for pollution control if such authority were to become desirable.

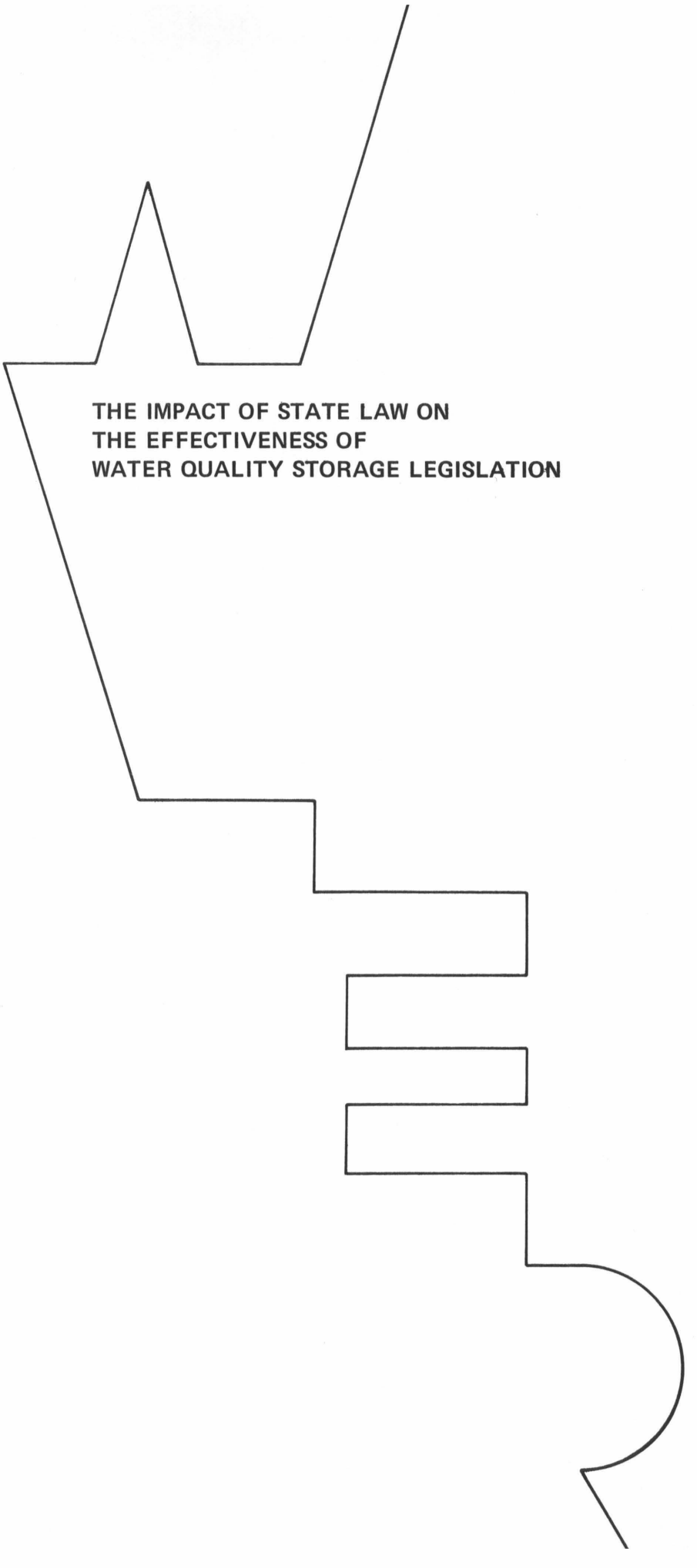
Storage in Private Hydroelectric Power Projects

Reservoirs under the jurisdiction of the Federal Power Commission are private rather than federal undertakings and the provisions of the 1961 Amendment to the Water Pollution Control Act regarding water quality storage are not applicable. However, a 1968 amendment to the FWPA[407] provides authority for the FPC to license portions of projects for nonpower uses. This legislation apparently provides the authorization for water quality storage.

Support is given to this interpretation of the 1968 amendment by a bill introduced in the 91st Congress.[408] The bill provided for regulation of the amount of reservoir capacity for water quality control purposes which could be proposed by a license applicant or required by the FPC. Although the bill was not enacted into law, its provisions show acceptance of the fact that parts of private hydroelectric projects may be licensed by the FPC for water quality storage.

Since water quality storage will in most cases be a public rather than a private need, such storage usually will be carried out by the federal government. Therefore, the right of the United States to use part of a private power project for a public purpose must be considered. With regard to this question, consideration of a license provision which was the subject of litigation in Rumford Falls Power Company v. FPC[409] is pertinent. This contested provision stated in part any person, corporation, or governemnt agency could apply to the FPC for permission to make joint use of the licensee's facilities.[410] The 1968 amendment resulted at least in part from this contested provision and appears to have the same general intent. It seems logical to conclude that a Government agency can be licensed by the FPC to use parts of private projects for pollution control storage.

This interpretation of the 1968 amendment provides a significant extension of water quality storage legislation. Previous to its enactment, only those streams on which were located federal reservoirs could benefit from pollution control through low-flow augmentation. The view of the amendment taken herein would make this source of pollution control available in many situations where no federal but only private reservoirs exist.



THE IMPACT OF STATE LAW ON THE EFFECTIVENESS OF WATER QUALITY STORAGE LEGISLATION

RIGHT TO STORE WATER FOR QUALITY CONTROL

The issues concerning the right of the federal government to store water for quality purposes vary between eastern and western states because of the basic differences in water law. Consideration of the general natures of these two doctrines of water law, i.e., the riparian and appropriative doctrines, previously has been undertaken; therefore, only their potential effects on the implementation of water quality storage legislation need be considered in this section.

Riparian Jurisdictions

In the eastern states, it is only when storage of water by the Government for quality purposes interferes with the rights of lower riparian landowners that a conflict of federal and state created water rights arises. The nature of water quality storage suggests that the rights of riparian owners are not likely to be affected. Water quality storage involves flow stabilization rather than an actual consumptive use of water. Impoundment generally would take place during periods of high flow when an excess of water is present. The storage of excess water is not likely to give rise to injury in the humid states, and injury is a necessity to have an adjudication of rights.[411]

The question as to what effect state law would have on water quality storage in the event such storage did interfere with state created water rights has not been resolved. The constitutional power of the federal government to take the water of navigable streams for a variety of purposes without paying compensation to those injured thereby has been established,[412] but it is not clear as to whether the restraints contained in the enabling legislation under which the various federal agencies operate would permit this power to be exercised. The 1961 amendment authorizing storage for quality purposes does not impose limitations on the acquisition powers of the federal agencies, but other legislation does contain restraints. The Corps of Engineers and the Soil Conservation Service, the agencies likely to be responsible for water quality storage in the eastern states, are both subject to such limitations. Legislation authorizing Corps projects in recent years has shown an intent to limit the power of the Government to take water without compensation.[413] Legislation regarding operations of the SCS has never made the acquisition of water rights a function of the agency. However, it does not appear likely that storage of water for quality purposes will be prevented by these restraints. The only unanswered question concerning the right of the Government to store water for this purpose concerns the payment of compensation to those whose water rights might be damaged by such storage. Resolution of this issue will not affect the basic right to store.

Appropriative Jurisdictions

Water quality storage in the western states might be accomplished by the Corps of Engineers, the Soil Conservation Service, or the Bureau of Reclamation. Storage in

appropriative jurisdictions by the first two agencies would appear to raise no problems in addition to those discussed above with respect to riparian states. The primary unresolved issue in both jurisdictions would appear to concern the payment of compensation in the event water rights of other users are injured. Where water quality storage is to be included in reclamation projects, there appears to be greater potential for legal disputes concerning the rights of the federal government. There are two principal reasons why this right of the Government is likely to be contested. One, the basic legislation under which the Bureau of Reclamation operates makes the activities of the Bureau conditional on state law in certain areas.[414] Two, the appropriative states exercise a more positive control over water use than do those in the East and define water rights in terms of the use to be made of the water. The question arising when these two factors are considered together is whether a state can successfully prevent water quality storage by the federal government if this use is not recognized by state law as a legal use. Resolution of this issue requires consideration of the exact effect to be given state law in acquisition of water rights by the Government for low-flow augmentation. Also, the policy of the western states regarding the legality of low-flow augmentation must be determined.

Court interpretations of section 8 of the Reclamation Act of 1902, the provision requiring recognition of state law, have given it very limited effect. Previous decisions suggest that state law will not be permitted to determine the purposes for which water may be stored in reclamation projects. It has been held that state law has no control over the operation of such projects,[415] and if the use to which water is to be put is an "operational" matter, it is immune to the influence of state law. Another Supreme Court decision suggests that state law is limited to the definition of water rights for which compensation must be paid by the United States,[416] apparently placing any question as to project purposes beyond the jurisdiction of state law. However, there have been no court cases dealing specifically with this issue, and a decision directly in point may be necessary to resolve the unanswered questions.

Although it seems unlikely that state law can influence purposes to be included in reclamation projects, the fact that no conclusive decision on this point exists suggests consideration of the status of this use under the laws of the various western states. Most of these states have held by statutory enactment or clear judicial pronouncement that beneficial use is the basis, the measure, and the limit of the water right. The significant question is whether low-flow augmentation is viewed as a beneficial use. It appears that no express declaration of state statutory or case law concerning this water use exists in most jurisdictions, but the apparent position taken by certain states can be determined. The statutes and regulations of some states suggest legal recognition of water use for this purpose while other states deny the right of water qulaity storage.

Kansas is an example of a state where legal recognition of low-flow augmentation can be inferred by reading in combination two statutory provisions. By statute, the long range goals of the state water plan include:

(1) The development, to meet the anticipated needs of the people of the state, of sufficient supplies of water for beneficial purposes, including...streamflow regulation...; ...

(3) the protection and the improvement of the quality of the water supplies of the state; ...

(6) the prevention of the pollution of the water supplies of the state; ...[417]

The section following the above quotation from the Kansas statute authorizes the inclusion in publicly financed structures of reasonable amounts of storage capacity for the regulation of the low-flows of the watercourses for the implementation of the enumerated long range goals.[418] Water quality control by streamflow regulation would thus seem to be authorized although not specifically mentioned.

New Mexico is a state where water quality control is not a legally recognized water use. There is no provision in state law dealing specifically with this use, but a policy statement by the New Mexico Water Quality Control Commission denies the right to make such a use.

[B]eneficial use is the basis, the measure and the limit of a right to the use of water; and priority of appropriation gives the better right. In New Mexico, water supply is so limited that storage for later release to control pollution by dilution in general would constitute an intolerable waste of a vital resource.[419]

At least one other state, while not taking a stand as strong as that of New Mexico, appears to deny the right to store for water quality purposes. The following quotation is taken from the University of Colorado Law Review:

The Colorado Water Conservation Board, as reported in the minutes of its meeting of Jan. 9, 1963, adopted a motion which generally denies that using good quality water for dilution purposes is a beneficial use in Colorado. Concerning the need for appropriating water for a beneficial use, COLO. CONST. art. XVI, (sec.) 6 provides that: 'The right to divert the unappropriated waters of any natural stream to beneficial uses shall never be denied.' Among the reasons given for the Board's policy decision were scarcity of water in Colorado for other purposes; existence of technological processes for treating sewage so that it can be compatible with downstream uses; Colorado, being one of the few states where all of the major streams flow out and where no major stream flows into the state, 'ends up on the short end of the stick' when water is used for diluting pollution which affects other states; and that a Colorado Supreme Court decision states that use of water for dilution is not beneficial use.[420]

However, it appears that this right has not been denied conclusively. An investigation has disclosed no Colorado Supreme Court decision holding that use of water for dilution is

not a beneficial use. In addition, a letter from the Colorado Water Conservation Board[421] indicates that there is no constitutional provision, statute, or decision by the Colorado Supreme Court stating that use of water for dilution is not a beneficial use. Regarding the minutes referred to above, the letter indicates that one Board member made the statement that the question had been decided by the supreme court, but these minutes evidently are viewed as less than a complete denial of the right to use water for dilution purposes. However, the letter states that the tenor of the Board's position is that the proper approach to control pollution is to eliminate it at the source rather than attempting to use good quality water to dilute pollutants. Thus water quality storage would probably not be looked upon favorably by the Board as a use of the state's water.

It appears that the majority of the western states have not denied the right to use water for low-flow augmentation. Although this use, in most cases, has not been specifically stated to be a permitted one, state law generally has not excluded water quality storage; and statutory provisions regulating water rights appear to be sufficiently broad to allow inclusion of this purpose as a beneficial use. Consideration as to whether water quality storage might be recognized as beneficial in each of the individual western states is included in the appendix.

In addition to the problems associated with lack of state recognition of water quality storage, another difficulty with respect to such storage might arise in jurisdictions where a water right cannot exist apart from land. Some of the western states consistently have held that the appropriative water right is appurtenant to land.

> *[A] water right, to be effective, must be attached to and pertain to a particular tract of land, and is in no sense a 'floating' right. We do not wish to be understood as holding that a water right which is so attached becomes inseparable from such land. That is to say, we do not hold that a prior appropriator of water may not convey his prior appropriation to another, without the land, so as to confer upon his vendee of such water right all the rights which the vendor may possess, provided such vendee makes a beneficial use of such water right upon lands which he owns or possesses. But we desire to be understood simply as holding that, so long as a water right is attached to a particular piece of land, it cannot be made to do duty to such land, and as well to other land not owned or possessed by such water-right holder, at the will or option of the latter.*[422]

The question as to whether the appropriative water right is appurtenant to land is considered on a state by state basis in the appendix.

If state law is given full authority to define water rights, the Government, in acquiring such rights, would seem bound to buy land to which some water right was appurtenant. Once acquired, the land and the water right are clearly federal property and not subject to regulation by states. The Government may well take the position that the property interests

are divisible and the water can be used apart from the land, since dilution water is to benefit a complete stretch of stream and not selected parcels located thereon. The question of whether the Government can have a property interest in water apart from state law which recognizes water rights only as appurtenances to land appears unresolved.

APPLICATION OF WATER TO DILUTION PURPOSES

Water stored for quality control purposes must be released back into natural streams during periods of low natural streamflow in order for dilution benefits to be obtained. Water quality improvement is dependent on the Government being able to preserve its right to control the water in the portion of the stream to be benefited. Since the dilution water by the nature of its purpose must be released during periods when water is scarce, there is likely to be a further demand for this water by those utilizing the stream as a source of supply. Thus, state law, which defines the water rights of these other users, may either assist or cloud the effectiveness of low-flow augmentation as provided by federal legislation.

Potential users of the water released for dilution purposes may affect both its quality and quantity. Considerable similarity exists in state laws regarding the use of water as a carrier of wastes because of the influence of federal pollution control legislation. However, state law regulating the quantitative use of water differs in riparian and appropriative jurisdictions.

Dilution Water and State Pollution Laws

The theory of low-flow augmentation contemplates the improvement of water quality during periods of low natural flow by the addition of supplemental water from storage reservoirs. A basic assumption underlying this concept of pollution reduction is that the amount of pollutional material discharged into a given stream will remain constant after the dilution water is introduced. An increase in pollutants would destroy some or all of the potential benefits of low-flow augmentation. Therefore, it is necessary to consider whether existing state law can prevent these increases in pollutional discharges when dilution is present.

The states are required by federal law to establish and maintain water quality standards for interstate waters;[423] The maintenance of these stream standards does not assure, by itself, the benefits anticipated from water quality storage. Enforcement of stream standards would not preclude the discharge of pollutants in greater concentrations and/or amounts since the augmented flow could accomodate an increase in pollution without a reduction in the water quality existing before dilution.

In reality, the maintenance of stream standards is not the sole restraint on pollutional discharges. Federal pollution control legislation requires treatment of wastes to the maximum practicable extent, irrespective of stream quality standards.[424] Thus, a polluter would not be free to alter his degree of treatment to take advantage of higher flows due to reservoir releases. However, a required minimum degree of treatment would not foreclose an increased quantity of effluent from being discharged to the augmented flow as the result of expanded industrial production. Only specific limitations on discharge quantities would prevent such increases.

Another situation where the purposes of low-flow augmentation might be aborted involves polluters who utilize waste storage systems. The discharges from such systems are usually proportional to stream flow in order to prevent violation of stream standards. If state regulations do not specify appropriate limitations with respect to this type of discharge, these releases of pollutants from waste storage could be increased during flow augmentation. Again, existing stream standards might not be violated, but the occurrence of such discharges would reduce the benefits obtained from water quality storage.

The important question is whether existing state laws are adequate to prevent these potential sources of abuse from frustrating the intent behind federal water quality storage legislation. State pollution control laws commonly establish agencies to administer these laws by licensing pollutional discharges. The licenses (or other forms of authority) issued by the state agency are a key factor in the regulation of the waste discharges by potential polluters. The provisions of a license authorizing a discharge must bear some relationship to stream standards established in accordance with federal legislation. These standards are dependent on physical conditions existing at the time of their enactment and the state of technology with regard to waste treatment. However, the issuance of a license containing provisions based on a certain set of standards does not create a static condition. These provisions may be modified to require an improvement in water quality whenever conditions make such improvement reasonable and practicable of attainment.[425]

The classic situation for water quality storage is where desirable water quality can be maintained throughout the year except for those few months of lowest flow. Violation of water quality standards during this annual period of low-flow might be condoned if compliance is not technically feasible short of cessation of industrial production or other beneficial activities giving rise to pollution. The addition of dilution water, in this case, makes year-round enforcement of standards, based on the normal flow of the stream, practical. The regulatory agency in this situation would be in a position to insure the benefits of low-flow augmentation by strict enforcement of existing standards. If standards originally had been set below desirable levels because the economics of adequate treatment are prohibitive under the circumstances or lack of adequate dilution water during certain periods of the year, then the situation is capable of remedy. The addition of dilution water could justify upward revision of water standards and a modification of licenses for pollutional discharges tailored to reflect these changed conditions.

Thus, it appears that within the framework of state pollution control law there exist institutional arrangements for prevention of pollution likely to deny the benefits anticipated under federal legislation for water quality storage. However, the effectiveness of state law in protecting dilution water depends on the satisfactory regulation of point sources of pollution. Adequate resources for enforcement are an absolute necessity if releases of dilution water are to be protected at all times. From the standpoint of maximizing the benefits of low-flow augmentation, it would seem desirable to supplement existing state laws with provisions specifically prohibiting holders of state licenses for waste discharge from increasing pollution to take advantage of the release of dilution water from federal

reservoirs. At present, state regulations to this effect apparently have not been adequately considered.

Consumptive Use of Dilution Water

The diversion and consumptive use of dilution water after it is released from storage is another area where the provisions of state water law are significant. The potential for subjecting dilution water to quantitative diminution varies between riparian and appropriative jurisdictions.

Riparian Jurisdictions

Previous consideration of the riparian doctrine has indicated that the present state of riparian law allows riparian landowners to make a reasonable use of all water flowing in a natural stream.[426] Dilution water conceivably could be included as water subject to such use. The courts have indicated that it is immaterial how water becomes part of a natural stream and that riparian rights attach regardless of its source.[427] It should be noted, however, that there appear to have been very few decisions concerning the general rights of riparian owners in water added to the natural flow of a stream, and the antiquity of these decisions might limit their applicability to contemporary problems. No cases have been found concerning the specific problem area under consideration. Because of this lack of strong and clear precedent, it is difficult to predict the outcome of possible water rights conflicts involving the use of water released from storage for low-flow augmentation in riparian states.

Appropriative Jurisdictions

In the western states, the possibility that water stored for quality control could be used for other purposes before the benefits of dilution were obtained is much less. The appropriative doctrine seeks to protect the interests of parties with valid water rights until the water is applied to its intended function.[428] This protection seems to extend to water stored for quality purposes, provided the storage is recognized as a valid water right under the law of the state.

The applicability of this protection to dilution water stored in states that do not accord legal recognition to use of water for dilution appears doubtful, although water quality storage in such states is conceivable. Storage of dilution water by the Corps of Engineers in connection with projects incorporating navigational improvements would probably be upheld over state objections as a valid exercise of constitutional powers granted to the federal government under the commerce clause. (Provisions in flood control legislation[429] may require the payment of compensation if private water rights are taken).

Although it cannot be stated conclusively, the Bureau of Reclamation could probably store dilution water, notwithstanding the lack of state recognition of this use as beneficial. Court interpretations of reclamation law suggest that state law will not be allowed to control reclamation project purposes. Although a state might not be able to prevent water quality storage by these agencies, application of the water to dilution purposes still would not be viewed as a beneficial use in some states. Unless the use is beneficial, the existence of a water right as recognized by state law is impossible. Therefore, the Government in seeking to prevent diversion and use of the water by others, would have to look beyond state law.

This lack of recognition of the Government's right in water stored and released for flow augmentation could give rise to an immediate confrontation between the Government and those claiming under color of a state created property right. If a state took the position that such water upon release is "unappropriated" water, it would be available for appropriation by another party. If the state's position were upheld, the benefits intended from the storage could be reduced or eliminated. Another possibility is that water subject to conflict will have acquired the characteristics of federal property, thus removing it from the control of state law. The federal courts might hold that the conversion to property occurs whenever the Government acquires water rights, by condemnation or otherwise, for purposes not recognized as a beneficial use by state law. This holding would accord the water the same protection given any other property of the Government and preclude any interference with this water by those holding water rights created by state law. It is not clear how this potential conflict between the purposes of federal legislation and state law will be resolved.

FOOTNOTES

1. Act of May 25, 1832, ch. 106, 4 Stat. 518.
2. Id., sec. 3.
3. Act of April 16, 1906, ch. 1631, 34 Stat. 116.
4. Id., sec. 4 at 116-17.
5. Act of February 25, 1920, ch. 86, 41 Stat. 451.
6. Act of August 4, 1939, ch. 418, 53 Stat. 1187.
7. Id., sec. 9(c) at 1194.
8. Id.
9. Act of August 7, 1956, ch. 1027, 70 Stat. 1088.
10. Act of July 3, 1958, P.L. 85-500, 72 Stat. 297, 319.
11. Act of December 22, 1944, ch. 665, sec. 2, 58 Stat. 887, 889.
12. Federal Water Power Act, ch. 285, 41 Stat. 1063 (1920).
13. Act of June 22, 1936, ch. 688, 49 Stat. 1570.
14. Act of December 22, 1944, ch. 665, 58 Stat. 887.
15. Act of August 3, 1968, P.L. 90-451, 82 Stat. 616.
16. Act of August 26, 1935, ch. 687, 49 Stat. 803, 840.
17. Act of July 3, 1958, P.L. 85-500, 72 Stat. 297, 319.
18. Id.
19. S. Rep No. 1478-1737, 85th Cong., 2d Sess. 133 (1958).
20. Act of July 3, 1958, P.L. 85-500, 72 Stat. 297, 319.
21. Id. at 320.

22. Senator Watkins believed that the eastern states eventually would adopt the appropriative system because of the inevitable water shortage in the future resulting from increasing population and water use.

23. Hearings on S. 3910 before the Subcomm. on Flood Control - Rivers and Harbors of the Senate Subcomm. on Public Works, 85th Cong., 2d Session at p. 131 (1958).

24. Id. at 133.

25. Id.

26. Act of May 20, 1862, ch. 75, 12 Stat. 392.

27. Act of March 3, 1877, ch. 107, 19 Stat. 377.

28. The Reclamation Act of 1902, ch. 1093, 32 Stat. 388. Since the initial Reclamation Act was passed, many acts have been enacted which are considered to be either a part of reclamation law or a supplement thereto. Legislation which is a part of reclamation law and the many acts which merely affect the Bureau of Reclamation were compiled by the Bureau and published under the title Federal Reclamation Laws, (Published by the Bureau of Reclamation and printed by the Government Printing Office). Title 43, U.S.C., is a compilation of most of the reclamation statutes, but is not all inclusive, for many acts which directly affect reclamation are under various other titles in the U.S.C. (i.e., Title 16). It must be noted that Title 43 has not been enacted into positive law. Therefore, if there is a discrepancy between the U.S.C. and the original statutes, the latter controls. For this reason statutory material related to reclamation law is cited to the Statutes at Large.

29. The states originally included in the Reclamation Act were Arizona, California, Colorado, Idaho, Kansas, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Utah, Washington, and Wyoming. The Reclamation Act of 1902, ch. 1093, 32 Stat. 388.

30. The Reclamation Act of 1902, ch. 1093, 32 Stat. 388-90.

31. 167 F. 881 (9th Cir. 1909).

32. 172 F. 615 (D. Idaho 1909).

33. Burley v. United States, 179 F. 1 (9th Cir. 1910).

34. 339 U.S. 725 (1950).

35. Id. at 738.

36. See Hungry Horse Dam Act, 58 Stat. 270 (1944), as amended by 72 Stat. 147 (1958); San Angelo Project Act, 71 Stat. 372 (1957); and Boulder Canyon Project Act, 45 Stat. 1057 (1928). These acts give examples of project purposes.

37. Act of September 2, 1964, P.L. 88-565, 78 Stat. 848.

38. Act of February 25, 1956, P.L. 419, 70 Stat. 28.

39. Omnibus Adjustment Act of 1926, ch. 383, 44 Stat. 649.

40. See, e.g., Act of June 13, 1962, P.L. 87-483, 76 Stat. 96; Act of August 16, 1957, P.L. 85-152, 71 Stat. 372; Act of December 29, 1950, ch. 1183, 64 Stat. 1124; Act of August 4, 1939, ch. 418, 53 Stat. 1187 at 1192; Act of August 2, 1937, ch. 557, 50 Stat. 557, as amended, Act of April 9, 1938, ch. 134, 52 Stat. 211; Omnibus Adjustment Act of 1926, ch. 383, 44 Stat. 649.

41. The Reclamation Act of 1902, ch. 1093, 32 Stat. 388, 389.

42. Act of August 13, 1914, ch. 247, 38 Stat. 686.

43. Act of December 5, 1924, ch. 4, 43 Stat. 672, 702.

44. Act of August 8, 1958, P.L. 85-611, 72 Stat. 542.

45. Act of August 13, 1914, ch. 247, 38 Stat. 678.

46. Act of August 8, 1958, P.L. 85-611, 72 Stat. 542.

47. The Reclamation Act of 1902, ch. 1093, 32 Stat. 388, 389.

48. The Reclamation Act of 1902, ch. 1093, sec. 8, 32 Stat. 388, 390.

49. 276 F. 41 (D. Idaho 1921).

50. Id. at 42.

51. Ide v. United States, 263 U.S. 497, 505-06 (1924).

52. 300 U.S. 82 (1937).

53. Id. at 95.

54. Id. at 95-96.

55. 325 U.S. 589 (1945).

56. Id. at 614-15.

57. 276 F. 41 (D. Idaho 1921).

58. 263 U.S. 497 (1924).

59. Nebraska v. Wyoming, 325 U.S. 589, 637 (1945).

60. Id. at 615.

61. The Reclamation Act of 1902, ch. 1093, 32 Stat. 388, 389; Act of August 13, 1914, ch. 247, 38 Stat. 686; see contract provision in text at n. 69, infra.

62. The Reclamation Act of 1902, ch. 1093, sec. 8, 32 Stat. 388, 390.

63. Act of August 13, 1914, ch. 247, 38 Stat. 686, 689-90.

64. This freedom from liability is stated as a provision in reclamation project repayment contracts. See, e.g., Bureau of Reclamation, Reclamation Repayment Contracts, S. Doc. no. 92, 88th Cong., 2d Sess. 34, 73, 101, 116 (1964).

65. 373 U.S. 546 (1963).

66. Boulder Canyon Project Act, ch. 42, 45 Stat. 1057 (1928).

67. Arizona v. California, 373 U.S. 546, 593-94 (1963).

68. This concept is the basic principle of the appropriative doctrine.

69. Bureau of Reclamation, Reclamation Repayment Contracts, S. Doc. No. 92, 88th Cong., 2d Sess. 116 (1964).

70. The Reclamation Act of 1902, ch. 1093, sec. 7, 8, 32 Stat. 388, 389-90.

71. Id., sec. 7.

72. Act of February 26, 1931, ch. 307, 46 Stat. 1421.

73. The Tucker Act, March 3, 1887, ch. 359, 24 Stat. 505. Section 1 of the Tucker Act reads in part as follows: "That the Court of Claims shall have jurisdiction to hear and determine the following matters:
First. All claims founded upon the Constitution of the United States or any law of Congress, except for pensions, or upon any regulation of an Executive Department, or upon any contract, express or implied, with the Government of the United States, or for damages, liquidated or unliquidated, be entitled to redress against the United States either in a court of law, equity, or admiralty if the United States were suable...."

74. 372 U.S. 609 (1963).

75. Act of August 26, 1937, ch. 832, sec. 2, 50 Stat. 844. Although the Act is not a part of the reclamation law, it transferred responsibility for the Central Valley Project, Calif., from the cognizance of the Sec. of War to the Sec. of the Interior, to be administered in accordance with the Reclamation Law.

76. Act of August 26, 1937, ch. 832, sec. 2, 50 Stat. 844, 850.

77. 339 U.S. 725 (1950).

78. 357 U.S. 275 (1958).

79. Dugan v. Rank, 372 U.S. 609, 619 (1963).

80. See, e.g., City of Fresno v. California, 372 U.S. 627 (1963); Dugan v. Rank, 372 U.S. 609 (1963); Ivanhoe Irrigation Dist. v. McCracken, 357 U.S. 275 (1958); United States v. Gerlach Live Stock Co., 339 U.S. 725 (1950); United States v. O'Neill, 198 F. 677 (D. Colo. 1912).

81. 162 F. Supp. 403 (Ct. Cl. 1958).

82. 257 U.S. 138 (1921).

83. Id. at 146.

84. The Reclamation Act of 1902. ch. 1093, sec. 8, 32 Stat. 388, 390.

85. 179 F. 1 (9th Cir. 1910).

86. Id. at 9.

87. 209 F. 274 (E.D. Wash. 1913).

88. Id. at 277.

89. Mettler v. Ames Realty Co., 61 Mont. 152, 201 P. 702 (1921). In reaching this conclusion, the court appears to have interpreted a Montana Statute stating that the Government may appropriate water in the same manner as individuals to mean that the Government must appropriate as an individual. The existing statutory provision (Mont. Rev. Code. Ann. sec. 89-808 (1947)) contains language identical to that subjected to interpretation.

90. See, e.g., N. M. Stat. Ann. sec. 75-5-31 (1953).

91. 357 U.S. 275 (1958).

92. 325 U.S. 589 (1945).

93. Ivanhoe Irrigation District v. McCracken, 357 U.S. 275, 287 (1958).

94. Ivanhoe Irrigation District v. McCracken, 357 U.S. 275, 291 (1958).

95. Ivanhoe Irrigation District v. McCracken, 357 U.S. 275 (1958).

96. 372 U.S. 609 (1963).

97. See, e.g., Carlsbad Mut. Co. v. San Luis Rey Development Co., 78 Cal. App. 2d 900, 178 P. 2d 844 (1947); Prather v. Hoberg, 24 Cal. 2d 549, 150 P. 2d 405 (1944); Rancho Santa Margarita v. Vail, 11 Cal. 2d 501, 81 P. 2d 533, (1938); City of Lodi v. East Bay Municipal Utility Dist., 7 Cal. 2d 316, 60 P. 2d 439 (1936); Joerger v. Mt. Shasta Power Corp., 214 Cal. 630, 7 P. 2d 706 (1932); Half Moon Bay Land Co. v. Cowell, 173 Cal. 543, 160 P. 675 (1916); Watson v. Lawson, 166 Cal. 235, 135 P. 961 (1913); Craig v. Crafton Water Co., 141 Cal. 178, 74 P. 762 (1903).

98. Ivanhoe Irrigation District v. McCracken, 357 U.S. 275, 295 (1958).

99. City of Fresno v. California, 372 U.S. 627, 629-30 (1963).

100. Bureau of Reclamation, Reclamation Repayment Contracts, S. Doc. No. 92, 88th Cong., 2d Sess. 33 (1964).

101. Id. at 31.

102. Id. at 71.

103. 269 F. 80 (8th Cir. 1920).

104. 276 F. 41 (D. Idaho 1921).

105. 263 U.S. 497 (1924).

106. 6 Colo. App. 130, 40 P. 1066 (1895). The other two cases are Platte Valley Irrigation Co. v. Central Trust Co., 32 Colo. 102, 75 P. 391 (1903), and Hall v. Lincoln, 10 Colo. App. 360, 50 P. 1047 (1897).

107. Ide v. United States, 263 U.S. 497, 506-07 (1924).

108. Bureau of Reclamation, Reclamation Repayment Contracts, S. Doc. No. 92, 88th Cong., 2d Sess. 33 (1964).

109. 163 F. Supp. 838 (Ct. Cl.), cert. denied 358 U.S. 906 (1958).

110. Nebraska v. Wyoming, 325 U.S. 589 (1945); Ickes v. Fox, 300 U.S. 82 (1937).

111. Act of August 26, 1937, ch. 832, sec. 2, 50 Stat. 844, 850.

112. Bureau of Reclamation, Reclamation Repayment Contracts, S. Doc. No. 92, 88th Cong., 2d Sess. 105 (1964).

113. Id. at 110.

114. Id. at 111-13.

115. Id. at 105.

116. Id. at 115-16.

117. Id. at 113.

118. Id. at 118.

119. 22 U.S. (9 Wheat) 1 (1824).

120. The Daniel Ball, 77 U.S. (10 Wall.) 557, 563 (1870).

121. 311 U.S. 377 (1940).

122. Id. at 406-09.

123. Id. at 434.

124. 313 U.S. 508, 523 (1941).

125. Id. at 525.

126. 174 U.S. 690 (1898).

127. Oklahoma v. Guy F. Atkinson Co., 313 U.S. 508 (1941).

128. United States v. Appalachian Elec. Power Co., 311 U.S. 377 (1940).

129. United States v. Virginia Elec. Power Co., 365 U.S. 624, 627-28 (1961).

130. 229 U.S. 53 (1913).

131. Id. at 69.

132. United States v. Appalachian Elec. Power Co., 311 U.S. 377, 424 (1940).

133. United States v. Twin City Power Co., 350 U.S. 222, 227 (1955).

134. United States v. Kansas City Life Ins. Co., 339 U.S. 799 (1950).

135. Id. at 804-11.

136. United States v. Virginia Elec. Power Co., 365 U.S. 624, 628 (1961).

137. United States v. Chandler-Dunbar Water Power Co., 229 U.S. 53, 69 (1913).

138. United States v. Appalachian Elec. Power Co., 311 U.S. 377, 426 (1940).

139. Id.

140. Oklahoma v. Guy F. Atkinson Co., 313 U.S. 508 (1941).

141. Id.

142. 297 U.S. 288 (1936).

143. National Defense Act, ch. 134, 39 Stat. 166 (1916).

144. Ashwander v. T.V.A., 297 U.S. 288, 328 (1936).

145. Id. at 333.

146. Id. at 336.

147. Oklahoma v. Guy F. Atkinson Co., 313 U.S. 508 (1941).

148. Id. at 532-33.

149. United States v. Twin City Power Co., 350 U.S. 222, 224 (1955); United States v. Guy F. Atkinson Co., 313 U.S. 508, 533 (1941).

150. United States v. Guy F. Atkinson Co., 313 U.S. 508, 533-34 (1941).

151. United States v. Gerlach Live Stock Co., 339 U.S. 725, 737 (1950).

152. Id.

153. 339 U.S. 725 (1950).

154. Id. at 736.

155. Act of October 17, 1940, ch. 895, 54 Stat. 1198.

156. Emergency Relief Appropriations Act of 1935, ch. 48, 49 Stat. 115.

157. United States v. Gerlach Live Stock Co., 339 U.S. 725, 732 (1950).

158. Id. at 734.

159. Act of December 22, 1944, ch. 665, 58 Stat. 887.

160. Id., sec. 1.

161. 360 F. 2d 184 (9th Cir. 1966).

162. Id. at 192-93.

163. Subsequent legislation authorizing additional projects contains provisions whereby these projects also are subject to the qualifications of section 1 of the 1944 Act. See, e.g., Flood Control Act of 1958, P.L. 85-500, sec. 202, 72 Stat. 305; Flood Control Act of 1960, P.L. 86-645, sec. 202, 74 Stat. 488; Flood Control Act of 1962, P.L. 87-874, sec. 202, 76 Stat. 1180; Act of December 30, 1963, P.L. 88-253, 77 Stat. 840; Flood Control Act of 1965, P.L. 98-298, sec. 203, 79 Stat. 1073; Flood Control Act of 1966, P.L. 89-789, sec. 202, 80 Stat. 1418; Flood Control Act of 1968, P.L. 90-483, sec. 202, 82 Stat. 739.

164. The 98th meridian is roughly a north and south line following the eastern boundaries of the Dakotas.

165. United States v. Twin City Power Co., 350 U.S. 222, 229 (1955).

166. Water Supply Act of 1958, P.L. 85-500, 72 Stat. 319.

167. United States v. Twin City Power Co., 350 U.S. 222, 224 (1955).

168. 90 F. Supp. 773 (S. D. Cal. 1950).

169. Id. at 789.

170. The cases relied on by the United States included: Oklahoma v. Guy F. Atkinson Co., 313 U.S. 508 (1941); United States v. Appalachian Elec. Power Co., 311 U.S.

377 (1940); United States v. Chandler-Dunbar Water Power Co., 229 U.S. 53 (1913).

171. Rank v. Krug, 90 F. Supp. 773, 792 (S. D. Cal. 1950).

172. 313 U.S. 508 (1940).

173. Id. at 532-33.

174. Id. at 508.

175. Oklahoma v. Guy F. Atkinson Co., 313 U.S. 508 (1941).

176. United States v. Chandler-Dunbar Water Power Co., 229 U.S. 53 (1913).

177. Id. at 76.

178. Water Supply Act of 1958, P.L. 85-500, 72 Stat. 319.

179. See text following n. 21, supra.

180. Turner v. Kings River Conservation District, 360 F. 2nd. 184 (9th Cir. 1966).

181. United States Army Corps of Engineers, "Contract Between the United States of America and _____" (1968).

182. Id.

183. Id.

184. Id.

185. The United States usually places some general limitations on the operations of the user. The contract guide referred to above offers the possibility for the Government to reserve the rights to maintain a specified minimum downstream release at all times, to lower the water level to a certain specified elevation for flood control purposes during flood control seasons, and to take such measures as may be necessary in the operation of the project to preserve life or property.

186. Act of October 16, 1963, P.L. 88-140, 77 Stat. 249-50.

187. Watershed Protection and Flood Prevention Act, P.L. 566, 68 Stat. 666 (1954), as amended, P.L. 1018, 70 Stat. 1018 (1956); P.L. 85-865, 72 Stat. 1605 (1958); P.L.

86-468, 74 Stat. 131 (1960); P.L. 87-703, 76 Stat. 605, 608; P.L. 89-337, 79 Stat. 1300 (1956).

188. Watershed Protection and Flood Prevention Act, P.L. 566, sec. 2, 68 Stat. 666, as amended, P.L. 1018, sec. 2, 70 Stat. 1018 (1956); P.L. 89-337, 79 Stat. 1300 (1956).

189. H. R. Rep. No. 1810, 84th Cong., 2d Sess. 2 (1956).

190. "Local organization" is defined by the Act as "...any State, political subdivision thereof, soil or water conservation district, flood prevention or control district, or combinations thereof, or any other agency having authority under state law to carry out, maintain and operate the works of improvement." Watershed Protection and Flood Prevention Act, P.L. 566, sec. 2, 68 Stat. 666 (1954).

191. H. R. Rep. No. 1810, 84th Cong., 2d Sess. 5 (1956).

192. Id.

193. Watershed Protection and Flood Prevention Act, P.L. 566, sec. 4, 68 Stat. 666, 667 (1954).

194. Id.

195. Id., as amended, P.L. 1018, sec. 4, 70 Stat. 1088, 1089 (1956).

196. Act of August 7, 1956, P.L. 1018, 70 Stat. 1088 (1956), amending, Watershed Protection and Flood Prevention Act, P.L. 566, 68 Stat. 666 (1954).

197. Watershed Protection and Flood Prevention Act, P.L. 566, 68 Stat. 666, 667 (1954).

198. H. R. Rep. No. 1810, 84th Cong., 2d Sess. 3 (1956).

199. Id.

200. Id.

201. Watershed Protection and Flood Prevention Act, P.L. 566, 68 Stat. 666, 667 (1954).

202. Act of July 3, 1958, P.L. 85-500, 72 Stat. 297, 319.

203. Federal Water Power Act, ch. 285, 41 Stat. 1063 (1920).

204. Id. at 1063.

205. Public Utilities Act of 1935, tit. II, ch. 687, sec. 202(e), 49 Stat. 803, 840, formerly ch. 285, sec. 4(e), 41 Stat. 1063 (1920).

206. Id. sec. 206(a).

207. Id. sec. 206(c).

208. Id. sec. 204.

209. Letter from Edward Berlin, Ass't. General Counsel of FPC, to Hon. Harley O. Staggers, Chairman, House Committee on Interstate and Foreign Commerce, June 24, 1968, 114 Cong. Rec. No. 122, 90th Cong. 2d Sess.

210. 355 F. 2d 683 (1st Cir. 1966).

211. Sax, "Licenses - Restricting Private Rights in Public Resources," 7 Natural Resources J. 339 (1967).

212. Rumford Falls Power Co. v. FPC, 355 F. 2d 683, 688 (1st Cir. 1966).

213. Rumford Falls Power Co., Op. No. 465-A, 2 (F.P.C. Sept. 9, 1966).

214. Id.

215. Id. at 3.

216. Id.

217. Id. at 4.

218. Id. at 5.

219. Id.

220. Act of August 3, 1968, P.L. 90-451, 82 Stat. 616.

221. Id.

222. Public Utilities Act of 1935, tit. II, ch. 687, sec. 202(e), 49 Stat. 803, 840, formerly ch. 285, sec. 4(e), 41 Stat. 1063 (1920).

223. Id. sec. 206(a).

224. See, e.g., Udall v. FPC, 387 U.S. 428 (1967); United States v. Virginia Elec. & Power Co., 365 U.S. 624, 639 (1961); FPC v. Tuscarora Indian Nation, 362 U.S. 99 (1960); City of Tucoma v. Taxpayers, 357 U.S. 320, 324 (1958); FPC v. Oregon, 349 U.S. 435, 442 (1955); Chapman v. FPC, 345 U.S. 153, 169 (1953). For further examples see cases cited within the above cases.

225. Water Power Hearings before the House Committee on Water Power, 65th Cong., 2d Sess. (1918).

226. Id. at 96.

227. Act of August 8, 1917, ch. 49, 40 Stat. 250.

228. Id. at 269.

229. Water Power Hearings before the House Committee on Water Power, 65th Cong., 2d Sess. 459-60 (1918).

230. Public Utilities Act of 1935, tit. II, ch. 687, sec. 202 (e), 49 Stat. 803, 840; formerly ch. 285, sec. 4(e), 41 Stat. 1063 (1920).

231. For a detailed discussion of these events leading to the 1944 amendments to the Flood Control Act, see 1944 U.S. Code Cong. Service 1349.

232. Hearings on H. R. 4485 Before the House Flood Control Committee, 78th Cong., 2d Sess. (1944).

233. Act of December 22, 1944, ch. 665, 58 Stat. 887. By Presidential direction, only those flood control projects of direct importance to the nation were to be undertaken during the war. These projects were designed to be carried out after the war and were designed to provide the additional benefit of jobs for returning servicemen. 1944 U.S. Code Cong. Service 1349, 1351.

234. Act of December 22, 1944, ch. 665, sec. 2, 58 Stat. 887.

235. 1944 U.S. Code Cong. Service 1349, 1354.

236. Act of December 22, 1944, ch. 665, sec. 6, 58 Stat. 887. Section 6 in the original text concerned the "Secretary of War" and the "Department of War." The "Department of War" has since been designated the "Department of the Army" and "Secretary of War" was changed to "Secretary of the Army," These newer phrases are used in the present text of the section--33 U.S.C.A., sec. 708 (1957).

237. Hearings on H. R. 4485 Before the Senate Flood Control Committee, 78th Cong., 2d Sess. at 558 (1944).

238. Id. at 559.

239. Id.

240. Id. at 560.

241. Act of October 31, 1951, P.L. 247, sec. 1 (59), 65 Stat. 703.

242. Act of May 23, 1952, P.L. 360, 66 Stat. 93.

243. 1952 Code Cong. & Ad. News 1488.

244. The Reclamation Act of 1902, ch. 1093, 32 Stat. 388.

245. City of Fresno v. California, 372 U.S. 627, 629-30 (1963); Ivanhoe Irrigation District v. McCracken, 357 U.S. 275 (1958).

246. This requirement is contained in the contracts between the Corps of Engineers and water users. See United States Army Corps of Engineers, "Contract Between the United States of America and _____" (1968).

247. Watershed Protection and Flood Prevention Act, P.L. 566, sec. 4, 68 Stat. 666, 667 (1954)

248. Hite v. Town of Luray, 175 Va. 218, 226, 8 S.E. 2d 379, 382 (1940); see also Roughton v. Thiele Kaolin Co., 209 Ga. 577, 74 S.E. 2d 844 (1953); Herminghaus v. Southern California Edison Co., 200 Cal. 81, 252 P. 607 (1926); Kraven v. Smith, 164 Ky. 674, 177 S.W. 286 (Ct. App. 1915).

249. Thurston v. City of Portsmouth, 205 Va. 909, 914, 140 S.E. 2d 678 (1965).

250. Virginia Hot Springs Co. v. Hoover, 143 Va. 460, 467, 130 S.E. 408 (1925); see also Carlsbad Mutual Water Co. v. San Luis Rey Development Co., 178 P. 2d 844, 78 Cal. App. 2d 900 (D.C. 1947); City of Louisville v. Tway, 297 Ky. 565, 180 S.W. 2d 278 (1944); Robertson v. Arnold, 182 Ga. 664, 186 S.E. 806 (1936).

251. Davis v. Town of Harrisonburg, 116 Va. 864, 869, 83 S.E. 401 (1914).

252. Pabst v. Finmand, 190 Cal. 124, 211 P. 11, 13 (1922); see also Price v. High Shoals Mfg. Co., 132 Ga. 246, 64 S.E. 87, 88 (1909).

253. Hite v. Town of Luray, 175 Va. 218, 226, 8 S.E. 2d 369 (1940), quoting from 1 Minor, Real Property, sec. 55 (2d. ed. 1928).

254. Kyser v. New York Cent. R. Co., 151 Misc. 226, 271 NYS 182, 186 (Sup. Ct. 1934).

255. Trevett v. Prison Ass'n., 98 Va. 332, 365 S.E. 373, 376 (1900).

256. See, e.g., Va. Code Ann. sec. 62.1-17 (1950); Ga. Code Ann. sec. 17-510(2) (Supp. 1968); Cal. Water Code sec. 13000.2 (West Supp. 1968).

257. Water Quality Act of 1965, P.L. 89-234, 79 Stat. 903.

258. Arminius Chemical Co. v. Landrum, 113 Va. 7, 13, 73 S.E. 459 (1912).

259. 143 Va. 460, 130 S.E. 408 (1925).

260. Id. at 467; see also Stratton v. Mt. Hermon Boys' School, 216 Mass. 83, 103 N.E. 87 (1913).

261. Town of Gordonsville v. Zinn, 129 Va. 542, 560, 106 S.E. 508 (1921).

262. Lawrie v. Sillsby, 82 Vt. 505, 74 A. 94, 96 (1909).

263. See, Town of Gordonsville v. Zinn, 129 Va. 542, 561-62, 106 S.E. 508 (1921).

264. Mt. Shasta Power Corp. v. McArthur, 109 Cal. App. 171, 292 P. 549 (D.C. 1930).

265. This discussion of prescription is based on 93 C.J.S. Water sec. 158-66 (1956).

266. 178 Cal. 450, 173 P. 994 (1918).

267. Id. at 996.

268. 200 Cal. 81, 252 P. 607 (1926), cert. denied, 2,275 U.S. 486 (1927).

269. 339 U.S. 725 (1950).

270. Gin S. Chow v. City of Santa Barbara, 217 Cal. 673, 22 P. 2d 5, 10 (1933); see also Gallatin v. Corning Irrigation Co., 163 Cal. 405, 126 P. 864 (1912).

271. Cal. Const., Art. 14, sec. 3.

272. See, Town of Gordonsville v. Zinn, 129 Va. 542, 560, 106 S.E. 508 (1921).

273. 102 Ill. 177 (1882).

274. Id. at 201-02.

275. Id. at 184.

276. Id. at 192.

277. Id. at 193-95.

278. Ellis, Mann, Krausz, Water-Use Law in Illinois, p. 52.

279. Druley v. Adam, 102 Ill. 177, 201 (1882).

280. Id. at 204.

281. 1 Saxton (N. J.) 157 (1830).

282. Druley v. Adam, 102 Ill. 177, 200 (1882).

283. Id. at 194.

284. Id. at 197.

285. Id. at 204.

286. 1 Saxton (N. J.) 157 (1830).

287. 9 N. H. 454 (1838).

288. 23 Cal. 2d 68, 142 P. 2d 289 (1943).

289. Id. at 293.

290. Gin S. Chow v. City of Santa Barbara, 217 Cal. 673, 22 P. 2d 5, 10 (1933).

291. 102 Ill. 177 (1882).

292. Id. at 193-94.

293. Town of Purcellville v. Potts, 179 Va. 514, 521, 19 S.E. 2d 700 (1942); see also Pernell v. City of Henderson, 220 N.C. 79, 16 S.E. 2d 449 (1941).

294. 179 Va. 514, 19 S.E. 2d 700 (1942).

295. Id. at 524.

296. See Town of Gordonsville v. Zinn, 129 Va. 542, 560-62, 106 S.E. 508 (1921).

297. 143 Va. 460, 130 S.E. 408 (1925).

298. 185 Mich. 454, 152 N.W. 251 (1915).

299. Id. at 255.

300. 3 U. Va. L. Rev. 65-66 (1915).

301. 116 Va. 864, 83 S.E. 401 (1914).

302. Id. at 868.

303. Id. at 870.

304. Id. at 868.

305. Seneca Consolidated Gold Mines Co. v. Great Western Power Co. 287 P. 93, 97 (1930).

306. 129 Va. 542, 106 S.E. 508 (1921).

307. Peabody v. City of Vallejo, 2 Cal. 2d 351, 40 P. 2d 486, 494 (1935).

308. 72 Ohio App. 93, 50 N.E. 2d 897 (1943).

309. Id. at 901.

310. 190 Cal. 124, 211 P. 11 (1922).

311. Id. at 14-15.

312. Lindblom v. Round Valley Water Co., 178 Cal. 450, 173 P. 994,997 (1918).

313. Stein v. Burden, 24 Ala. 130,149 (1853).

314. Miller and Lux v. Enterprise Canal and Land Co., 169 Cal. 415, 147 P. 567,573 (1915).

315. United States v. Fallbrook Public Utility Dist., 110 F. Supp. 767 (D.C. Cal. 1953).

316. 93 C.J.S., Waters, sec. 163.

317. 102 Ill. 177 (1882).

318. Mitchell v. Warner, 5 Conn. 497 (1825).

319. S. O. & C. Co. v. Ansonia Water Co., 83 Conn. 611, 78 A. 432 (1910).

320. Nielson v. Newmyer, 123 Colo. 189, 228 P. 2d 456 (1951); Wright v. Best, 19 Cal. 2d 368, 191 P. 2d 702 (1942); Duckworth v. Watsonville Water & Light Co., 150 Cal. 520, 89 P. 338 (1907).

321. Black v. Taylor, 128 Colo. 449, 264 P. 2d 502 (1953); Town of Sterling v. Pawnee Ditch Extension Co., 42 Colo. 421, 94 P. 339 (1908).

322. See, e.g. Slosser v. Salt River Val. Canal Co., 7 Ariz. 376, 65 P. 332 (1901).

323. See, e.g. Hindevlider v. La. Plata River & Cherry Creek Ditch Co., 304 U.S. 92 (1937); Metropolitan Finance Corp. v. Pierce, 231 F. 2d 617 (9th-Cir. 1956); City of Colorado Springs v. Bender, 148 Colo. 458, 366 P. 2d 552 (1961); Orange County Water Dist. v. City of Riverside, 173 Cal. App. 2d 137, 343 P. 2d 450 (D.C. 1959); City & County of Denver v. Northern Colorado Conservancy District, 130 Colo. 325, 276 P. 2d 992 (1954); City of Pasadena v. City of Alahambra, 33 Cal. 2d 908, 207 P. 2d 17 (1949).

324. 283 U.S. 423 (1931).

325. Id. at 459.

326. See, e.g. Cal. Water Code sec. 1610 (West Supp. 1968); Okla. Stat. Ann. tit. 82, sec. 26 (1952); Ariz. Code Ann. sec. 45-142 (1956).

327. Whitten v. Coit, 153 Colo. 157, 385 P. 2d 131 (1963); Fairfield Irrigation Co. v. Carson, 122 Utah 225, 247 P. 2d 1004 (1952); In Re Determination of Relative Rights to Use of Waters of Pontano Creek in Pima County, 45 Ariz. 156, 41 P. 2d 228 (1935).

328. Colo. Const., art XVI, sec. 6.

329. Black v. Taylor, 128 Colo. 449, 264 P. 2d 502 (1953); Town of Sterling v. Pawnee Ditch Co., 42 Colo. 421, 94 P. 339 (1908).

330. City of Pasadena v. City of Alhambra, 33 Cal. 2d 908, 207 P. 2d 17, 29 (1949).

331. 39 Cal. L. Rev. 369.

332. See, e.g. City of Pasadena v. City of Alhambra, 33 Cal. 2d 908, 207 P. 2d 17 (1949).

333. Cal. Water Code sec. 1202 (1956).

334. Stevinson Water Dist. v. Roduner, 36 Cal. 2d 264, 223 P. 2d 209 (1950); Meridian, Ltd. v. City and Co. of San Francisco, 13 Cal. 2d 424, 90 P. 2d 537 (1939); Peabody v. City of Vallejo, 2 Cal. 2d 351, 40 P. 2d 486 (1935).

335. United States v. Haga, 276 Fed. 41 (Idaho 1921). See also Ides v. United States, 263 U.S. 497 (1924).

336. Cal. Water Code sec. 7075 (West 1957).

337. Okla. Stat. Ann. tit. 82, sec. 3 (1969).

338. See, e.g. Cal. Const. art. 14, sec. 3; Crawford v. Lehi Irrigation Co., 10 Utah 2d 165, 350 P. 2d 147 (1960); Thorne v. McKinley Brothers, 5 Cal. 2d 704, 56 P. 2d 204 (1936); Peabody v. City of Vallejo, 2 Cal. 2d 351, 40 P. 2d 486 (1935).

339. City & County of Denver v. Sheriff, 105 Colo. 193, 96 P. 2d 836 (1939).

340. Akin V. Spencer, 21 Cal. App. 2d 325, 69 P. 2d 430, 432 (D.C. 1937).

341. Grien v. Chafee Ditch Co., 150 Colo. 91, 371 P. 2d 775 (1962).

342. Farmers Reservoir & Irrigation Co., v. Fulton Irrigation Ditch Co., 108 Colo. 482, 120 P. 2d 196 (1941); Commonwealth Irrigation Co. v. Rio Grande Canal Water Users' Ass'n, 96 Colo. 428, 45 P. 2d 622 (1935).

343. Id.; Barton v. Pierce, 131 Cal. App. 33, 20 P. 2d 736 (D.C. (1933).

344. In Re Water Dist. No. 47 in Water Div. No. 1, 119 Colo. 404, 204 P. 2d 153 (1949); Strain v. Superior Court of Los Angeles County, 168 Cal. 216, 142 P. 62 (1914).

345. Commonwealth Irrigation Co. v. Rio Grande Canal Water Users' Ass'n., 96 Colo. 478, 45 P. 2d 622 (1935).

346. Town of Sterling v. Pawnee Ditch Extension Co., 42 Colo. 421, 94 P. 339 (1908).

347. City and County of Denver v. Sheriff, 105 Colo. 193, 96 P. 2d 836, 841 (1939).

348. Id. at 842.

349. Denver v. Northern Colorado Water Conservancy Dist., 130 Colo. 375, 276 P. 2d 992, 997 (1954).

350. Metropolitan Suburban Water Users' Ass'n. v. Colorado Water Conservancy Dist., 365 P. 2d 275 (Colo. 1961).

351. Lindblom v. Round Valley Water Co., 178 Cal. 450, 173 P. 994, 997 (1918).

352. Id.

353. 13 Cal. 2d 424, 90 P. 2d 537 (1939).

354. Id. at 549.

355. Holbrook Irrigation Dist v. Ft. Lyon Canal Co., 84 Colo. 174, 269 P. 574 (1928); Greeley and Loveland Irrigation Co. v. Hupte, 60 Colo. 535, 155 P. 386 (1916).

356. Enlarged Southside Irrigation Ditch Co. v. John's Flood Ditch Co., 120 Colo. 423, 210 P. 2d 982 (1949); Union Grain & Elevator Co. v. McCammon Ditch Co., 41 Idaho 216, 240 P. 443 (1925).

357. Finley v. Cache La Poudre Co., 44 Colo. 234, 98 P. 173 (1908).

358. City & County of Denver v. Northern Colorado Water Conservancy Dist., 130 Colo. 575, 276 P. 2d 992, 999 (1954).

359. Colo. Rev. State Ann. sec. 148-5-1 (1963).

360. Windsor Reservoir and Canal Co. v. Lake Supply Ditch Co., 44 Colo. 214, 98 P. 729 (1908).

361. See., e.g. Handy Ditch Co. v. Greely and Loveland Irrigation Co., 86 Colo. 197, 280 P. 481, (1929); Holbrook Irrigation Dist. v. Ft. Lyon Canal Co., 84 Colo. 174, 269 P. 574 (1928); Finley v. Cache La Poudre Irrigation Co., 44 Colo. 234, 98 P. 173 (1908).

362. Colo. Const., art. XVI, sec 6.

363. City and County of Denver v. Sheriff, 105 Colo. 193, 96 P. 2d 836 (1939).

364. The Reclamation Act of 1902, ch. 1093, sec. 8, 32 Stat. 388, 390.

365. See text beginning at n. 84, supra.

366. 372 U.S. 627 (1963).

367. Ivanhoe Irrigation District v. McCracken, 357 U.S. 275, 291 (1958).

368. The Reclamation Act of 1902, ch. 1093, sec. 7, 32 Stat. 388, 389-90.

369. Nebraska v. Wyoming, 325 U.S. 589 (1945); Ickes v. Fox, 300 U.S. 82 (1937).

370. See text at n. 335-37.

371. Colo. Rev. Stat. Ann. sec. 148-5-2.

372. Kan. Stat. Ann. sec. 82a-706b (Supp. 1968).

373. Id. sec. 82a-937 (Supp. 1968).

374. Id. sec. 82a-935.

375. Act of February 25, 1920, ch. 86, 41 Stat. 451.

376. See text at n. 4, supra.

377. See e.g., Boulder Canyon Project Act. ch. 42, sec. I, 45 Stat. 1057 (1928); Act of August 26, 1937, ch. 832, sec. 2, 50 Stat. 844, 850.

378. Statements by the Under Secretary of the Interior in a letter to the Committee on Public Works regarding the desirability of enactment of dilution water storage legislation indicated that the Bureau of Reclamation already operated under procedures which accomplished, to a great degree, the objectives of the proposed legislation. Hearings Before the Water Pollution Control Committee on S. 120, 87th Cong., Sess. 76 (1961).

379. Act of December 22, 1944, ch. 665, 58 Stat. 887.

380. 1944 U.S. Code Cong. Service 1349, 1354.

381. Water Pollution Control Act, ch. 758, 62 Stat. 115 (1948).

382. Id. sec. 1.

383. Act of July 9, 1956, P.L. 660, 70 Stat. 498.

384. Act of July 20, 1961, P.L. 87-88, 75 Stat. 204.

385. Water Quality Act of 1965, P.L. 89-234, 79 Stat. 903.

386. Clean Water Restoration Act of 1966, P.L. 89-753, 80 Stat. 1246.

387. Act of July 20, 1961, P.L. 87-88, sec. 2(b)(1), 75 Stat. 204.

388. Hearings before the Subcommittee of the Committee on Public Works on S. 120, 87th Cong., Ist Sess. (1961).

389. Id. at I32.

390. Id. at 191.

391. United States v. Appalachian Electric Power Co., 311 U.S. 377 (1940); New England Dredging Co. v. United States, 144 F. 932 (1st Cir. 1906).

392. 311 U.S. 377 (1940).

393. 2 U.S. Code Cong. and Adm. News 2085 (1961).

394. See "The Riparian Water Right" and "The Appropriative Water Right," supra.

395. See "Application of Navigational Servitude," supra.

396. Act of December 22, 1944, ch. 665, 58 Stat. 887.

397. See text at n. 160, supra.

398. Reclamation Act of 1902, ch. 1093, sec. 7, 32 Stat. 388, 390-91.

399. Watershed Protection and Flood Prevention Act, P.L. 566, 68 Stat. 666 (1954).

400. Federal Water Power Act, ch. 285, 41 Stat. 1063 (1920).

401. Public Utilities Act of 1935, tit. II, ch. 687, sec. 202(e), 49 Stat. 803, 840, formerly ch. 285 sec. 4(e), 41 Stat. 1063 (1920).

402. Act of August 3, 1968, P.L. 90-451, 82 Stat. 616.

403. Public Utilities Act of 1935, tit. II, ch. 687, sec. 202(e), 49 Stat. 803, 840, formerly ch. 285 sec. 4(e), 41 Stat. 1063 (1920).

404. Hearings on H.R. 8716 Before the House Comm. on Water Power, 551 65th Cong., 2nd Sess. (1918).

405. Section 10 (a) provides the following:

> That the project adopted, including the maps, plans and specifications, shall be such as in the judgment of the commission will be best adopted to a comprehensive scheme of improvement and utilization for the purposes of navigation, of water power development, and of other beneficial uses; and if necessary in order to secure such scheme the commission shall have authority to require the modification of any of the plans and specifications fo the project works before approval. Federal Water Power Act. ch. 285, sec. 10(a), 41 Stat. 1063, 1068 (1920).

406. Act of August 8, 1917, ch. 49, 40 Stat. 250, 269.

407. Act of August 3, 1968, P.L. 90-451, 82 Stat. 616.

408. H.R. 7367, 91st Cong., 1st Sess., (1969).

409. 355 F. 2d 683 (1st Cir. 1966).

410. Id. at 686.

411. Town of Gordonsville v. Zinn, 129 Va. 542, 106 S.E. 508 (1921).

412. United States v. Twin City Power Co., 350 U.S. 222 (1955); United States v. Appalachian Electric Power Co., 311 U.S. 377 (1940).

413. See text at n. 159, supra.

414. The Reclamation Act of 1902, ch. 1093, sec. 8, 32 Stat. 388, 390.

415. Ivanhoe Irrigation District v. McCracken, 357 U.S. 275, 291 (1958).

416. City of Fresno v. California, 372 U.S. 627 (1963).

417. Kan. Stat. Ann. sec. 820-927 (Supp. 1968).

418. Id., sec. 82a-928 (17).

419. New Mexico Water Quality Comm'n., "Implementation and Enforcement Plan for Water Quality Control" 53 (1967).

420. 36 U. Colo. L. Rev. 415 n. 13 (1964).

421. Letter from Donald H. Hamburg to William R. Walker, September 17, 1968.

422. Slosser v. Salt River Valley Canal Co., 7 Ariz. 376, 65 P. 332, 339 (1901).

423. Water Quality Act of 1965, P.L. 89-234, 79 Stat. 903.

424. "Guidelines for Establishing Water Quality Standards for Interstate Waters," United States Department of the Interior, FWPCA, May 1966, revised Jan. 1967.

425. See, e.g., Va. Code Ann. sec. 62.1-27 (Repl. Vol. 1968).

426. See text at n. 277, supra.

427. Druley v. Adam, 102 Ill. 177 (1882).

428. See text at n. 335.

429. Act of December 22, 1944, ch. 665, sec. 1, 58 Stat. 887.

APPENDICES

APPENDICES

I. TABLE OF PROJECTS HAVING WATER SUPPLY STORAGE AND MAPS OF RESERVOIRS USING NATURAL CHANNELS AS CONDUITS

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APPENDIX I

TABLE OF PROJECTS HAVING WATER SUPPLY STORAGE AND MAPS OF RESERVOIRS USING NATURAL CHANNELS AS CONDUITS

ARKANSAS

PROJECT LOCATION	WATER SUPPLY STORAGE AC. FT.	AGENCY OWNING RIGHT	CITIES OR AGENCIES SERVED	METHOD OF WATER TRANSPORTATION (NATURAL, CONDUIT, ETC,)
Beaver Res., Ark.	108,000	Beaver Water Dist.	Rogers, Springdale, & Fayetteville, Ark. Filtration Plant	Transported by 1 3/4 miles of pipeline to the plant
Millwood, Ark.	150,000	Southwest Ark. Water Dist.	Millwood, Ark.	Open concrete lined channel for about 12 miles
Norfork, Ark.	2,400	Water & Sewer Improvement Dist. #3, Mountain Home, Ark.	City of Mountain Home, Ark.	1,000 feet from treatment plant to intake & water is conveyed by pipeline
DeGray Res., Ark.	238,730(8)	Quachita River Water Dist.	Quachita River Water Dist., Arkadelphia, Ark.	Natural Water Channels
DeQueen Res., Ark.	17,900	Tri-Lakes Water Dist., Ark.	Not determined	Under construction - Method of transportation not definite but it is possible that a natural water channel and a pipeline will be used
Gillham Res., Ark.	28,700	Tri-Lakes Water Dist., Ark.	Not determined	Same as for DeQueen Res., Ark.

CALIFORNIA

PROJECT LOCATION	WATER SUPPLY STORAGE AC. FT.	AGENCY OWNING RIGHT	CITIES OR AGENCIES SERVED	METHOD OF WATER TRANSPORTATION (NATURAL, CONDUIT, ETC.)
Warm Springs Dam, Calif.*	132,000	Sonoma County F.C. & Water Cons. Dist., Calif.	Santa Rosa, Forestville, Rohnert Park, Petaluma, Sonoma & to Novato	Dry Creek, natural channel (13.7 mi.) then in Russian River for 7.6 mi. then water is diverted to two Ranney Collectors (40 mil. gal. per day)
Coyote Dam Project*		Sonoma County	Same as above	Natural channels of the East Fork & Russian Rivers for 72 mi., then diversion to same two Ranney collectors mentioned for Warm Springs Dam.

*These Dams are both a part of the ''Russian River Pool.'' The ''Pool'' is an operational concept whereby both water stored in reservoirs plus natural flows in Russian River which are excess to other needs, may be utilized for water supply.

CONNECTICUT

Colebrook River Res., Conn.	30,700	City of Hartford, Conn.	Hartford, Conn.	Estimated that by 1975 water will be released into West Branch Res. (1 mile downstream) and tied into water distribution system by means of a tunnel

GEORGIA

PROJECT LOCATION	WATER SUPPLY STORAGE AC. FT.	AGENCY OWNING RIGHT	CITIES OR AGENCIES SERVED	METHOD OF WATER TRANSPORTATION (NATURAL, CONDUIT, ETC.)
Clark Hill Res., Ga. & S.C.	210	McCormick, S.C.	McCormick, S.C. & Lincolnton, Ga.	Use of underground conduits on the Soap Creek Arm of reservoir (Lincolnton) Little River Arm of reservoir (McCormick)
Allatoona Res., Ga.	13,140	Cobb County-Marietta Water Dist.	Treatment Plant, Acworth, Ga.	Conduit
	1,340	City of Cartersville	Treatment Plant, (Powerhouse Rd. & U.S. Highway 41)	Proposed conduit
Hartwell Res., Ga. & S.C.	3,690	Duke Power Co. Water & Sewer Improvement Dist. #3 Mountain Home, Ark.	Duke Power Co., Clemson, S.C., Hartwell, Ga., Utica-Mohawk & Excelsior Mills	Natural channel of 26 miles of Mile Creek to underground conduit

KANSAS

Pomona, Kansas	230	Rural Water Dist. #3, Kan.	Treatment Plant Kan. State Park & Resources Auth.,	6" pipeline to treatment plant
	160	Pomona Res. Water Co., Kan.	Vassar, Kan., & Vassar State Park	

KANSAS CONT'D

PROJECT LOCATION	WATER SUPPLY STORAGE AC. FT.	AGENCY OWNING RIGHT	CITIES OR AGENCIES SERVED	METHOD OF WATER TRANSPORTATION (NATURAL, CONDUIT, ETC.)
Toronto, Kansas	265	City of Toronto, Kan.	Toronto, Kan.	1/2 mile conduit to city of Toronto.
Council Grove, Kan.	24,400	Council Grove & Emporia, Kan.	City of Council Grove, Kan.	Will make use by 1,500 foot, 10" cast iron pipe to Council Grove. Natural water course (Neosho River) from reservoir to Emporia.
John Redmond, Kan.	34,900	State of Kan.		
Milford, Kan.	300,000	State of Kan.	Milford, Kan.	Pump lift (75 ft.) and 1500 ft. of Horizontal pumping. Up-stream users pipeline and down-stream users natural waterway.
Elk City, Res. Kan.	42,300	State of Kan.		
Perry Reservoir, Kan.	150,000	State of Kan.	Milford, Kan.	Points of delivery not yet defined but supply may be conveyed by short natural channels.
Cheney Res., Kan.		Bureau of Reclamation	Wichita, Kan.	25 miles of pipe.

KENTUCKY

PROJECT LOCATION	WATER SUPPLY STORAGE AC. FT.	AGENCY OWNING RIGHT	CITIES OR AGENCIES SERVED	METHOD OF WATER TRANSPORTATION (NATURAL, CONDUIT, ETC.)
Barren River, Ky.	681	City of Glasgow, Ky.	Treatment Plant & Glasgow, Ky.	12 miles of 20" pipeline between plant and city
Rough River Res. Ky.	120	Leitchfield, Ky.	Treatment Plant & Leitchfield, Ky.	8 1/2 miles of 10" pipeline between plant and city
Red River, Ky.	24,700	Ky. Water Resource Auth.	Frankfort, Lexington, Harrodsburg, Winchester, Nicholasville, Stanton*	Water supply contract with Ky. Water Resource Authority is pending. (Use of both conduits and Natural channel)
Green River, Ky.	870	City of Campbellsville	Campbellsville, Ky.	Contract with Campbellsville, Ky. is being negotiated. Tentative use of 18" pipeline
Cave Run, Ky.	None			Under construction
Eagle Creek, Ky.	13,370	Ky. Water Resource Auth.		Negotiations with Ky. Water Resources Authority have not been initiated.

*Versailles, Mount Sterling, Wilmore, Lawrenceburg, Richmond, & Lancaster, Ky.

ILLINOIS

PROJECT LOCATION	WATER SUPPLY STORAGE AC. FT.	AGENCY OWNING RIGHT	CITIES OR AGENCIES SERVED	METHOD OF WATER TRANSPORTATION (NATURAL, CONDUIT, ETC.)
Carlyle Res., Ill.	33,000	State of Ill.	Carlyle and areas that are subject to overflow from head of navigation to Mississippi	Natural channel (Kaskaskia River)
Shelbyville Res., Ill.	25,000	State of Ill.	Shelbyville, Ill.	Natural channel (Kaskaskia River)
Rend Lake, Ill.	109,000	State of Ill.	Jefferson & Franklin Counties	Water transported by pipeline
Oakley, Ill.*	11,000	City of Decatur, Ill	Decatur, Ill.	Water released from reservoir will be sluiced through Oakley Dam into Lake Decatur and passed downstream into the Sangamon River
Lincoln Res. Ill.	16,400	State of Ill.	City of Charleston, Ill.	Draw water from a wet well flooded by the reservoir and transported to the treatment plant through one piping system, possibly 30" or 36"

*Water from Oakley Reservoir sluiced into Lake Decatur. City of Decatur has option of constructing an intake on Oakley Reservoir or request sluicing into Lake Decatur for city use.

INDIANA

PROJECT LOCATION	WATER SUPPLY STORAGE AC. FT.	AGENCY OWNING RIGHT	CITIES OR AGENCIES SERVED	METHOD OF WATER TRANSPORTATION (NATURAL, CONDUIT, ETC.)
Brookville, Ind.	89,300	State of Ind.	Franklin & Union Counties	There are tentative plans only available
Monroe Res., Ind.	159,900(6)	State of Ind.	Bloomington, Bedford, & Boy Scout Camp, U.S. Forest Serv.	Treatment plant located at reservoir site with about 12 miles of pipeline between plant and Bloomington. Natural channel, Salt Creek to treatment plant in Bedford, located 12 miles downstream from reservoir. Treatment plant serves Boy Scout Camp in immediate vicinity
Patoka, Ind.	129,800	State of Ind.	Dubois, Orange & Crawford Counties	Pending
Big Walnut Res., Ind.	153,000	State of Ind.		Tentative plans are available only
Big Blue, Ind.	34,400	State of Ind.		Tentative plans are available only

MASSACHUSETTS

PROJECT LOCATION	WATER SUPPLY STORAGE AC. FT.	AGENCY OWNING RIGHT	CITIES OR AGENCIES SERVED	METHOD OF WATER TRANSPORTATION (NATURAL, CONDUIT, ETC.)
East Brimfield Res., Mass.	1,140	Amer. Optical Co. Mass.	Amer. Optical Co. Mass.	1,140 acre-feet of storage natural water channel for 11.6 miles
Littleville, Mass.	9,400	Springfield, Mass.	Springfield, Mass.	Water is conveyed from reservoir to Cobble Mountain Dam (owned by city) by a 7.5 mile 48" pipeline
MISSISSIPPI				
Okatibbee, Miss.	13,100	Pat Harrison Waterway Dist., Hattiesburg, Miss.	Meridian, Miss.	Plans not certain
MISSOURI				
Clarence Cannon Dam & Res., Mo.	20,000	Mo. Water Resources Board	Multi-county water supply district(3)	Pipeline system (this has not been formed as yet)
NORTH CAROLINA				
W. Kerr Scott, N.C.	33,000	Winston-Salem & Wilkes Co., N.C.	Winston-Salem, N.C.	Natural channel of 95 mi. to Winston-Salem; intake located immediately upstream from Idols Dam

NORTH DAKOTA

PROJECT LOCATION	WATER SUPPLY STORAGE AC. FT.	AGENCY OWNING RIGHT	CITIES OR AGENCIES SERVED	METHOD OF WATER TRANSPORTATION (NATURAL, CONDUIT, ETC.)
Baldhill Dam, N. Dak.	69,500	Eastern N. Dak. Water Dev. Assoc.	Fargo, Grand Forks, N. Dak.	Releases water into Sheyenne River and Red River of the north for these cities.
Homme Res., N. Dak.	3,650(1)	Park River & Grafton, N.D.	Grafton, Park River, N.D.	12 inch pipe 1 1/2 miles long supplies Park River Natural channel (South Branch Park River) to Grafton, N.D.
Bowman-Haley, N. Dak.	16,000	State of North Dakota	Bowman, Scranton Gascoyne, & Reeder, North Dakota	Tentative 35 miles of pipeline planned for cities to be served
OHIO				
Berlin Res., Ohio	19,400	Mahoning Valley Sanitary Dist.	Indirectly-Niles, McDonald, Youngston Canfield-all Ohio	From reservoir 9 mi. conduit to Meander Creek Reservoir where stored then conveyed to cities by conduit
Mosquito Creek Res., Ohio	11,000	Warren, Ohio	Warren, Ohio	4 mi. conduit

OHIO CONT'D

PROJECT LOCATION	WATER SUPPLY STORAGE AC. FT.	AGENCY OWNING RIGHT	CITIES OR AGENCIES SERVED	METHOD OF WATER TRANSPORTATION (NATURAL, CONDUIT, ETC.)
Tom Jenkins Res., Ohio	5,800	State of Ohio	To Water Treatment Plant then to 7 communities in Sunday Creek Valley*	225 ft. pipe
West Branch Res., Ohio	52,900(6)	Mahoning & Trumbill Counties	Mahoning & Trumbill Counties	Not presently withdrawn but could be used for the mentioned counties
Caesar Creek Res., Ohio	39,200	State of Ohio	Warren, Clinton & Green Counties, Ohio	Plans for specific uses and methods for withdrawing water supplies have not yet been developed. Domestic water supplies from reservoirs are in most instances picked up at the reservoir or only a short distance downstream. Perhaps Little Miami R.
East Fork Res., Ohio	35,500	State of Ohio	Clermont, Ohio	Same as for Caesar Creek Res.
Alum Creek Res., Ohio		State of Ohio	Columbus, Ohio	Pipe of 60" to the site of pumping station. The station discharge will be piped to Hoover Reservoir.

*Gloucester, Trimble, Jacksonville, Hollister, Murray City, New Straitsville, Shawnee, all Ohio.

OKLAHOMA

PROJECT LOCATION	WATER SUPPLY STORAGE AC. FT.	AGENCY OWNING RIGHT	CITIES OR AGENCIES SERVED	METHOD OF WATER TRANSPORTATION (NATURAL, CONDUIT, ETC.)
Canton Res., Okla.	90,000	Oklahoma City, Oklahoma	Oklahoma City	123 mi. natural water channel
Heyburn Res., Okla.	1,000 300	Keifer, Okla. Rural Water Dist. #1 Creek Co., Okla.	Rural Water Dist #1 & city of Keifer	Conduit, mileage unknown
Wister Res., Okla.	1,600 4,800	Heavener Utilities Auth. Poteau Valley Improve. Auth.	Heavener Utilities Auth.	10 mile conduit to Heavener water plant. Use of Poteau River down to plant. Natural channel to Poteau, Oklahoma
Ologah	38,000 500 5,000 2,500 100	Tulsa, Okla. Collinsville Okla. Public Service Co., Okla. Claremore Foundation, Okla. Rural Water Dist. #1 Nowata Co., Okla.	Collinsville, Okla. Collinsville, Okla. Public Ser. Co., Okla. 3 Rural Water Dist.	10 mi. conduit 10 mi. conduit 2 mi. conduit Conduit milage unknown

OKLAHOMA CONT'D

PROJECT LOCATION	WATER SUPPLY STORAGE AC. FT.	AGENCY OWNING RIGHT	CITIES OR AGENCIES SERVED	METHOD OF WATER TRANSPORTATION (NATURAL, CONDUIT, ETC.)
Ologah cont'd	300	R. Wat. Dist. #3, Rogers Co. Okla.		
	300	Rural Water Dist., #4 Rogers Co., Okla.		
Fort Supply, Okla.	400	Okla. State Board of Public Affairs, Okla.	Okla. State Board of Public Affairs	2 mi. conduit
Tenkiller Ferry, Okla.	300	E. Central Okla. Water Auth.	E. Central Water Auth.	10 mi. conduit
	100	Rural Water Dist. #2 Cherokee County, Okla.		Conduit milage unknown
	100	Rural Water Dist. #4 Cherokee County, Okla.		
Broken Bow Okla.	153,000	State of Okla.		
Keystone Res., Okla.	14,300	Public Serv. Co. of Okla.	Westiles Eng. Co.	Secondary oil recovery 1 conduit milage unknown

OKLAHOMA CONT'D.

PROJECT LOCATION	WATER SUPPLY STORAGE AC. FT.	AGENCY OWNING RIGHT	CITIES OR AGENCIES SERVED	METHOD OF WATER TRANSPORTATION (NATURAL, CONDUIT, ETC.)
Keystone, Okla.	130	Gulf Oil Corp. of Okla.	Gulf Oil	Conduit with milage unknown
Pine Creek Res., Okla.	70,000	Mountain Lakes Water Dist.		
Kaw Res., Okla.	232,000(9)	City of Ponca Okla. Water Resources Board		
Optima Res., Okla.	76,200	Okla. Water Resources Board		
OREGON				
Foster Res., Ore.	2,000	Sweet Home, Ore.	Sweet Home, Ore.	Proposed 3-5 mile pipeline to Sweet Home
PENNSYLVANIA				
Beltzville Res., Pa.	27,900	Delaware River Basin Commission	Beltzville, Pa.	Storage has not yet been resold

TEXAS

PROJECT LOCATION	WATER SUPPLY STORAGE AC. FT.	AGENCY OWNING RIGHT	CITIES OR AGENCIES SERVED	METHOD OF WATER TRANSPORTATION (NATURAL, CONDUIT, ETC.)
San Angelo Res., Tex.	80,400	Upper Colorado, River Authority	San Angelo, Tex.	Intake at reservoir for San Angelo
Hords Creek Res., Tex.	5,780	Coleman, Texas	Coleman, Texas	8 mile pipeline
Lewisville Res., Tex.	415,000 21,000	Dallas, Tex. Denton, Tex.	Denton, Texas Dallas, Texas (Protection to)	8 mile pipeline
Grapevine Res., Tex.	85,000 1,250	Dallas, Tex. City of Grapevine, Texas	Dallas, Texas Grapevine, Texas	Denton Creek for 22 miles 2 mile pipeline
	50,000	Park Cities, Texas	University & Highland Parks, Texas	Denton Creek for 22 miles
Lavon Res., Tex.	100,000	North Texas Municipal Water District	Farmville, Forney, Garland, Mesquite, McKinney, Plano, Princton, Rockwall, Royse City, Wylie*	60" reinforced concrete cylinder pipeline - 11,000' 48' concrete pipeline to filter plant - 17,300

*Fairview, Dallas, Fate, Rowlett, Sachse, and Sunnyvale, Texas

TEXAS CONT'D

PROJECT LOCATION	WATER SUPPLY STORAGE AC. FT.	AGENCY OWNING RIGHT	CITIES OR AGENCIES SERVED	METHOD OF WATER TRANSPORTATION (NATURAL, CONDUIT, ETC.)
Texarkana Res., Tex. & Ark.	13,400	Cities of Texarkana, Tex. & Ark.	Internat. Paper Plant Texarkana	Texarkana intake at reservoir. City will supply paper plant. (in planning stage)
Lake Texoma (Denison) Tex. & Okla.	21,300	Denison, Tex.	Denison, Texas	3 mi. conduit to Denison, Tex.
	16,400	Texas Power & Light Co.	Texas Power & Light Co.	13 mi. nat. water channel-short conduit to Texas Power & Light Co.
	1,150	Sinclair Oil & Gas Co.	Sinclair Oil & Gas Co.	2 conduits to others (mileage unknown)
Belton Res., Tex.	113,700	Brazos River Authority	Temple, Tex.	Temple picks up water approx. 1 mile below dam.
	12,000(1)	Fort Hood, Tex.	Killeen & Fort Hood, Texas	12 mile pipeline to Fort Hood.
	247,000(5)	Brazos River Authority		
Cooper Res.,	240,900	City of Irving Sulphur River Municipal Water Dist.	Irving, Sulphur Springs, Sulphur River Municipal Water Dist.	(Not certain) Closed conduit or open channel to Irving
		North Tex. Municipal Water Dist.	North Texas Municipal Dist.	

TEXAS CONT'D

PROJECT LOCATION	WATER SUPPLY STORAGE AC. FT.	AGENCY OWNING RIGHT	CITIES OR AGENCIES SERVED	METHOD OF WATER TRANSPORTATION (NATURAL, CONDUIT, ETC.)
Whitney Res., Tex.	50,000	Brazos River Authority	Waco, Texas	Power Releases Downstream Use
Stillhouse Hollow Res., Tex.	204,900	Brazos River Authority	Surrounding Texas area	Helps supply water to mouth of Brazos River. No contracted users
Somerville Res., Tex.	143,900	Brazos River Authority	Surrounding Somerville area	Helps supply water to mouth of Brazos River. No contracted users
Pat Mayse Res., Tex.	87,700	City of Paris, Texas	Paris, Texas	10 mi. conduit to city
Dam "B" Tex.	94,200(1)	Lower Neches Valley Authority	Lower Neches Valley Authority, Silsbee, Beaumont	Principal users: Lower Neches Valley Authority, Silsbee, Beaumont. Use of natural channel
Ferrels Bridge, Tex. (same as Lake O'the Pines)	251,100	Northeast Tex. Municipal Water Dist.	Hughes Springs Daingerfield	8" line 16" line
Navarro Mills, Tex.	53,200	Trintity River Authority	Treatment Plant to Dawson, Tex. Corsicana, Tex.	Pipeline for 3 miles 14 mile pipeline

TEXAS CONT'D

PROJECT LOCATION	WATER SUPPLY STORAGE AC. FT.	AGENCY OWNING RIGHT	CITIES OR AGENCIES SERVED	METHOD OF WATER TRANSPORTATION (NATURAL, CONDUIT, ETC.)
Waco Res., Tex.	91,074 13,026(3)	Brazos River Authority Waco, Texas	Pumping Plant to Treatment Plant to Waco, Texas	Pipeline
Canyon Res., Tex.	366,400	Guadalupe-Blanco River Auth.	Springs Hill Water Supply Corp. Port Lavaca, Tex.	Springs Hill Water Supply Corp. (Rural water supply) and Port Lavaca, Tex. Contractual users. Natural channel used
McGee Bend Res. Tex.	1,383,500 (4)	Lower Neches Valley Authority		
Proctor Res., Tex.	31,400	Brazos River Authority	Hamilton, Texas Upper Leon River Water District	Upper Leon River Water Dist. takes water at Dam to treatment plant - pipeline to members. Natural channel to Hamilton
Bardwell Res., Tex.	42,800	Trinity River Authority	Treatment Plant Ennis, Texas	3 mile pipeline

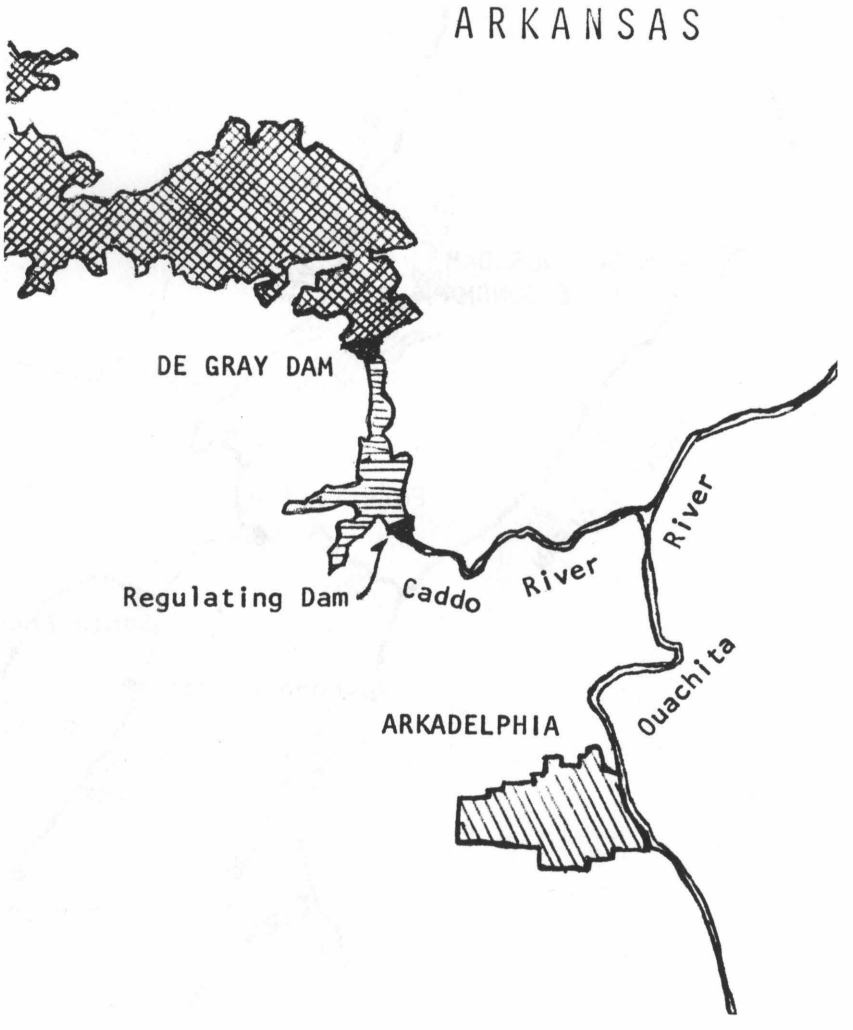
TEXAS CONT'D

PROJECT LOCATION	WATER SUPPLY STORAGE AC. FT.	AGENCY OWNING RIGHT	CITIES OR AGENCIES SERVED	METHOD OF WATER TRANSPORTATION (NATURAL, CONDUIT, ETC.)
Wallisville Res., Tex.	42,900	City of Houston Trinity River Authority Chambers-Liberty County Navi. Dist.	City of Houston Wallisville, Tex. Anahuac, Tex. Liberty, Tex.	Water sources will be from Lake Livingston utilizing Trinity River Channel for conveyance to Pump Station. This is a tentative plan, it is not certain whether an open canal or pipeline will be used. Natural channel to Anahuac.*
Benbrook Res., Tex.	170,350	Trinity River Auth.	Fort Worth	Use of Clear Fork of Trinity River 10 miles
Sam Rayburn Res. Tex.	1,145,000	Neches River Valley Auth.	Beaumont, Tex.	Helps supply Dam B Reservoir. (See Dam B for Details)
Livingston Res., Tex.	1,750,000	Trinity River Auth.	City of Houston	Located 128 miles upstream from the mouth of the Trinity River. This reservoir is to work as a unit with the Wallisville Res. Water is conveyed from Livingston Res. to Wallisville Res. by the Trinity River Channel. Natural channel from Livingston to Houston intake on Trinity River. Natural channel from Livingston to Wallisville Reservoir.

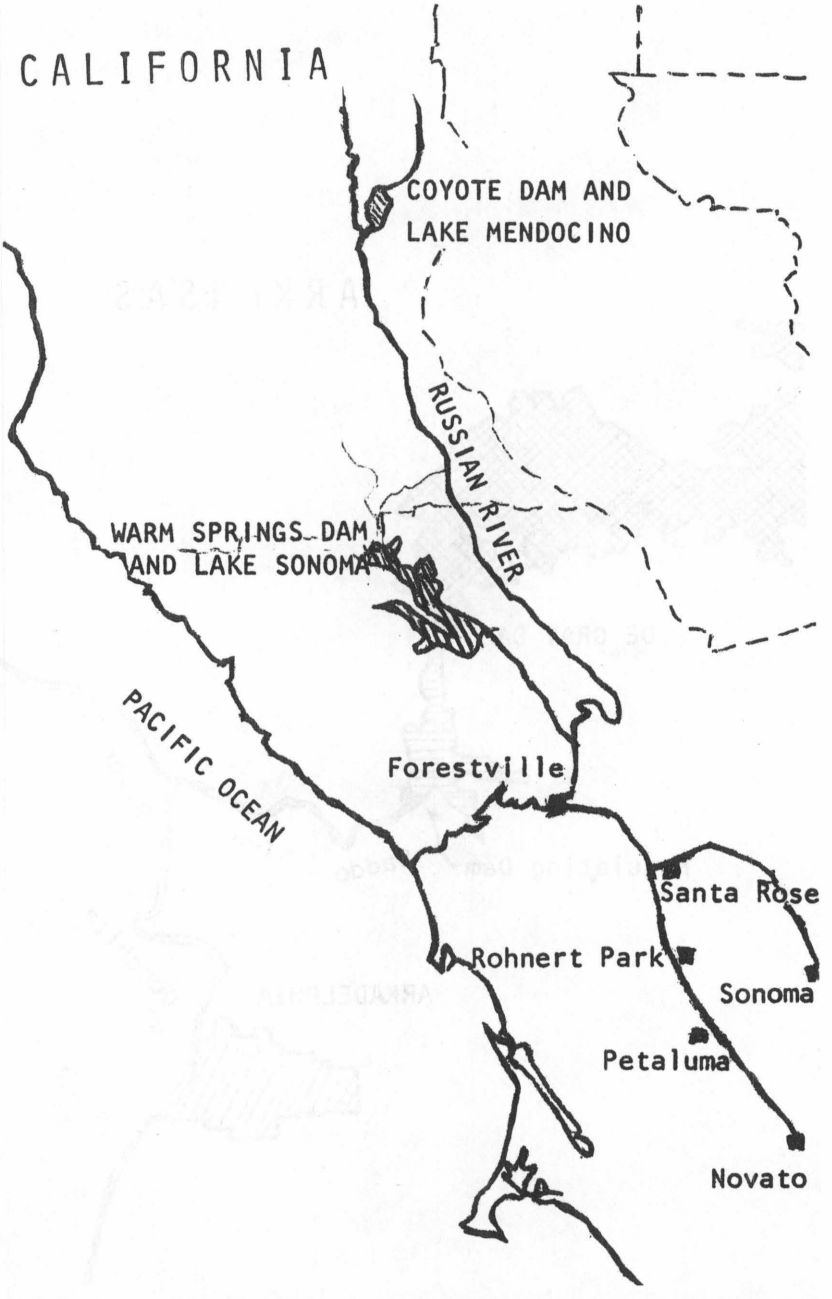
*Anahuac's water will come from the Reservoir through Big Hog Bayou into Lake Anahuac by gravity flow. It will then be lifted into their canal system by pumps at the Anahuac Pumping Plant.

VIRGINIA

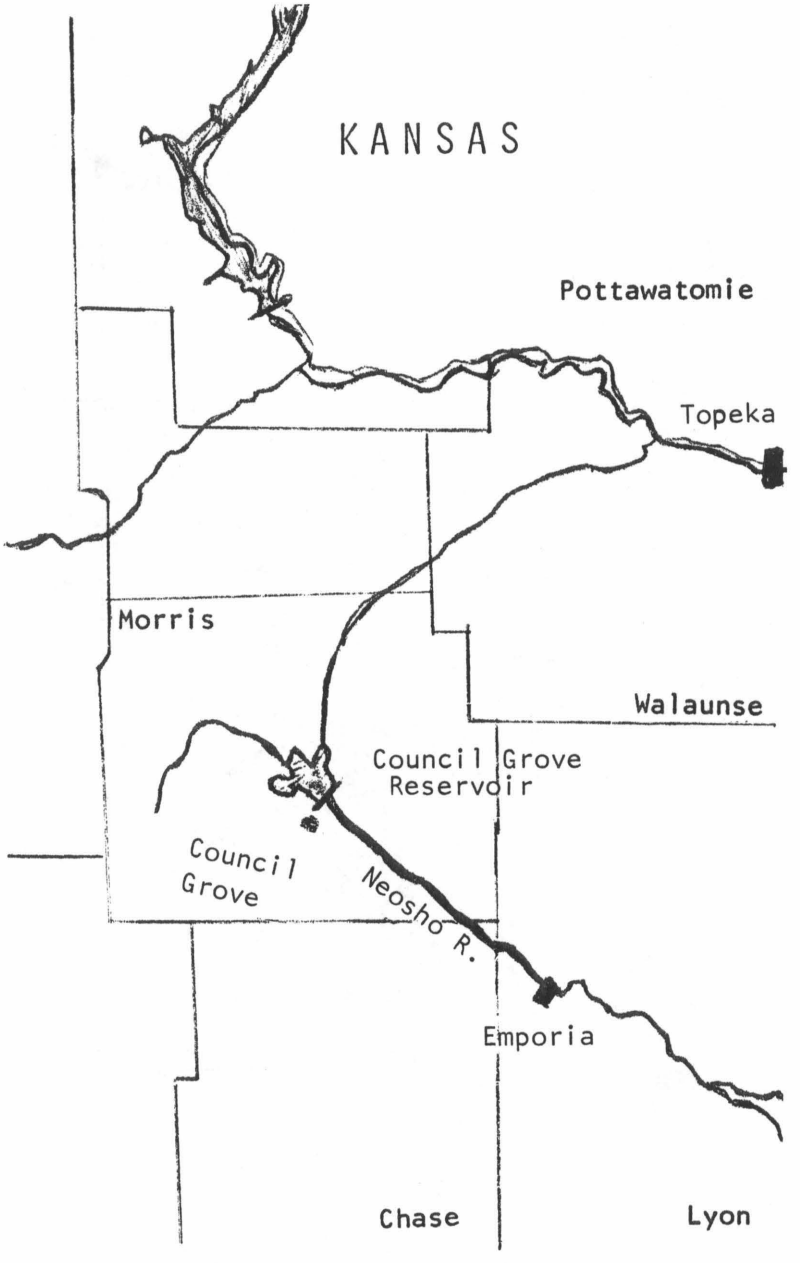
PROJECT LOCATION	WATER SUPPLY STORAGE AC. FT.	AGENCY OWNING RIGHT	CITIES OR AGENCIES SERVED	METHOD OF WATER TRANSPORTATION (NATURAL, CONDUIT, ETC.)
North Fork of Pound, Va.			Pound, Va. & Treatment Plant	2337 Pipeline (8") to plant, 2370' of 4" pipe from filter plant to the dam.



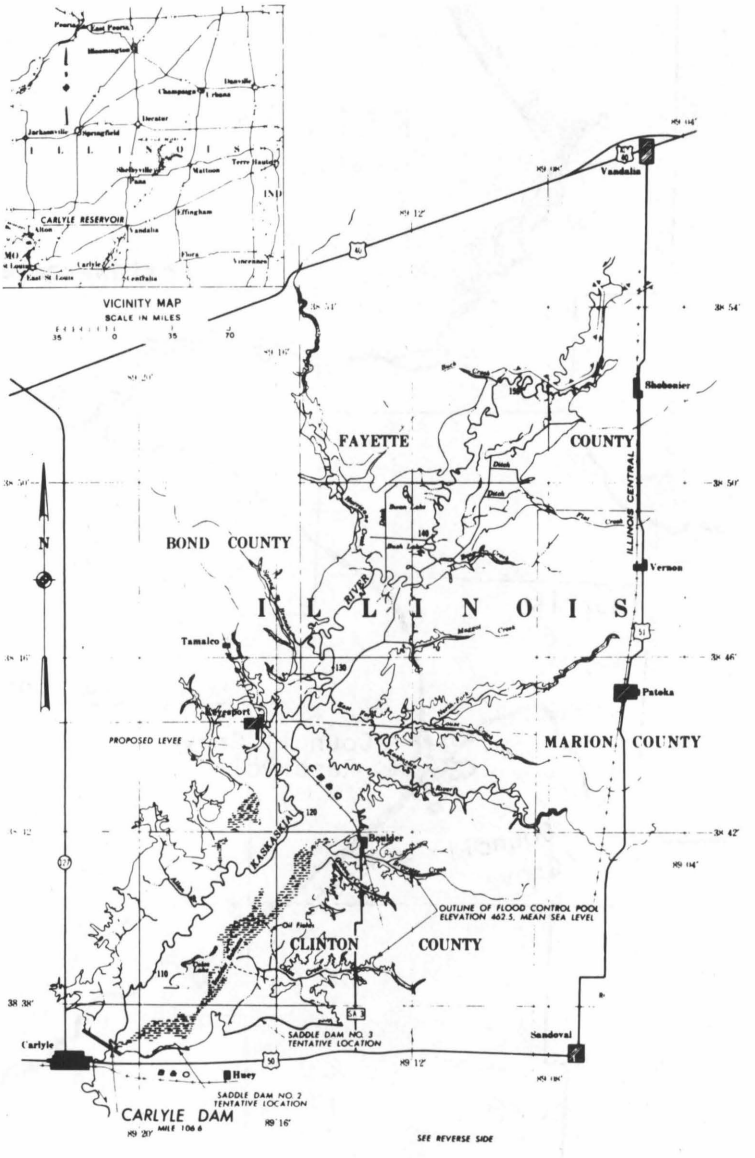
DE GRAY DAM SERVING ARKADELPHIA ARKANSAS



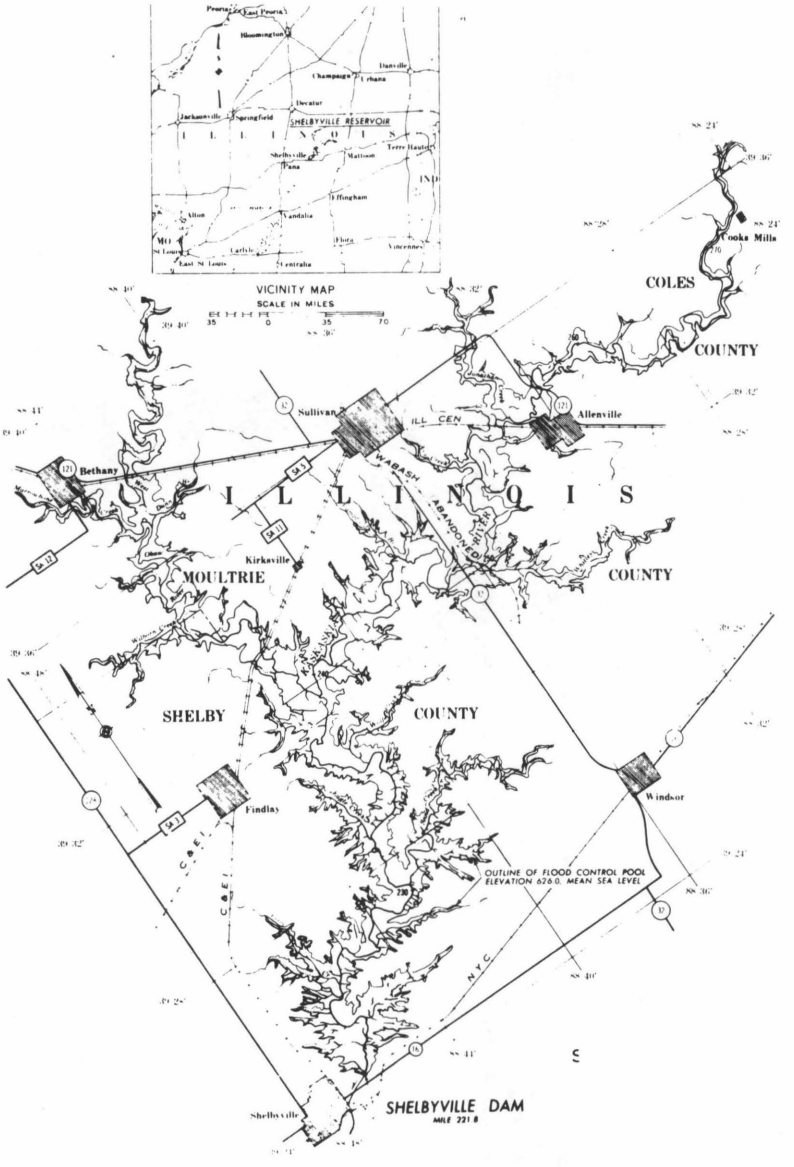
WARM SPRINGS DAM AND COYOTE DAM SERVING SANTA ROSA, FORESTVILLE, ROHNERT PARK, PETALUMA, SONOMA AND NOVATO, CALIFORNIA



COUNCIL GROVE RESERVOIR SERVING COUNCIL GROVE, KANSAS

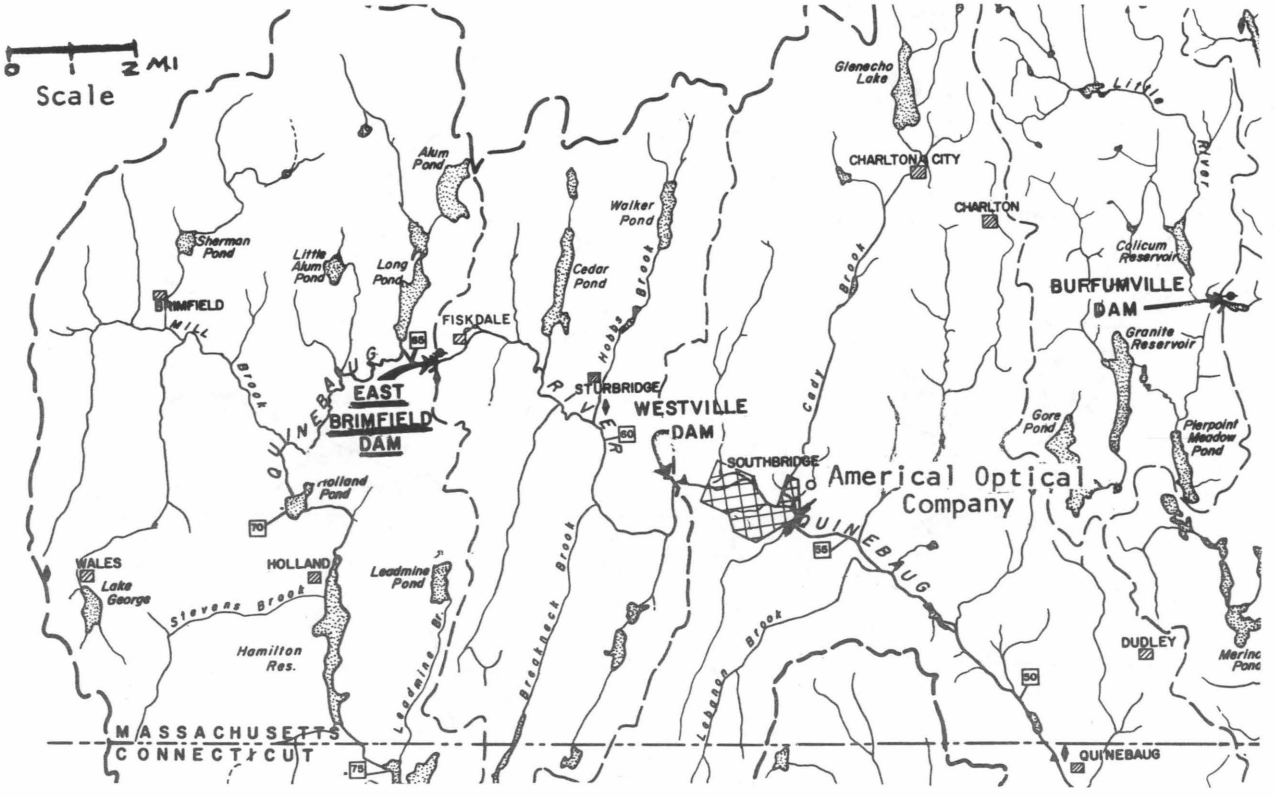


CARLYLE DAM SERVING CARLYLE, ILLINOIS

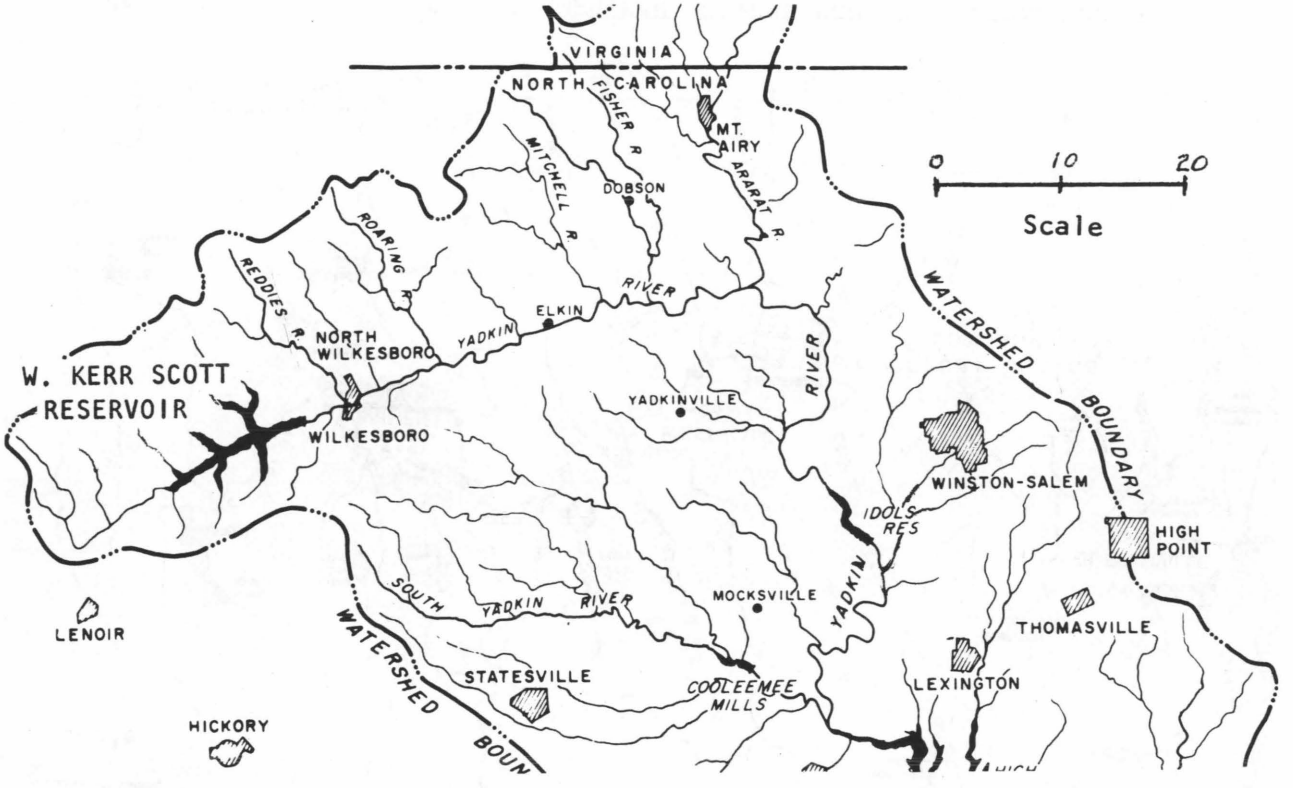


SHELBYVILLE DAM SERVING SHELBYVILLE, ILLINOIS

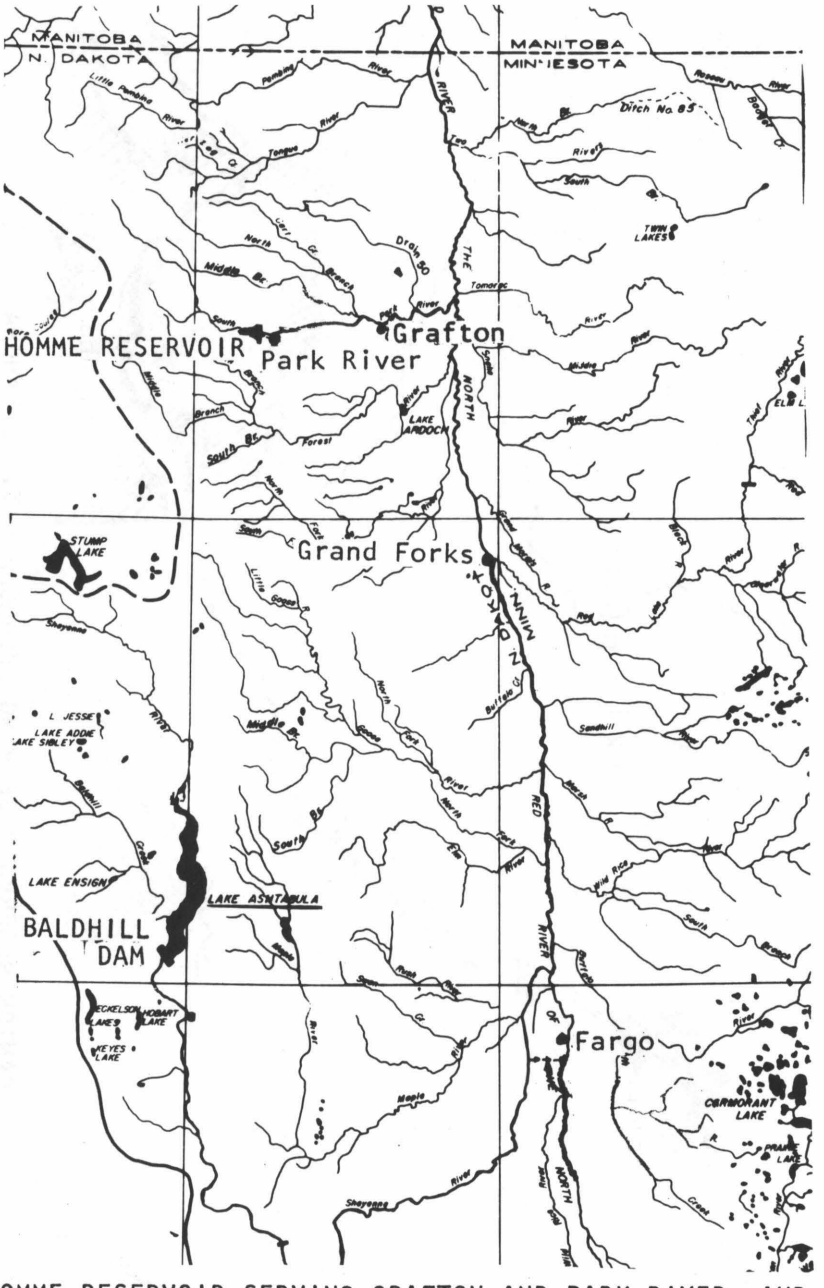
MONROE RESERVOIR SERVING BLOOMINGTON AND BEDFORD, INDIANA



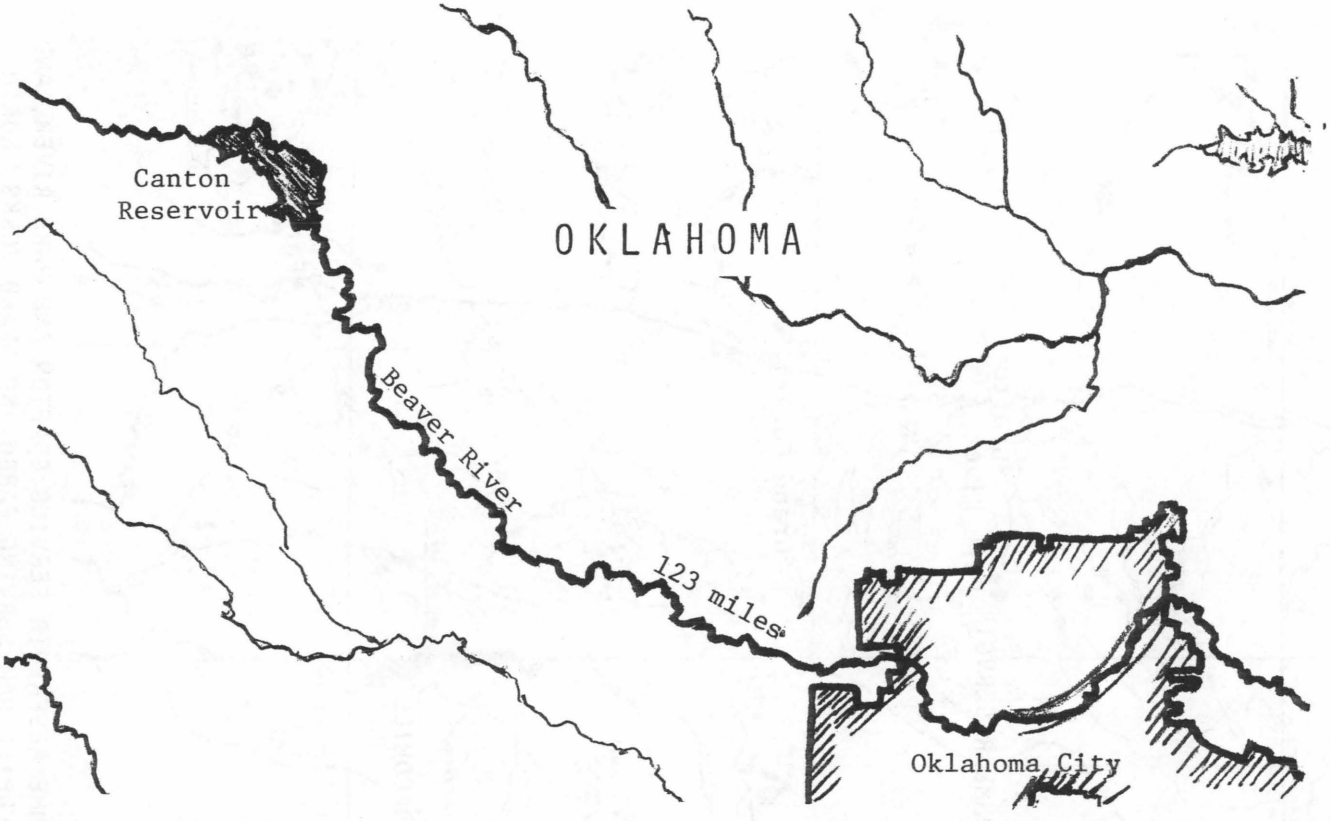
EAST BRIMFIELD DAM SERVING AMERICAN OPTICAL COMPANY, MASSACHUSETTS



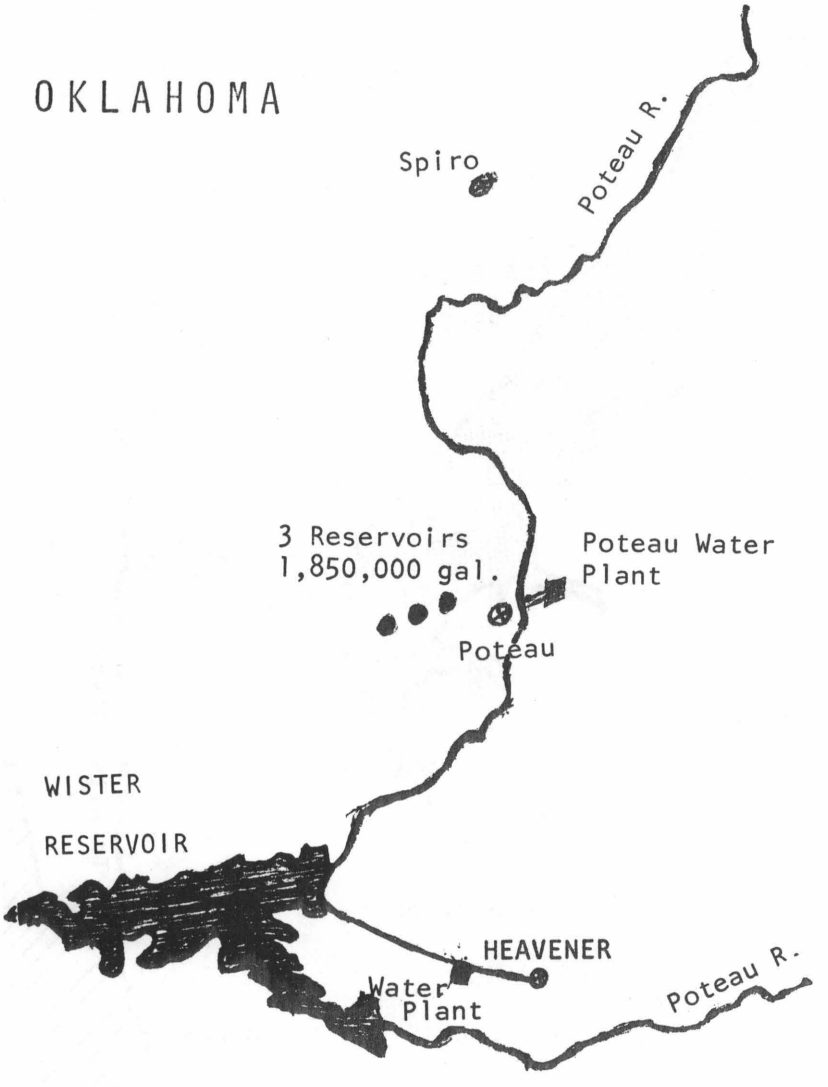
W. KERR SCOTT RESERVOIR SERVING WINSTON-SALEM, NORTH CAROLINA



HOMME RESERVOIR SERVING GRAFTON AND PARK RIVER, AND BALDHILL DAM SERVING FARGO AND GRAND FORKS, NORTH DAKOTA



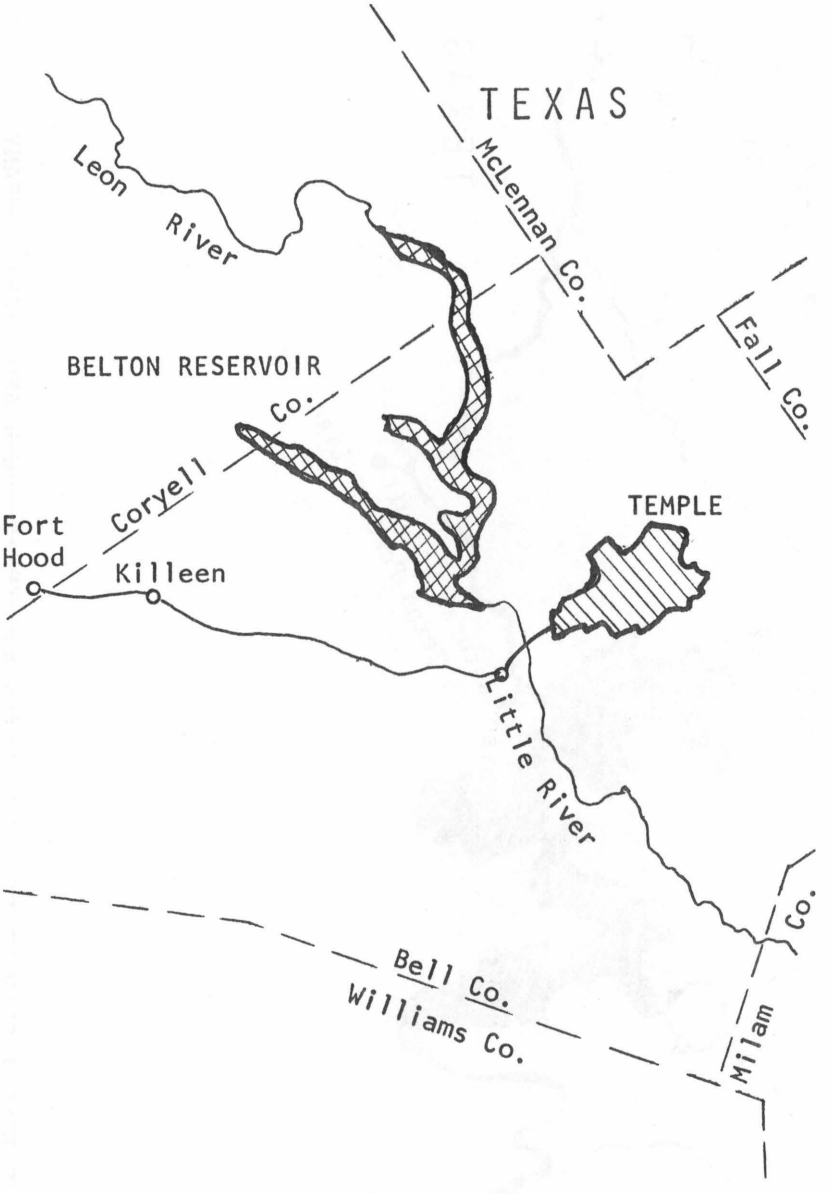
CANTON RESERVOIR SERVING OKLAHOMA CITY, OKLAHOMA



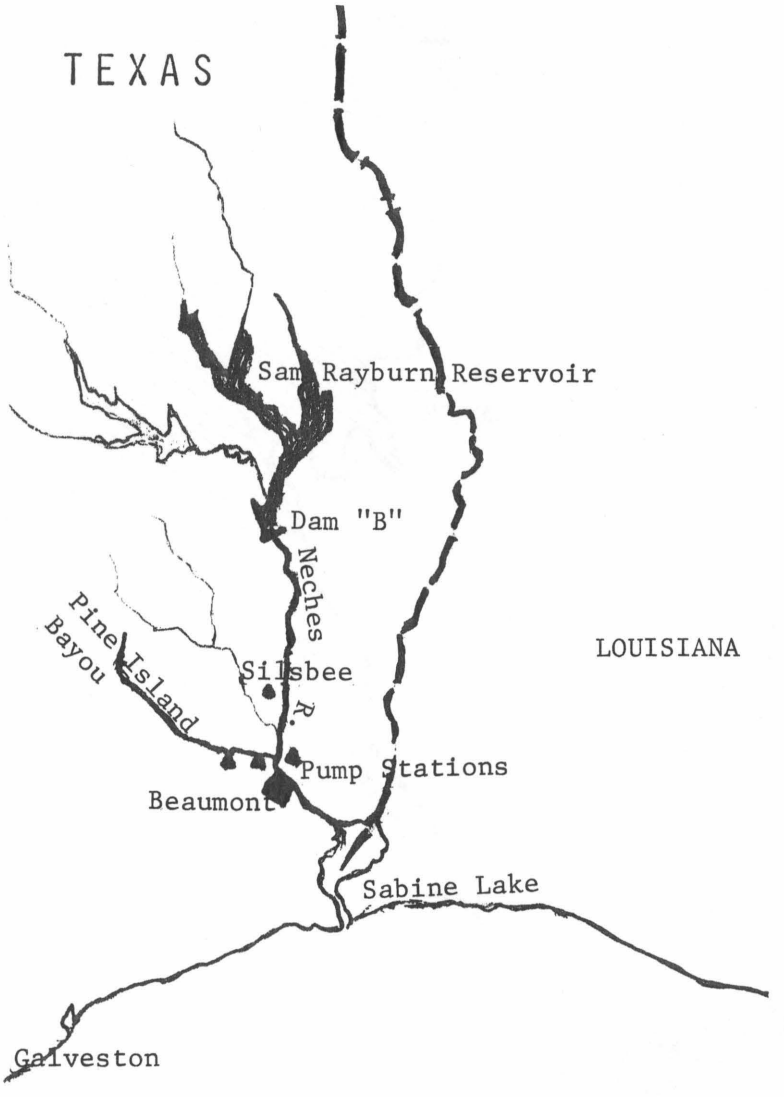
WISTER RESERVOIR SERVING THE HEAVENER UTILITIES AUTHORITY, OKLAHOMA

GRAPEVINE RESERVOIR SERVING GRAPEVINE AND DALLAS, TEXAS

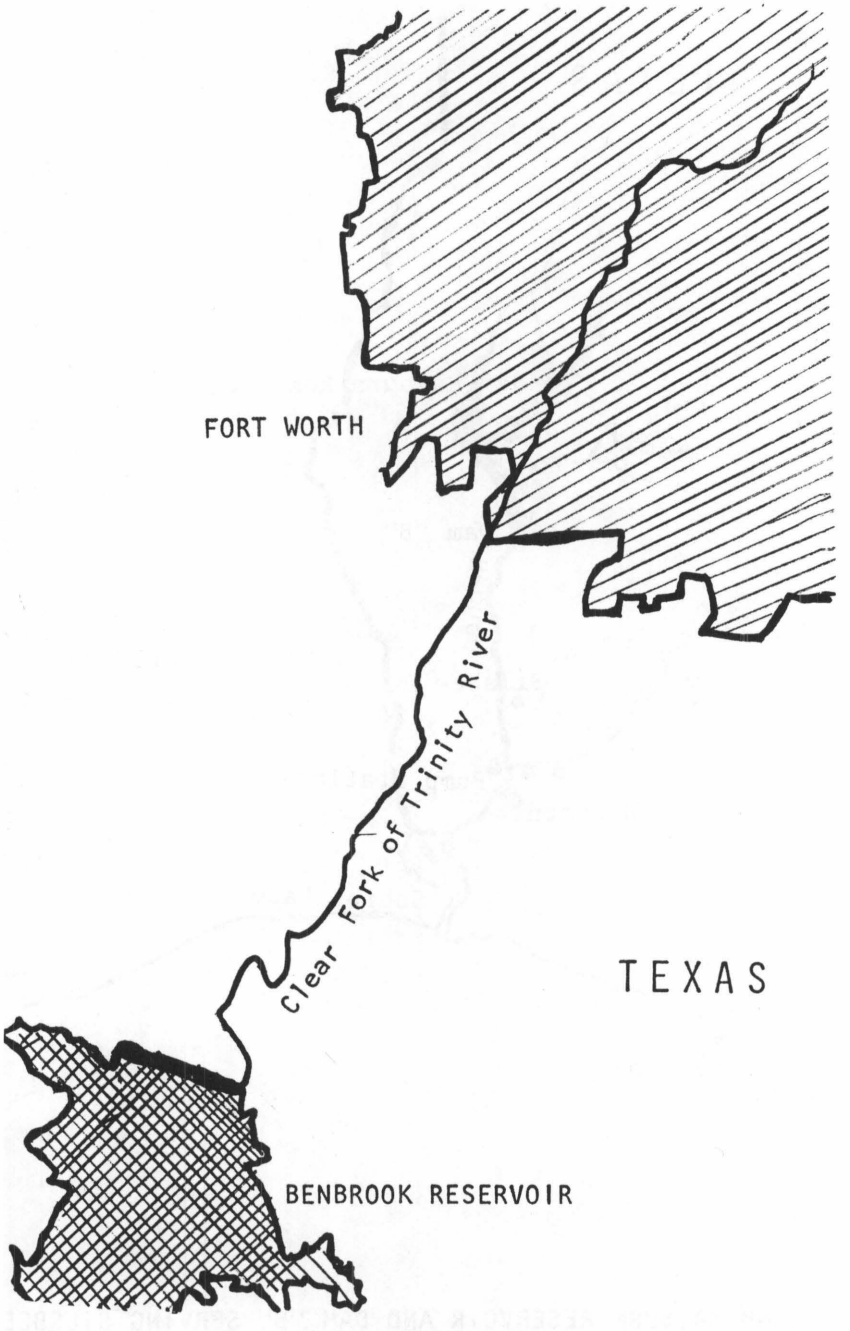
LAKE TEXOMA SERVING DENISON, TEXAS AND TEXAS POWER AND LIGHT COMPANY



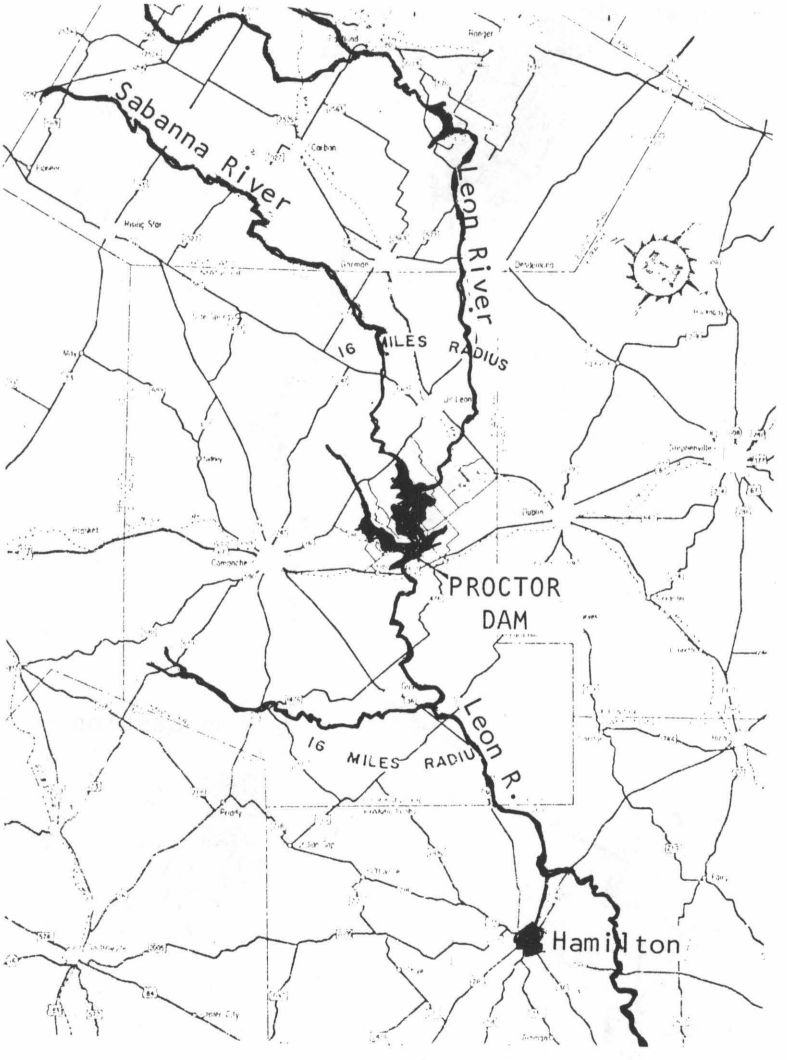
BELTON RESERVOIR SERVING FORT HOOD, KILLEEN, AND TEMPLE, TEXAS



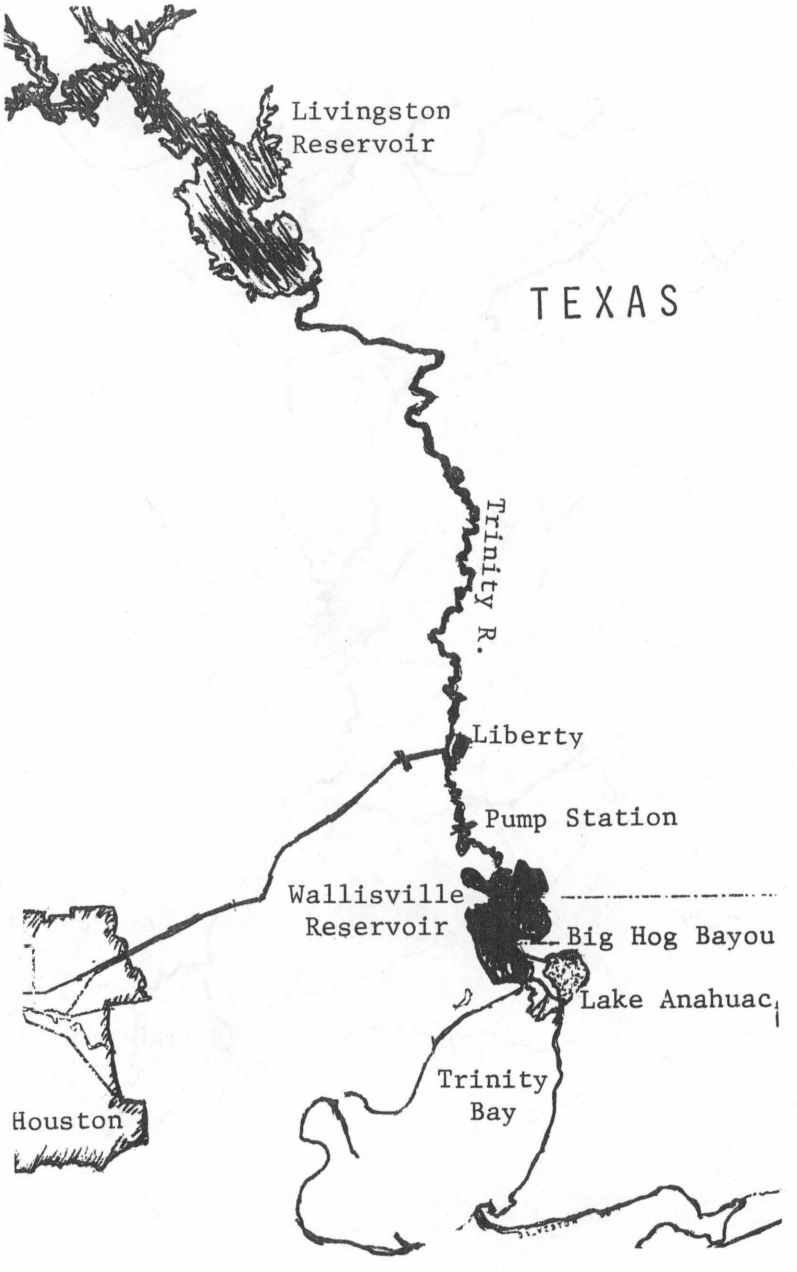
SAM RAYBURN RESERVOIR AND DAM "B" SERVING SILSBEE AND BEAUMONT, TEXAS



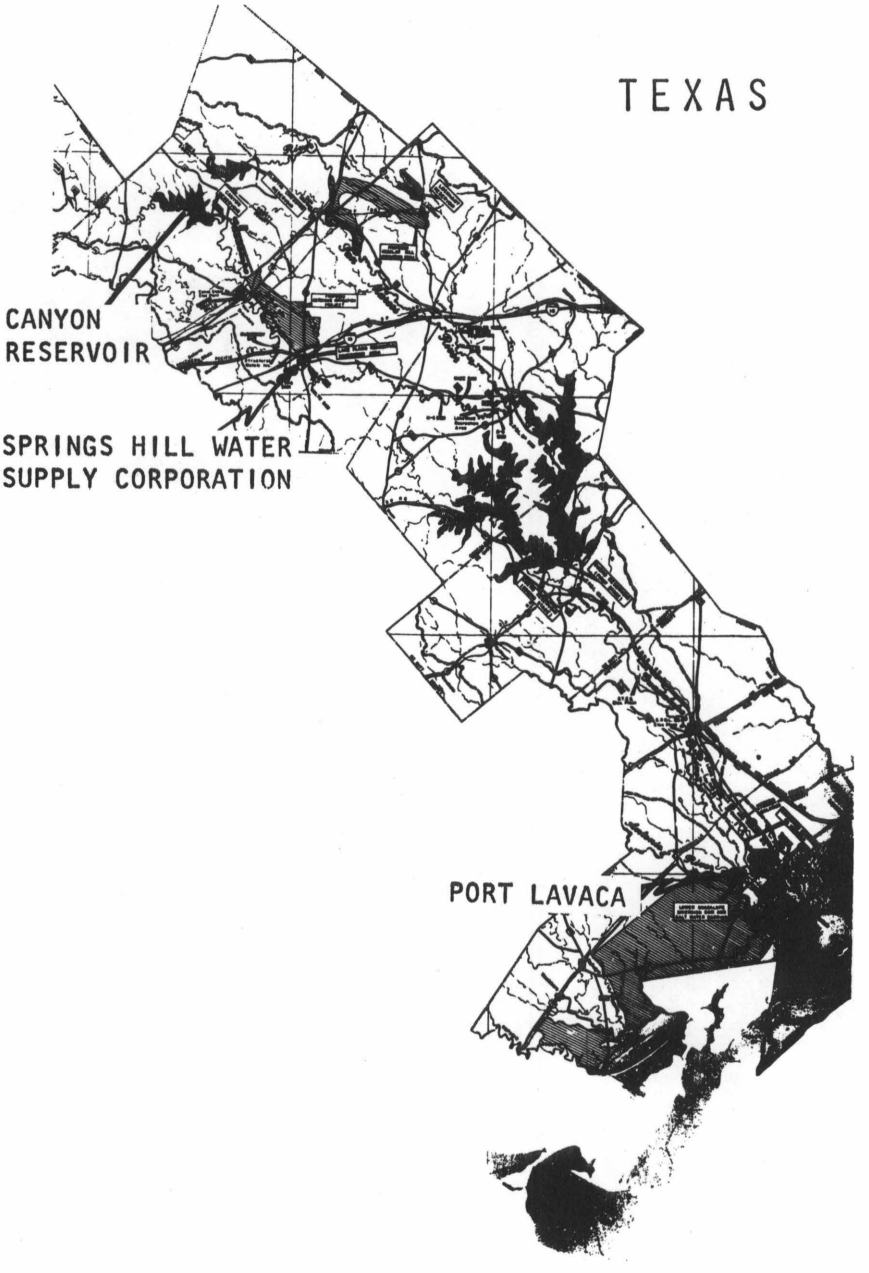
BENBROOK RESERVOIR SERVING FORT WORTH, TEXAS



PROCTOR DAM SERVING HAMILTON, TEXAS



LIVINGSTON RESERVOIR AND WALLISVILLE RESERVOIR SERVING HOUSTON, WALLISVILLE, ANAHAUC, AND LIBERTY, TEXAS



CANYON RESERVOIR SERVING SPRINGS HILL WATER SUPPLY CORPORATION AND PORT LAVACA, TEXAS

APPENDIX II

TYPICAL CORPS OF ENGINEERS CONTRACT

CONTRACT NO. _____

**WATER SUPPLY CONTRACT WITH
CORPS OF ENGINEERS**

**CONTRACT BETWEEN THE UNITED STATES
OF AMERICA
AND**

**FOR
WATER SUPPLY STORAGE SPACE IN
_____ RESERVOIR**

THIS CONTRACT is made this_____day of _____ 19__, by and between the United States of America (hereinafter called the "United States"), represented by the Contracting Officer executing this contract, and the _____ (hereinafter called the "User").

WITNESSETH:

WHEREAS, the Flood Control Act of 19__ (__ Stat.____), authorized the construction, operation, and maintenance of the _____ Reservoir, on _____ River, in the State of _____) (hereinafter called the "Project"); and

WHEREAS, the User desires to contract with the United States for inclusion in the Project of storage for municipal and industrial water supply, and for payment of the cost thereof in accordance with the provisions of the Water Supply Act of 1958, as amended (43 U.S.C. 390b-f); and

WHEREAS, the User is empowered so to contract and is vested with all necessary powers for accomplishment of the purpose of this contract.

NOW, THEREFORE, the parties hereto do mutually agree as follows:

ARTICLE 1. WATER SUPPLY STORAGE

a. Rights of User. The User shall have the right to utilize [an undivided_____ per cent of] the storage space in the Project between elevations _____ feet above mean sea level and_____ feet above mean sea level, estimated to be _____ acre-feet, to impound water for [present] [present and anticipated future] [future] demand or need for municipal and industrial water supply. The User shall have the right to withdraw water from the reservoir, or to order releases to be made by the United States, to the extent the aforesaid storage space will provide; and shall have the right to construct all such works, plants, pipelines, and appliances as may be necessary and convenient for the purpose of diversions or with drawals, subject to the approval of the Contracting Officer as to design and location. The grant of an easement for right-of-way

over, across, in and upon land of the United States at the Project shall be by a separate instrument in a form satisfactory to the Secretary of the Army, without additional cost to the User, under the authority and in accordance with the provisions of 10 U.S.C. 2669. Subject to the conditions of such easement, the User shall have the right to use so much of the Project land as may reasonably be required in the exercise of the rights and privileges herein granted.

b. Rights Reserved. [The United States reserves the right to maintain at all times a minimum downstream release of _____ cubic feet per second through the gates or spillway of the dam.] [____ to lower the water in the Project to elevation____ feet above mean sea level during each flood control season and to maintain the water at that elevation for such periods of time as is deemed necessary, in its sole discretion, for flood control purposes.] The United States [further] reserves the right to take such measures as may be necessary in the operation of the Project to preserve life or property.

c. Quality or Availability of Water. The User recognizes that this contract provides storage space for raw water only. The United States makes no representations with respect to the quality or availability of water and assumes no responsibility therefor, or for the treatment of the water.

ARTICLE 2. REGULATION OF AND RIGHT TO USE OF WATER

The regulation of the use of the water supply from the aforesaid storage space shall be the responsibility of the User. The User has the full responsibility to acquire in accordance with State laws and regulations, and if necessary to establish and defend, any and all water rights needed for utilization of the storage space provided under this contract. The United States shall not be responsible for diversions by others, nor will it become a party to any controversies involving the use of the storage space by the User except as such controversies may affect the operations of the United States. The User shall utilize the aforesaid storage space in a manner consistent with Federal and State laws.

ARTICLE 3. OPERATION AND MAINTENANCE

The United States shall operate and maintain the dam and reservoir and the User shall pay to the United States a share of the costs of such operation and maintenance as provided herein. The User shall have the right to direct releases of water to be made for its purposes as provided in Article 1. The User shall be responsible for operation and maintenance of all installations and facilities which it may construct for the diversion or withdrawal of water, and shall bear all costs of construction, operation and maintenence of such installations and facilities.

ARTICLE 4. MEASUREMENT OF WITHDRAWALS AND RELEASES

The User agrees to furnish and install, without cost to the United States, suitable meters or measuring devices satisfactory to the Contracting Officer for the measurement of water which is withdrawn from the Project by any means other than through the Project outlet works. The User shall furnish to the United States monthly statements of all such withdrawals. Releases from the water supply storage space through the Project outlet works shall be made in accordance with written schedules furnished by the User and approved by the Contracting Officer. The measure of all such releases shall be by means of a rating curve of the outlet works, or by such other suitable means as may be agreed upon prior to use of the water supply storage space.

ARTICLE 5. CONSIDERATION AND PAYMENT

In consideration of the right to utilize the aforesaid storage space in the Project for municipal and industrial water supply purposes, the User agrees to pay to the United States the following sums:

a. Project Investment Costs

(1) The User shall repay to the United States, at the times and with interest on the unpaid balance as hereinafter specified, the amounts stated below which, as shown in Exhibit "A" attached to and made a part of this contract, constitute the entire amount of the construction costs, including interest during construction, allocated to water supply. The interest rate to be used for purposes of computing interest during construction and interest on the unpaid balance will be determined by the Secretary of the Treasury as of the beginning of the fiscal year in which construction of the project is initiated, on the basis set forth in the Water Supply Act of 1958, as amended. The User shall repay:

100% of the construction cost of specific water supply facilities, estimated at	$ _____
_____% of the total project joint-use construction costs, estimated at	$ _____
Interest during construction, estimated at	$ _____
Total estimated amount of Project investment costs allocated to water supply	$ _____

(2) _____ acre-feet, or _____% of the aforesaid storage space, is storage provided for immediate use by the User for present water supply demands. The Project investment costs allocated to this storage provided for present demand is currently estimated at $____ , on the basis of the costs presented in Exhibit "A". The amount of the Project investment costs allocated to the storage for present demand shall be paid in 50 consecutive annual installments, the first of which shall be due and payable [on the first anniversary of the date] [within 30 days after] the _____ is notified by the Contracting Officer that the Project is completed and operational for water supply purposes. Annual installments thereafter will be due and payable on the anniversary date of the first payment. [Except for the first payment which will be applied solely to the retirement of principal,] all installments shall include accrued interest on the unpaid balance at the rate provided above. The last annual installment shall be adjusted upward or downward when due to assure repayment of all of the investment costs allocated to the storage for present demand within 50 years.

(3) The remaining ____ acre-feet, or_____% of the aforesaid storage space, is storage provided for anticipated future water supply demand. The amount of the Project investment costs allocated to this storage for future water supply is currently estimated at $_____ on the basis of the costs presented in Exhibit "A". No principal or interest payment with respect to this storage for future water supply is required to be made during the first 10 years following the date the Project is operational for water supply purposes, unless all or a portion of such storage is used during this period. The amount to be paid for any portion of such storage which is used shall be determined by multiplying the percentage of the total storage for future water supply which is placed in use by the total amount of the Project investment costs allocated to future water supply. Interest at the rate provided above will be charged on the amount of the Project investment costs allocated to the storage for future water supply which is not being used from the 10th year following the date the Project is operational for water supply purposes until such time as the storage is

first used. The User may at its option pay the interest as it becomes due or allow the interest to accumulate until the storage is used. If this latter option is exercised, the interest will be compounded annually and added to the principal amount. When any portion of the storage for future water supply is used, payment in both principal and interest for the portion used must be started, and the amount of the Project investment costs allocated thereto, with interest on the unpaid balance as provided above, shall be paid within the life of the Project in not to exceed 50 consecutive annual installments beginning [on the anniversary] [within 30 days after the] date of first use.

(4) An estimated schedule of annual payments for the storage provided for present demand is attached as Exhibit "B" of this contract. The annual payments as provided therein shall be made until the actual construction costs of the project are determined, the annual payments due thereafter will be adjusted to reflect any increase or decrease in the actual costs, including interest during construction, from the estimated amounts shown in Exhibit "A". Payment schedules for the storage provided for future water supply demands will be furnished by the Contracting Officer when use of such storage is started.

(5) If the User shall fail to make any of the aforesaid payments when due, then the overdue payments shall bear interest at the rate provided until paid.

(6) The User shall have the right at any time it so elects to prepay the indebtedness under this Article 5a, in whole or in part, with accrued interest thereon to the date of such prepayment.

b. Major Capital Replacement Costs

The User will be required to pay the costs for any major capital replacements of the specific water supply facilities. In addition, the User shall pay to the United States _____ % of the costs of joint-use major capital replacement items, when incurred. Payment shall be made with the first annual payment on the Project investment costs becoming due after the date said major capital replacement costs are incurred.

c. Annual Operation and Maintenance Costs

(1) The User will be required to pay the annual experienced operation and maintenance costs of the specific water supply facilities. In addition, the User shall pay_____ % of the annual experienced joint-use operation and maintenance costs of the Project until such time as the storage for future water supply is used. As the storage provided for future water supply demands is used, the share of the annual experienced joint-use operation and maintenance costs, which the User will be required to pay in addition to the operation and maintenance costs of the specific water supply facilities, will be increased commensurate with the percentage of the water supply storage being used, up to a total of____ % of such costs.

ARTICLE 6. PERIOD OF CONTRACT

This contract shall become effective as of the date of approval by the Secretary of the Army, and shall continue in full force and effect under the conditions set forth herein, not to exceed the life of the Project.

ARTICLE 7. PERMANENT RIGHTS TO STORAGE

Upon completion of payments by the User, as provided in Article 5a herein, the User shall have a permanent right, under the provisions of Public Law 88-140, to the use of the water supply storage space in the Project as provided in Article 1, subject to the following:

a. The User shall continue payment of annual operation and maintenance costs allocated to water supply.

b. The User shall bear the costs allocated to water supply of any necessary reconstruction, rehabilitation or replacement of Project features which may be required to continue satisfactory operation of the Project. Such costs will be established by the Contracting Officer. Repayment arrangements including schedules will be in writing and will be made a part of this contract.

c. Upon completion of payments by the User as provided in Article 5a herein, the Contracting Officer shall redetermine the storage space for municipal and industrial water supply, taking into account such equitable reallocation of reservoir storage capacities among the purposes served by the Project as may be necessary due to sedimentation. Such findings, and the storage space allocated to municipal and industrial water supply, shall be defined and described in an exhibit which will be made a part of this contract. Following the same principle, such reallocation of reservoir storage capacity may be further adjusted from time to time as the result of sedimentation resurveys to reflect actual rates of sedimentation and the exhibit revised to show the revised storage space allocated to municipal and industrial water supply.

d. The permanent rights of the User under this contract shall be continued so long as the United States continues to operate the Project. In the event the United States no longer operates the Project, such rights may be continued subject to the execution of a separate contract, or additional supplemental agreement providing for:

(1) Continued operation by the User of such part of the facility as is necessary for utilization of the water supply storage space allocated to it;

(2) terms which will protect the public interest; and

(3) effective absolvement of the United States by the User from all liability in connection with such continued operation.

ARTICLE 8. RELEASE OF CLAIMS

The User shall hold and save the United States, including its officer, agents, and employees, harmless from liability of any nature or kind for or on account of any claim for damages which may be filed or asserted as a result of the storage and withdrawal or release of water from the Project made or ordered by the User, or as a result of the construction, operation, or maintenance of the features or appurtenances owned and operated by the User.

ARTICLE 9. TRANSFER OR ASSIGNMENT

The User shall not transfer or assign this contract nor any rights acquired thereunder, nor sub-allot said water or any part thereof, nor grant any interest, privilege or license whatsoever in connection with this contract, without the approval of the Secretary of the Army or his authorized representative; provided that this restriction shall not be construed to apply to any water which may be obtained from the water supply storage space by the User and furnished to any third party or parties or the rates charged therefor.

ARTICLE 10. OFFICIALS NOT TO BENEFIT

No member of or delegate to Congress, or Resident Commissioner, shall be admitted to any share or part of this contract, or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this contract if made with a corporation for its general benefit.

ARTICLE 11. COVENANT AGAINST CONTINGENT FEES

The User warrants that no person or selling agency has been employed or retained to solicit or secure this contract upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by the User for the purpose of securing business. For breach or violation of this warrenty, the United States shall have the right to annul this contract without liability or, in its discretion, to add to the contract price or consideration the full amount of such commission, percentage, brokerage, or contingent fee.

ARTICLE 12. APPROVAL OF CONTRACT

This contract shall be subject to the written approval of the Secretary of the Army, and shall not be binding until so approved.

IN WITNESS WHEREOF, the parties hereto have executed this agreement as of the day and year first above written.

APPROVED: THE UNITED STATES OF AMERICA

_____ By _____

Secretary of the Army (Contracting Officer)

DATE: _____

APPENDIX III

SUMMARY OF FEDERAL WATER POLLUTION CONTROL LEGISLATION

The Water Pollution Control Act of 1948, ch. 758, 62 Stat. 1155, was the first serious effort by Congress to recognize, preserve, and protect the primary responsibilities and rights of the States in controlling water pollution. Further Congressional attacks upon water pollution came about in the form of amendments to the 1948 Act in 1956, 1961, 1965, and 1966. Each act will be discussed below in an effort to show its major provisions, to show its effects on each preceding act, and to show generally the present state of Federal water pollution law.

The Water Pollution Control Act of 1948 (62 Stat. 1155)

The 1948 Act is the basic act dealing with water pollution control. Section 1 of the act sets out the policy of Congress to be:

> . . . to recognize, preserve and protect the primary responsibilities and rights of the States in controlling water pollution, to support and aid technical research to devise and perfect methods of treatment of industrial wastes which are not susceptible to known effective methods of treatment, and to provide Federal technical services to State and interstate agencies and to municipalities, in the formulation and execution of their stream pollution abatement programs,

Section 1 also indicates that the Surgeon General of the Public Health Service and the Federal Works Administrator would be generally vested with power to administer the act.

Section 2 of the act is a rather long and involved section which basically sets out how the Surgeon General shall go about implementing the policies underlying the act as set out in Section 1. First the Surgeon General is given the power to prepare or adopt comprehensive programs for eliminating or reducing pollution of interetate waters and in so doing is expressly told to give express regard to the improvements necessary to conserve such water for public water supplies, propogation of fish and aquatic life, recreational purposes, and agricultural, industrial and other legitimate purposes. In order to effect such programs the Surgeon General is given authority to make joint investigations with state or interstate agencies of the conditions of any State waters, including any discharges of sewage, industiral wastes, or substance which may be affecting the reasonable purity of such waters. The Surgeon General is urged by Congress to cooperate fully with the State in all these matters and activities.

In Section 2(c) the states are given authority to enter into interstate compacts with other states for the purpose of preventing and/or abating pollution in mutual waters. It should be noted that such consent by Congress for interstate agreements by states is required by Artical I, section 10, clause 3 of the United States Constitution.

Significantly, in sections 2(d) (1)-(7) the pollution of interstate waters is declared a public nuisance. These sections set up the jurisdiction and authority for the Surgeon General to take administrative actions to abate the pollution of interstate waters and goes so far as to permit (with the consent of the appropriate State) the Attorney General of the United States to bring a suit for abatement against the polluter.

Another significnat feature of the Act is Section 5, which allows the Federal Works Administrator to authorize loans to any state, municipality, or interstate agency for the planning and construction of treatment works. Section 8 allows for grants to States to aid in financing activities preliminary to the construction of projects approved by the State and the Surgeon General. Obviously, the control of water pollution at the local and state level is an expensive undertaking and these sections help to alleviate that problem.

In section 6(b) a Water Pollution Control Advisory Board is created whose duties are to review the policies and programs of the Public Health Service and to make recommendations thereon in reports to the Surgeon General.

Section 7 authorizes a sum not to exceed $20,000,000 to be appropriated in each of five fiscal years (1948-1953) for the purposes of making loans under section 5. The remainder of the Act deals primarily with necessary appropriations needed to carry out and implement the Act.

Federal Water Pollution Control Act of 1956
(70 Stat. 498)

This act amended the Water Pollution Control Act of 1948 by replacing it with new provisions designed to extend and strengthen the Act. There were several changes in the existing law. Appropriations for the Water Pollution Control Act were to terminate on June 30, 1956, so that the 1956 Act is initially significant for extending this comprehensive federal legislation in the field of water pollution control. See, 1956 U.S. CODE. & CONG. & AD. NEWS 3024.

Aside from this, however, the 1956 amendments added three other significant improvements to the 1948 Act by: 1) intensifying the national research effort in water pollution; 2) providing a broader basis for support to State and interstate pollution-control agencies; and 3) providing a reasonable and equitable mechanism for Federal-State cooperation in resolving serious interstate pollution problems.

In looking at the first change (No. 1 above) Congress felt there was an important need (more important that that expressed in the 1948 Act) for research to determine the impact of new pollutants on public health and to find more practical and economically feasible abatement measures. To this end the 1956 amendments in sections 2-4 provided for a broadened and intensified national research effort by authorizing the Public Health Service to: 1) authorize contract research, thus making available for special projects specialized equipment and personnel not needed by the Government on a continuing basis; 2) make research grants to universities and other institutions for essential studies; and 3) to award research fellowships in order to attract top talent to the field of water pollution control.

The second basic change (No. 2 above) deals with support to State and interstate programs. Section 8(c) of the 1948 act was a short statement indicating that the Federal government would make grants available to state and interstate programs for preparatory activities preliminary to the construction of projects approved by the Surgeon General. Section 5 of the 1948 Act authorized loans for the construction of treatment works. The 1956 Act expands in great detail both these sections. In section 5 of the 1956 Act grants are authorized for 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. This section sets out in great detail how the grants are to be disseminated and used. These grants would be allotted on a formula basis. The 1948 Act was modified by requiring the grants to be on matching basis, and by authorizing their use for all essential phases of water-pollution control at the discretion of the State or interstate agency. Section 6 of the 1956 Act makes grants (as opposed to loans) available to the States for the construction of treatment works.

The third major change deals with a more detailed mechanism in bringing about abatement of water pollution. The 1956 Act, in effect, clarifies the procedures short of court action for administrative action for abatement of water pollution and adds the provision that the States, if affected by pollution, may request the Attorney General to bring a court action against the pollutor.

Federal Water Pollution Control Act Amendments of 1961
(75 Stat. 204)

With the passage of this Act Congress continued to recognize the value of a comprehensive national program for water pollution control. Moreover the enormity of the problem continued to reveal itself. As a result, Congress, in Section 1 of these amendments, transferred the administration of the federal water pollution control program from the Surgeon General to the Secretary of Health, Education and Welfare.

A most significant addition to federal law on Water pollution control was in the area of water quality control. The 1961 amendments, in section 2, states that in planning any reservoirs by the Corps of Engineers, Bureau of Reclamation or any other Federal agency consideration should be given to the inclusion of storage for regulation of streamflow for the purposes of water quality control. By such language congress approved such a technique of water quality control, although the Act was quick to add that storage and water releases should not be provided as a substitute for adequate treatment or other methods of controlling waste at the source.

In addition to transferring the administration of the Act to the Secretary of Health, Education, and Welfare and in authorizing dilution water storage, the 1961 amendments made other significant changes. One was related to the extension of the enforcement jurisdiction of the Act. Previously, federal enforcement authority had applied only to pollution of interstate water, "interstate waters" being defined to exclude all coastal waters and all inland bodies of waters not crossing or forming a part of state boundaries. In Section 9(e) of the 1961 amendments this definition was changed to include all navigable waters, including coastal waters. This change was obviously designed to expand coverage of the act to all waters which Congress could reach via the Commerce clause, which, under established court interpretations, is a considerable reach.

A final change in existing law is found in section 8(f) of the 1961 amendments. Under existing law the consent of the appropriate State or States was necessary before the United States Attorney General could bring any abatement actions. However, the 1961 amendments, in section 8(f), allow the Secretary to request the Attorney General to bring suits in the case of pollution of waters which is endangering the health or welfare of persons in a State other than that in which the discharge or discharges originate.

Water Quality Act of 1965
(79 Stat. 903)

These amendments to the Federal Water Pollution Control Act, besides providing additional grants for research and development and additional grants for construction of sewage treatment works, make two signifcant changes.

The first change appears in section 2 of the 1965 Act wherein is created the Federal Water Pollution Control Administration within the Department of Health, Education, and Welfare. The purpose of this change was to provide appropriate identity to the importance of the water pollution control program and to provide for its more effective administration. The enforcement features of the Water Pollution Control Act, as amended, which are already on the books, can be carried out in proper fashion by being placed completely under the jurisdiction of an Administration that will devote its full time to seeing that every step possible will be taken to clean up the Nation's waters.

The second significant change called for the establishment of water quality criteria for interstate waters. The 1965 Act at section 5(c)(3) places the following qualifications on these standards:

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

At Section 5(c)(1)-(4) provision is made for the establishment of these water quality criteria by each state for the interstate waters within its borders. These criteria become the water quality standards for that state when approved by the Secretary of Health, Education, and Welfare. In the event such criteria, and a plan for their implementation and enforcement, are not established according to the conditions in the Act; the Secretary has the authority to promulgate these standards, subject to the recommendations of a hearing board, should the governor of the affected state call for public hearings as provided for by the Act.

The Water Quality Act states at section 5(c)(5) that any discharge which reduces the quality of interstate waters below the water quality standards established under the Act is subject to abatement. However, provision is made for a review of the standards by the court in any suit brought under the Act. The following quotation at section 5(c)(5) defines the jurisdiction of the court in such a case:

> The court, giving due consideration to the practicability and to the physical and economic feasibility of complying with such standards, shall have jurisdiction to enter such judgment and orders enforcing such judgment as the public interest and the equities of the case may require.

Reorganization Plan No. 2 of 1966
(80 Stat. 1608)

It should be noted that under Reorganization Plan No. 2 the administration of the Federal Water Pollution Control Act, as amended, was transferred from the Department of Health, Education, and Welfare to the Department of Interior. The Secretary of Health, Education, and Welfare presently involves himself in water pollution problems only to the extent that such problems affect the public health.

Clean Water Restoration Act of 1966
(80 Stat. 1246)

The Clean Water Restoration Act is merely an expansion of the concepts developed by Congress in the water quality standards provisions of the Water Quality Act of 1965. The major provision in the 1966 Act, found in Title I, provided for the establishment of clean river restoration programs through planning agencies. The agencies are designated at the request of the Govenor or Governors of the appropriate State or States affected by the river basin in question, provided the agencies adequately represent affected state(s) involved and are capable of developing an effective, comprehensive water quality control and abatement plan for the river basin in question. Title I further provides for grants to finance approved planning agencies.

The remainder of the Act provides for appropriative measures needed to finance Title I and for additional grants for research and development, construction of sewage treatment works, oil pollution studies, and other matters.

Water Quality Improvement Act of 1970
(84 Stat. 91)

The most recent extension of pollution control legislation is contained in Title I of the Water and Environmental Quality Improvement Act of 1970 popularly known as the Water Quality Improvement Act of 1970.

The Act contains special provisions regarding pollution by oil and certain other substances. It prohibits the discharge of oil into the navigable waters of the United States except under special conditions determined not to be harmful. Other substances presenting an imminent and substantial danger to the public health and welfare are to be removed from all discharges.

Control of sewage discharges from vessels is within the purview of the Act. The Secretary of the Interior is given the responsibility of promulgating federal standards of performance for marine sanitation devices designed to prevent discharge of untreated or inadequately treated sewage into the navigable waters of the United States. A related provision authorizes federal research concerning equipment for human waste disposal on vessels, particularly in the case of small recreational craft.

Another significant provision of the 1970 Act concerns cooperation by the various federal agencies in the control of pollution. Every federal agency having jurisdictions over real property or facilities is directed to insure compliance with applicable water quality standards and the purposes of the Federal Water Pollution Control Act in the administration of the property or facilities. Organizations other than federal agencies who make application for a federal license to conduct activities resulting in discharges into navigable waters are required by the Act to provide the federal licensing agency with certification from either a state, interstate agency, or the Secretary of the Interior that water quality standards will not be violated. In the event the Secretary determines that water quality standards in another state might be violated, the license can be conditioned by the licensing agency to insure compliance with such standards. If construction has been initiated or an application is pending at the date of enactment of the 1970 Act, certification regarding compliance with applicable water quality standards is not required. However, any such license issued without this certification is of limited duration, and this condition will have to be fulfilled at a later date. Licenses issued in compliance with this Act can be suspended if water quality standards are ever violated by the license.

Authorization for federal participation in several experimental projects is provided by the Act. One project involves the demonstration of methods for the elimination or control of acid or other mine wastes. Another involves the elimination or control of pollution within all or any part of the watershed of the Great Lakes. Projects to demonstrate methods of providing for central community facilities for safe water and control of pollution in Alaskan villages without such facilities is authorized for federal participation. Provision is also made for contracts and grants for study of means to reduce or control man made pollution in lakes.

Education and trainingg of personnel in the area of water quality control also comes within the scope of this legislation. Authorization is provided for training grants and contracts with institutions of higher education to assist in the preparation of undergraduates in this occupational area. The awarding of scholarships for persons entering an occupation involving operation and maintenance of treatment works is authorized. Provision is also made for a pilot program for manpower development and training in the field of operation and maintenance of treatment works.

The Act contains several other unrelated provisions. The Corps of Engineers is authorized to allow non-federal organizations to use federal spoil disposal areas. A program is established to give official recognition to outstanding achievement in waste treatment and pollution abatement. The Secretary of the

Interior is directed to convey the latest scientific knowledge concerning the effects of pesticides on health and welfare to the states. Finally, the name of the agency responsible for the administration of the Federal Water Pollution Control Act is changed from the Federal Water Pollution Control Administration to the Federal Water Quality Administration.

APPENDIX IV

STATE LAW RELATED TO ASPECTS OF WATER QUALITY STORAGE IN 17 WESTERN STATES

The water law of the western states shows considerable variation among the individual states with respect to three issues of possible importance in the implementation of federal water quality storage legislation. These issues include:

(1) The status of low-flow augmentation as a beneficial use,
(2) The water right as an appurtenance to land, and
(3) The maintenance of control over water stored for quality purposes after it is released from storage.

Provisions of the laws of the individual states that are applicable to each of these three issues will be discussed.

Arizona

Water Quality Storage as a Beneficial Use

Beneficial use is recognized in Arizona both by statute and judicial interpretation.[1] Although this concept has not been defined, the legislature has passed an act enumerating the uses for which water might be appropriated.

> Any person or the state of Arizona or a political subdivision thereof may appropriate unappropriated water for domestic, municipal, irrigation, stock watering, water power, recreation, wildlife, including fish, mining uses, for his personal use or for delivery to consumers. The person or the state of Arizona or political subdivision thereof first appropriating the water shall have the better right.[2]

Storage for stream flow augmentation for water quality control is not included as a permitted use, but the wording of the statute does not appear to be restrictive. It would seem that water may be appropriated for a use not stated in the statute if it can be shown that the proposed use is in direct support of one of the enumerated uses. For example, dilution water to improve a stretch of stream which is devoid of fish because of pollution would seem to be an appropriation in direct support of one of the specified uses and, therefore, consistent with the intent of the statute.

Water Rights as Appurtenances to Land

The doctrine requiring that water rights be appurtenant to land was first espoused in 1901. It has been the consistent holding of the Arizona courts to the present day.

> . . .[A] water right, to be effective, must be attached to and pertain to a particular tract of land, and is in no sense a 'floating' right. We do not wish to be understood as holding that a water right which is so attached becomes inseparable from such land. That is to say, we do not hold that a prior appropriator of water may not convey his prior appropriation to another, without the land, so as to confer upon his vendee of such water right all the rights which the vendor may possess, provided such vendee makes a beneficial use of such water right upon lands which he owns or possesses. But we desire to be understood simply as holding that, so long as a water right is attached to a particular piece of land, it cannot be

made to do duty to such land, and as well to other land not owned or possessed by such water-right holder, at the will or option of the latter.[3]

The latest case where the question was considered arose in 1953.

> . . .[A] water right is attached to the land on which it is beneficially used and becomes appurtenant thereto, and that the right is not in any individual or owner of the land. It is in no sense a floating right, nor can the right, once having attached to a particular piece of land, be made to do duty to any other land, with certain exceptions, e.g., where the land is washed away.[4]

Control of Dilution Water

The use of a natural waterway to carry water of another is recognized by statute. Use of a natural channel as a conduit would seem to be well established in practice since the method of arbitrating disputes over the division of water is detailed in the legislation.

> Although the waters which naturally flow in the natural channel of a stream have been previously appropriated and put to beneficial use by others, the channel may be used to carry water of another, if such use can be made without diminishing the quantity of water which naturally flows therein the use of which has been appropriated.[5]

California

Water Quality Storage as a Beneficial Use

Beneficial use is not defined by statute, and no court decisions clearly indicate the criteria for what constitutes beneficial use. Most of the cases on the subject have involved interpreting specific fact situations as to whether the use in question is beneficial. The case of Tulare Irrigation District v. Lindsay-Strathmore Irrigation District[6] provides the criteria cited in much of California's case law.

> What is a beneficial use, of course, depends upon the facts and circumstances of each case. What may be a reasonable beneficial use, where water is present in excess of all needs, would not be a reasonable beneficial use in an area of great scarcity and great need. What is a beneficial use at one time may, because of changed conditions, become a waste of water at a later time.[7]

The language does not preclude water quality control from being a beneficial purpose.

The California Water Code specifies that the use of water for preservation of fish and wildlife resources is beneficial.

> The use of water for recreation and preservation enhancement of fish and wildlife resources is a beneficial use of water.[8]

The language of this statute suggests that the use of water for water quality purposes would be useful and beneficial under California law. In addition, the Code provides for salinity control in the Sacramento-San Joaquin Delta[9] Although this is legislation for a specific area it would suggest support for a water policy that includes quality control as a beneficial use.

Water Rights as Appurtenances to Land

Riparian rights have been held to be inseparable from the land but there has been no distinct holding as to whether appropriated water rights are appurtenant to land.

> [S]uch right [riparian] are inseparately annexed to the soil and pass with a grant of the land, not necessarily as an easement for appurtenance but as parcel of the land itself.[10]

Control of Dilution Water

Recognition by statute is given to the right to commingle water and then reclaim it.

> Water which has been appropriated may be turned into the channel of another stream, mingled with its water, and then reclaimed; but in reclaiming it the water already appropriated by another shall not be diminished.[11]

Colorado

Water Quality Storage as a Beneficial Use

The application of water to beneficial use is an indispensable part in defining a water right in Colorado.[12] The statutes and the case law are silent as to whether the storage of water for water quality purposes is a beneficial use. The Water Commission appears to have taken the position that use of water for dilution purposes is not a beneficial use.[13]

Water Rights as Appurtenances to Land

Only one Colorado case concerns the question of whether an appropriation for a beneficial use is appurtenant to land. Some confusion surrounds this case. Corpus Juris Secundum cites the case for holding that the ownership or possession of the land on which beneficial application is to be made is necessary to constitute one an appropriator;[14] however, the language of the court suggests an opposite view.

> Judge Lewis in an opinion...summarizes [Colorado cases on the point] as follows: 'If I rightly understand these cases, they hold: ...(3) he who applies water thus diverted to beneficial use acquires a property right in the use of the water thus applied which he, and he only, can sell, dispose of and convey by deed separate and apart from the land to which it has been applied or with the land to which it has been applied.'[15]

Control of Dilution Water

Colorado by statute specifically protects the right of storage owners to use a natural stream as a conduit. The language would seem broad enough to protect legally stored water discharged into a stream for quality purposes.

> The owners of any reservoir may conduct the waters legally stored therein into and along any of the natural streams of the state,...and may take the same out again at any point desired with due regard to the prior or subsequent rights of others to other waters in said natural streams. Due allowance shall be made for evaporation and other losses from natural causes for the protection of all rights to the waters flowing in said streams such losses to be determined by the state engineer.[16]

Kansas

Water Quality Storage as a Beneficial Use

Kansas apparently has recognized stream flow regulation as a beneficial use.

> The development, to meet the anticipated future needs of the people of the state, of sufficient supplies of water for beneficial purposes, including but not limited to purposes that are domestic, stockwater, municipal, irrigation, agricultural, industrial, streamflow regulation, public recreational and fish and wildlife, water power, and navigation purposes;....[Emphasis added] [17]

The general goals and objectives of the state of Kansas as set forth by statute include low-flow augmentation.

> . . .[T]he inclusion in publicly financed structures for the development, conservation, control, or management of the water resources of the state of reasonable amounts of storage capacity for the regulation of the low flows of the watercourses of the state.[18]

Water Rights as Appurtenances to Land

By statute, water rights are both appurtenant and severable from the land. Thus the acquisition of water rights for dilution purposes could not be complicated because of the water right being appurtenant to the land.

> 'Water right' means any vested right or appropriation right under which a person may lawfully divert and use water. It is a real property right appurtenant to and severable from the land on or in connection with which the water is used and such water right passes as an appurtenance with conveyance of the land by deed, lease, mortgage, will, or other voluntary disposal, or by inheritance.[19]

Control of Dilution Water

Water quality releases would appear to be fully protected under Kansas statutes.

> It shall be unlawful... for any person without an agreement with the state of Kansas to divert or take any water that has been released from storage under authority of the state of Kansas or that has been released from storage pursuant to an agreement between the state and federal government.[20]

Idaho

Water Quality Storage as a Beneficial Use

The right to use water is by statute contingent on applying the water to some useful or beneficial purpose.[21] As to what constitutes a beneficial use, there appears to be neither case nor statute establishing a criterion. The question is apparently decided on a case by case basis. Domestic use is defined by statute,[22] and a general policy favorable to irrigation formerly existed.[23] The latter was repealed by a 1969 amendment. Mention is also made that minimum stream flows will be fostered and encouraged, thus indicating, indirectly, that water used for quality improvement would be a beneficial use.

Subject to the primary use of water for the beneficial uses now or hereafter prescribed by law, minimum streamflow for aquatic life and the minimization of pollution shall be fostered and encouraged....[24]

Water Rights as Appurtenances to Land

By statute the right to use water is not considered a property right but an appurtenance to land.

[A]nd the right to the use of any of the public waters which have heretofore been or may hereafter be allotted or beneficially applied, shall not be considered as being a property right in itself, but such right shall become the complement of, or one of the appurtenances of, the land or other thing to which, through necessity, said water is being applied;....[25]

Control of Dilution Water

One statute allows water to be commingled with those of a stream and reclaimed later, and another specifically allows the owner of a reservoir to use the bed of the stream to carry stored water. The language of the two statutes seems broad enough to preclude others from utilizing water released to a stream for water quality purposes and to confer a special privilege on the storers of water.

...[W]ater appropriated may be turned into the channel of another stream and mingled with its water, and then reclaimed;...[26]

A reservoir owner may use the bed of a stream, or a natural water course, for the purpose of carrying stored water.[27]

Montana

Water Quality Storage as a Beneficial Use

Montana specifies by statute that appropriation must be for beneficial use,[28] but no effort has been made to spell out the general criteria.

Water Rights as Appurtenances to Land

In 1936 a case came before the Montana Supreme Court regarding the validity of a water right separate and apart from the land to which it was attached. The decision of the court seems to support the proposition that a nonappurtenant water right is a proper subject of transfer.

Hence, as applied to a water right which is held independent of the land, transfer thereof does not result in creating additional burdens upon other appropriators,... We accordingly hold that a water right in gross may be the subject of transfer.[29]

Control of Dilution Water

Protection is provided by statute for those releasing appropriated water into the channel of another stream.

The water appropriated may be turned into the channel of another stream, or from a reservoir into a stream and mingled with its waters, and then reclaimed; but in reclaiming it,

water already appropriated by another shall not be diminished in quantity, nor deteriorated in quality.[30]

Nebraska

Water Quality Storage as a Beneficial Use

Although Nebraska would appear to have adopted the beneficial use concept as the measure and limit of a water use, there is no specific statutory authority. Mention is made of beneficial use in statutory and case law; but there apparently has been no need to establish a criteria for what constitutes beneficial use.[31] Use of water for quality purposes would not appear to be foreclosed under Nebraska law.

A statute, setting forth the public policy of the state with respect to pollution, provides for cooperation with the federal government to reach the desired objectives. The language suggests that if water quality storage were to improve materially the waters of the state, the state would cooperate.

> . . .[I]t is hereby declared to be the public policy of this state to conserve waters of the state and to protect, maintain and improve the quality thereof for public water supplies, for the propogation of wildlife, fish and aquatic life, and for domestic, agricultural, industrial, recreational and other legitimate beneficial uses; to provide that no waste be discharged into any waters of the state without first receiving the necessary treatment or other corrective action to protect the legitimate beneficial uses of such waters; to provide for the prevention, abatement and control of new or existing water pollution; and to cooperate with other agencies of the state, agencies of other states and the federal government in carrying out these objectives.[32]

The language of the Act detailing the powers and duties of the State Water Pollution Control Council provides broad authority permitting storage of water for dilution.

> ...(9) To issue, modify, or revoke orders:... (b) requiring the construction of new disposal systems or any parts thereof or the modification, extension or the adoption of other remedial measures to prevent, control or abate pollution;...[33]

Water Rights as Appurtenances to Land

Appropriated water rights appear to be appurtenant to land and do not exist apart from the land to which the water is applied.

> It is apparent from the evidence that Smith intended to abandon any irrigation rights existing under Docket No. 847. There was a complete nonuser of the irrigation rights by Smith. Such abandonment is binding upon the defendant, since he claims title to the property and the water rights appurtenant to it under Smith and his co-owner Langford.[34]

Control of Dilution Water

Nebraska law, by statute, may prevent water for water quality purposes from being diverted from a natural channel where it had been introduced.

> Any person may conduct water into or along any of the natural streams or channels of this state, and may withdraw all such water at any point without regard to any prior

appropriation of water from such stream, due allowance being made for losses in transit....[35]

Nevada

Water Quality Storage as a Beneficial Use

The application of water to beneficial use has been a part of Nevada's appropriative doctrine since early times and now exists as part of the statutory law.[36] This statute has never been construed by the courts although an early case seemed to equate beneficial use to reasonable use.[37] The limitation to a reasonable use was later codified, but in so doing, the concept of economical use was added.[38] The use of the term "economical" in the statute does not appear to preclude the use of dilution water as a beneficial use. All uses must not only be beneficial in the abstract sense, but must also be a reasonable and economic use in the light of other demands for water allocation. Stream augmentation by the 1961 amendment is not a substitute for adequate treatment. However, dilution as an aid to improved water quality in a stream may be much more economical than to attempt one hundred per cent treatment with existing processes.

Water Rights as Appurtenances to Land

Water used in the state for beneficial purposes remains appurtenant to land according to statute.

> All water used in this state for beneficial purposes shall remain appurtenant to the place of use; provided:
>
> 1. That if for any reason it should at any time become impracticable to use water beneficially or economically at the place to which it is appurtenant, the right may be severed from such place of use and simultaneously transferred and become appurtenant to other place or places of use, in the manner provided in this chapter, and not otherwise, without losing priority of right heretofore established;
>
> and
>
> 2. That the provisions of this section shall not apply in cases of ditch or canal companies which have appropriated water for diversion and transmission to the lands of private persons at an annual charge.[39]

This latter provision establishes a precedent for the separation of water rights from the ownership of land which could be extended to include water stored for quality regulation.

Control of Dilution Water

The use of a natural channel as a mixing basin for dilution water appears to be protected under existing statutory enactment.

> Water may be stored for a beneficial purpose. Water turned into any natural channel or watercourse by any person entitled to the use thereof, whether stored in Nevada or in an adjoining state, may be claimed for beneficial use below, and diverted from the channel or watercourse by such person, subject to existing rights, due allowance for losses to be made, as determined by the state engineer.[40]

Water Quality Storage as a Beneficial Use

The Water Quality Act passed in 1967 by the New Mexico legislature established a Water Quality Control Commission with authority to adopt and enforce water quality standards. This commission adopted an Implementation and Enforcement plan for Water Quality Control which does not recognize low-flow augmentation as a beneficial use.

> [B]eneficial use is the basis, the measure and the limit of a right to the use of water; and priority or appropriation gives the better right. In New Mexico, water supply is so limited that storage for later release to control pollution by dilution in general would constitute an intolerable waste of a vital resource.[41]

Water Rights as Appurtenances to Land

A New Mexico statute indicates that irrigation water is appurtenant to land but may be transferred to other land and in some cases to other purposes. There is no specific provision for severability from land although the possibility does not seem to be precluded.

> All water used in this state for irrigation purposes, except as otherwise provided in this article, shall be considered appurtenant to the land upon which it is used, and the right to use the same upon said land shall never be severed from the land without the consent of the owner of the land; but by and with the consent of the owner of the land, all or any part of said right may be severed from said land, and simultaneously transferred, and become appurtenant to other land, or may be transferred for other purposes, without losing priority of right theretofore established, if such changes can be made without detriment to existing rights, on the approval of an application of the owner by the state engineer. Before the approval of such appiication, the applicant must given notice thereof by publication, in the form required by the state engineer, once a week for three(3) consecutive weeks in a newspaper of general circulation in the stream system in which the tract or tracts of land may be situated. [Emphasis added][42]

Control of Dilution Water

The use of a stream as a conduit is protected by statute. It would also seem to protect the water in the stream from use by others, provided dilution were considered a beneficial use.

> Whenever the owner of a ditch, canal, pipeline, reservoir, or other works shall turn or deliver water from one stream or drainage into another stream or drainage, such owner may take and use the same quantity of water, less a reasonable deduction for evaporation and seepage to be determined by the state engineer, and such owner may be required by the state engineer to construct or maintain suitable measuring flumes or devices at the point or points where said water leaves its natural stream or watershed, or is turned into another stream or watershed. Where the rights of others are not injured thereby, it shall be lawful for the owner of any reservoir, canal or other work, to deliver water into any ditch, stream, or watercourse, to supply, appropriations therefrom and to take in exchange therefor, either above or below such point of delivery, a quantity of water equivalent to that so delivered, less a proper deduction for evaporation and seepage to be determined by the state engineer; Provided, such owner shall, under the direction of the state engineer, construct and maintain suitable measuring devices at the points of delivery and diversion.[43]

North Dakota

Water Quality Storage as a Beneficial Use

By statute beneficial use is made a part of the right to use water.[44] The criteria as to what constitutes beneficial use is not defined by either case or statutory law. The test of whether or not a use is reasonable is based upon all the circumstances of the case.[45] Priorities among various uses are recognized by statute--domestic, livestock, irrigation and industry, and fish, wildlife, and other outdoor reasonable uses.[46] All of these uses would be presumed beneficial, and use of water for quality control purposes would not seem to be prohibited.

Water Rights as Appurtenances to Land

Statutory language suggests that appropriated water can be severed from the land when it is applied to other beneficial uses than irrigation.

> All waters appropriated for irrigation purposes shall be appurtenant to specified lands owned by the person claiming the right to use the water, so long as the water is used beneficially thereon unless such rights to use water have been severed for other beneficial uses as provided by section 61-04-15. Priority in time shall give the better right. [Emphasis added][47]

Section 61-04-15 authorizes the State Engineer to approve the assignment of water rights.

> Any conditional or perfected water permit to appropriate water for irrigation purposes shall be assigned only upon approval by the state engineer of an application for such assignment. Any conditional or perfected water permit may also be transferred with the approval of the state engineer to any parcel of land owned by the holder of such water permit.[48]

The two statutes read together would seem to provide some authority for the transfer of water rights appurtenant to land to other beneficial uses. If water for dilution were considered a beneficial use the state law provides some vehicle for applying the water to quality purposes without regard to the ownership of land.

Control of Dilution Water

By statute natural watercourses can be utilized to convey water, and the language appears general enough to allow various stretches of a stream to be used as a basin for dilution purposes.

> Water turned into any natural or artificial watercourse by any party entitled to the use of such water may be reclaimed below and diverted therefrom by such party, subject to existing rights, due allowance for losses being made, as determined by the state engineer.[49]

Oklahoma

Water Quality Storage as a Beneficial Use

Beneficial use is construed by statute to be the measure and the limit of the right to use water.[50] The Oklahoma Water Resources Board has defined beneficial use as follows:

> Beneficial use is the use of such quantity of water when reasonable intelligence and reasonable diligence are exercised in its application for a lawful purpose, as is economically necessary for that purpose.[51]

In Chapter 2, Section 205.1 (1964) of the Rules, Regulations and Modes of Procedures of the Board, water quality control is listed as a beneficial use for which waters of the State of Oklahoma may be appropriated. Such right to appropriate water is granted by the Oklahoma Water Resources Board upon the filing of an application for a permit. Although no specific mention is made of stream flow augmentation as being a beneficial use for water quality control in the regulations of the Oklahoma Water Resources Board, the statute creating the Pollution Control Coordinating Board provides that the Coordinating Board has the power to:

> . . . prescribe . . . beneficial uses of the waters of the State for the prevention, control and abatement of pollution.[52]

The state policy on the use of storage facilities appears favorable to use of structures of the Federal Government for the use and benefit of the public.

> It is the purpose of this Act to provide or assist in providing for the acquisition, development and utilization of storage and control facilities of the waters of this State for the use and benefit of the public and for the conservation and distribution of water for useful purposes in or from reservoirs or other storage facilities constructed . . . by the United States of America or the State of Oklahoma or any agency, department, subdivision or instrumentality thereof . . . .[53]

The statutes and regulations set out above provide a strong basis for the Pollution Control Coordinating Board to accord legal recognition to stream flow augmentation for water quality control as a beneficial use.

Water Rights as Appurtenances to Land

By statute, irrigation water rights are appurtenant to land, but provision is made whereby the water right can be severed. The status of other water rights as they relate to land are unresolved.

> All water used in this State for irrigation purposes shall remain appurtenant to the land upon which it is used: Provided, that if for any reason it should at anytime become impractical to beneficially or economically use water for the irrigation of any land to which the right of use of same is appurtenant, said right may be severed . . . .[54]

Control of Dilution Water

Protection is afforded by statute for those releasing water into a natural watercourse.

> Water turned into any natural or artificial watercourse by any party entitled to the use of such water may be reclaimed below and diverted therefrom by such party, subject to existing rights, due allowance for losses being made by the State Engineer.[55]

Oregon

Water Quality Storage as a Beneficial Use

The common law appears to have recognized the beneficial use concept as it relates to water rights.[56] The criteria for determining beneficial use has not been made specific in either the statutes or case law. The language on pollution control would seem broad enough to allow water to be used for dilution purposes.

> (1) Whereas the pollution of the waters of this state constitutes a menace to public health and welfare, creates public nuisances,... it is hereby declared to be the public policy of the state to conserve the waters of the state and to protect, maintain and improve the quality thereof for public water supplies,... for domestic, agricultural, industrial, municipal, recreational and other legitimate beneficial uses;...[57]

Water Rights as Appurtenances to Land

The case law has uniformly held that water rights are not appurtenant to land.

> The water right . . . was a valid property right that might be sold and transferred separately from his land:...[58]

The court then proceeded to quote with approval language from a Wyoming decision.

> 'The only limitation upon the right of sale of a water right separate from the land to which it was first applied, and to which it has become appurtenant, laid down by any of the authorities, is, that it shall not injuriously affect the rights of other appropriators.'[59]

Control of Dilution Water

The right to use a channel as a conduit is limited by statute to water stored in reservoirs. The language would seem to cover the situation related to water quality storage.

> Whenever the owner, manager or lessee of a reservoir constructed under the provisions of the Water Rights Act. . . desires to use the bed of a stream, or other watercourse, to carry stored or impounded water from the reservoir to the consumer thereof, he shall, in writing, notify the watermaster of the district in which the stored or impounded water from the reservoir is to be used, giving the date when it is proposed to discharge water from the reservoir, its volume, and the names of all persons and ditches entitled to its use. The watermaster shall then close, or so adjust the headgates of all ditches from the stream or watercourse, not entitled to the use of such stored water, as will enable those having the right to secure the volume to which they are entitled.[60]

South Dakota

Water Quality Storage as a Beneficial Use

By statute the general welfare requires that the water resources of the state be put to beneficial use.[61] Beneficial use is defined in general terms:

> 'Beneficial use,' any use of water that is reasonable and useful and beneficial to the appropriator, and at the same time is consistent with the interests of the public in the best utilization of water supplies.[62]

In order for the United States to become the appropriator of water for quality purposes, this use must be in the public interest. The latter is a question of fact to be decided by a jury. Previous cases have not indicated the type of activities that are considered to be within the public interest.

Water Rights as Appurtenances to Land

Irrigation water is by statute appurtenant to land although no mention is stated with respect to other water uses.

> All water used in this state for irrigation purposes shall remain appurtenant to the land upon which it is used; but if for any reason it should at any time become impracticable to use all or any part of such water beneficially or economically for the irrigation of any land to which the right of its use is appurtenant, all or any part of such right may be severed from such land and simultaneously transferred and become appurtenant to other land without losing priority of right theretofore established, if such change can be made without detriment to existing rights, upon the approval of an application of the owner to the commission.[63]

An inference can be made that if this restriction were to apply to other uses, the language could easily have been made more comprehensive. It must be presumed that the restriction is limited only to "All water... for irrigation purposes ...." Water rights appropriated or condemned for other purposes appear to be outside the purview of this statute.

Control of Dilution Water

The rights to water are not lost by its release to natural or artificial channels.

> Water turned into any natural or artificial watercourse by any person entitled to the use of such water may be reclaimed below and diverted therefrom by such person, subject to existing rights, due allowance for losses to be made, as determined by the commission.[64]

Texas

Water Quality Storage as a Beneficial Use

The water of all rivers, streams, lakes, and the bays or arms of the Gulf of Mexico in Texas are declared to be the property of the State, subject to appropriation for the purposes set forth in Texas Statutes.[65] The Texas Water Rights Commission has the power to grant permits for appropriation of water, and for the construction of any impounding or diversion facility.[66] The purposes for which public waters may be appropriated and the priorities of these uses are specified by statute.[67] Impoundment or appropriation of water for later release to control the quality of a waterway was not originally approved.

The Twenty-Seventh Report of the Texas Water Rights Commission covering the fiscal biennium from September 1, 1964, to August 31, 1966, contained the following recommendation for legislation:

> Because of our rapidly expanding economy and technological development, the purposes for which water may be appropriated (listed in Articles 7468 and 7470, Vernon's Civil Statutes) are rapidly being outdated. For example, inclusion of conservation storage for water quality and mosquito control are matters of accomplished fact in Federal projects. The future may well require inclusion of storage for the protection of aquatic habitat in the State's bays and estuaries.
>
> The Commission recommends that Articles 7468 and 7470 be amended to add at the ending of the specific listing of uses, words to the effect that water may be appropriated for other beneficial uses prescribed from time to time in the Commission's Rules and Regulations. The Commission also recommends that an eighth category be added to Article 7471 to the same effect.

Pursuant to this recommendation amendments were introduced into the Texas Legislature to modify the statutory language. The amendments did not pass during the 1967 legislative session, but the proponents were successful during the 1969 term. Article 7468 was changed to include the language "or for any other beneficial use" and a subsection (8) was added to article 7471 providing for "other beneficial uses." The Texas Water Rights Commission would now appear to have the necessary authority to make dilution water a beneficial use under state law.

Water Rights as Appurtenances to Land

The statutory language suggests that all water rights are appurtenant to land.

> The permanent water right shall be an easement to the land and pass with the title thereto;...[68]

Some modification of this position may be necessary to implement the use of water for dilution if this use is given acceptance as a beneficial use.

Control of Dilution Water

The banks and beds of any flowing natural stream are available for conveying water from the place of storage to the place of use. The language would seem to provide protection for low-flow augmentation if the latter were deemed a beneficial use under state statute.

> For the purpose of conveying and delivering storm, flood or rain water from the place of storage to the place of use as provided in the preceding Article, or of conveying and delivering the same to the diversion plant of the appropriator thereof, it shall be lawful for any person, association of persons, corporation, water improvement or irrigation district, to use the banks and beds of any flowing natural stream within this State, under and in accordance with such rules and regulations... for such purpose. No person, association of persons, corporation, water improvement or irrigation district who has not acquired the right to the use of such conserved or stored waters, as provided in the last preceding Article or the right to appropriate the same shall take, use or divert same.[69]

Utah

Water Quality Storage as a Beneficial Use

In 1943 the Supreme Court of Utah reiterated the beneficial use doctrine as a part of Utah state

law.[70] This common law doctrine was codified into law in 1953.[71] Courts have now expanded the beneficial use to include the requirement of reasonableness.

> '...[A] prior appropriator does not have an unlimited right to the use of water, but is subject to a reasonable limitation of his rights for the benefit of junior appropriators. That it is necessary and proper to limit prior appropriators to the volume of water reasonably required to raise crops under reasonably sufficient methods for applying water to the land. That beneficial use is the basis and the measure and the limit to the use of water and water used in excess of the amount reasonably necessary to produce crops is not beneficially used.'[72]

The question as to what constitutes beneficial use has been considered in a number of cases. The court, in an early case, indicated several water uses to be beneficial.

> The appropriation, intention of the appropriator, use, and beneficial purpose are the tests which determine the rights acquired by the diversion of a stream. This is so under the statutes, and the use may be for domestic purposes, irrigating lands, propelling machinery and the like; that is, the water may be applied to any useful purpose.[73]

Another example of a specific holding on what constituted a beneficial use is a 1946 case.

> The only manner in which water can be appropriated is by being placed to a beneficial use. The use of water for the precipitation of salt is such a beneficial use,...[74]

Neither the statutes nor the case holdings indicate the criteria for determining what constitutes beneficial use and thus offer little guide as to whether water quality storage would be considered beneficial.

The state policy on pollution appears broad enough to include dilution water within its scope.

> Whereas the pollution of the waters of this state constitutes a menace to public health and welfare, creates public nuisance,... and whereas such pollution is contrary to the best interests of the state... , it is hereby declared to be the public policy of this state to conserve the waters of the state and to protect, maintain and improve the quality thereof for public water supplies, for the propogation of wildlife...and other legitimate beneficial uses;... and to cooperate with...the federal government in carrying out these objectives.[75]

The use of the phrases "improve the quality", "other legitimate beneficial uses", and "to cooperate with...the federal government" suggest that it would not take a strained interpretation of the language to place storage for water quality purposes within the policy declaration of the state.

Water Rights as Appurtenances to Land

The statutory evidence indicates that some water rights are considered appurtenant to land, for conveyancing purposes but they can also be transferred separately from the land.

> A right to the use of water appurtenant to land shall pass to the grantee of such land, and in cases where such right has been exercised in irrigating different parcels of land at different times, such right shall pass to the grantee of any parcel of land of which such right was exercised next preceeding the time of the execution of any conveyance thereof; subject, however, in all cases to payment by the grantee in any such conveyance of all amounts

unpaid on any assessment then due upon any such right; provided that any such right to the use of water, or any part thereof, may be reserved by the grantor, in any such conveyance by making such reservation in express terms in such conveyance, or it may be separately conveyed.[76]

Control of Dilution Water

The commingling of water without the forfeiture of the property interest in the water is permitted by statute.

> Upon application in writing and approval of the state engineer, any appropriated water may for the purpose of preventing waste and facilitating distribution be turned from the channel of any stream or any lake or other body of water, into the channel of any natural stream of natural body of water or into a reservoir constructed across the bed of any natural stream, and commingled with its waters, and a like quantity less the quantity lost by evaporation and seepage may be taken out, either above or below the point where emptied into the stream, body of water or reservoir, ...[77]

An early case decided that the burden of proving ownership of the water commingled and the absence of injury to a third person is on the person commingling the water.

> The defendant corporation having, without the consent of the plaintiff, suffered the water from said tunnels to flow into the natural channel of Butterfield Creek and commingle with the waters of the stream previously appropriated by plaintiff, it assumed the burden, when it afterwards claimed the right to divert any portion of the mingled water, of clearly showing the quantity owned by it, and that such diversion does not diminish the quantity of water previously appropriated by the plaintiff; and, if the conditions are such after the commingling of the water that that fact cannot be established, then the defendants must lose all right to divert any of the water flowing in the natural channel in said creek, for it is an elementary principle, firmly established, that one who, without consent, intentionally confounds his property with the property of a stranger, though they be of the same kind, will lose the whole, unless he can prove the true quantity belonging to himself.[78]

Washington

Water Quality Storage as a Beneficial Use

Beneficial use is recognized by statute but not in the typical form found in other western states.

> A strong beneficial use requirement as a condition precedent to the continued ownership of a right to withdraw or divert water is essential to the orderly development of the state,...[79]

Certain uses are set out by statute to be beneficial although the language does not preclude other use. There appear to be no guide lines as to the policy of the state on whether water quality would be beneficial.

> (2) 'Beneficial use' shall include, but not be limited to, domestic water supplies, irrigation, fish, shellfish, game and other aquatic life, municipal, recreation, industrial water generation of electric power, and navigation.[80]

Water Rights as Appurtenances to Land

A general intent of the state legislation is to make water rights freely transferable. This transferability would appear to entail severance from the land.

> Water rights will gain sufficient certainty of ownership as a result of this chapter to become more freely transferable, thereby increasing the economic value of the uses to which they are put, and augmenting the alienability of titles to land.[81]

Control of Dilution Water

The statutory language contemplates the use of streams as conduits for the conveyance of water from one point to another, but it would appear to afford protection to water released by the Government for dilution purposes.

> Any person may convey any water which he may have a right to use along any of the natural streams or lakes of this state, but not so as to raise the water thereof above ordinary highwater mark, without making just compensation to persons injured thereby; but due allowance shall be made for evaporation and seepage, the amount of such seepage to be determined by the supervisor of water resources, upon the application of any person interested.[82]

Wyoming

Water Quality Storage as a Beneficial Use

Beneficial use, as in most western states, is the measure of the water right in Wyoming.[83] Neither the statutes nor the cases give any indication as to whether storage for water quality purposes is likely to be considered a beneficial use. Broad powers are given to control pollution. Thus the status of low-flow augmentation is unresolved.

Water Rights as Appurtenances to Land

Reservoir water rights are not attached to land since passage of a 1921 statute.

> The reservoir water and rights acquired under reservoir permits and adjudications shall not attach to any particular lands except by deed,...and such water and water rights, except when attached to particular lands as aforesaid, may be sold, leased, transferred and used in such manner and upon such lands as the owner of such rights or partial right may desire, provided, that such water must be used for beneficial purposes.[84]

The annotations point out that before this section was passed, all water rights, including reservoir rights, were attached to land and could not be severed therefrom. This section allows such severance for reservoir rights, but others water rights, presumably, are still attached to land. This exception would facilitate storage of water for quality purposes.

Control of Dilution Water

Statutory law provides the procedure whereby a natural channel can be used to convey stored water.

Whenever the owner, manager or lessee of a reservoir, constructed under the provisions of this act...shall desire the use of the bed of the stream, or other water course, for the purpose of carrying stored or impounded water from the reservoir to the consumer thereof, or shall desire the use of any ditch to carry, convey or transmit through the same any such stored or impounded water for the benefit of any person having the right to have such reservoir water carried, conveyed or transmitted through the same under the laws of this state, he shall, in writing notify the water commissioner of the district in which such stored or impounded water is to be used... It shall then be the duty of such water commissioner to so adjust the headgates of all ditches of ditch companies or appropriators from the stream or water course, and the division boxes of individual consumers of water, not entitled to the use of such stored water, as will enable those having the right to secure the volume of water to which they are entitled;...[85]

FOOTNOTES

1. Ariz. Rev. Stat. Ann. sec. 45-101B (1956); Salt River Valley Water Users' Ass'n v. Kovacovich, 3 Ariz. App. 28, 411 P. 2d 201, 203 (1966).

2. Ariz. Rev. Stat. Ann. sec. 45-141 (Supp. 1969).

3. Slosser v. Salt River Valley Canal Co., 7 Ariz. 376, 65 P. 332, 339 (1901). See also Gould v. Maricopa Canal Co., 8 Ariz. 429, 76 P. 598 (1904); Brockman v. Grand Canal Co., 8 Ariz. 451, 76 P. 602 (1904); Tattersfield v. Putman, 45 Ariz. 156, 41 P. 2d. 228 (1935); Olsen v. Union Canal & Irrigation Co., 58 Ariz. 306, 119, P. 2d. 569 (1941).

4. Gillespie Land & Irrigation Co. v. Buckeye Irrigation Co., 75 Ariz. 377, 257 P. 2d 393, 398 (1953).

5. Ariz. Rev. Stat. sec. 45-173 (1956).

6. 3 Cal. 2d. 489, 45 P. 2d 972 (1935).

7. Id. at 1007.

8. Cal. Water Code sec. 1243 (West Supp. 1968).

9. Cal. Water Code sec. 12200-12205 (West Supp. 1968).

10. City and County of San Francisco v. Alameda Co., 5 Cal. 2d 243, 54 P. 2d 462,464 (1936).

11. Cal. Water Code sec. 7075 (West 1956).

12. Board of County Comm'ss v. Rocky Mt. Water Co., 79 P. 2d. 373, 377 (1939).

13. 36 U. Colo. L. Rev. 413,415 n. 13 (1964).

14. 93 C.J.S. Water sec. 177 (1956).

15. Board of County Comm'ss v. Rocky Mt. Water Co., 102 Colo. 351, 79 P. 2d. 373, 377 (1939).

16. Colo. Rev. Stat. Ann. sec. 148-5-2 (1963).

17. Kan. Stat. Ann. sec. 82a-927 (Supp. 1968).

18. Kan. Stat. Ann. sec. 82a-928 (Supp. 1968).

19. Kan. Stat. Ann. sec. 82a-701(g) (Supp. 1964).

20. Kan. Stat. Ann. sec. 82a-706(b) (Supp. 1968).

21. Idaho Code Ann. sec. 42-104 (1948).

22. Idaho Code Ann. sec. 42-111 (1948).

23. Idaho Code Ann. sec. 42-1501 (1948). **Repealed (Supp. 1969) No apparent substitute.**

24. Idaho Code Ann. sec. 42-1734 (c) (iv) (Supp. 1969).

25. Idaho Code Ann. sec. 42-101 (1948).

26. Idaho Code Ann. sec. 42-105 (1948).

27. Idaho Code Ann. sec. 42-801 (1948).

28. Mont. Rev. Codes Ann. sec. 89-802 (1947).

29. Osnes Livestock Co. v. Warren, 103 Mont. 284, 62 P. 2d. 206, 210 (1936).

30. Mont. Rev. Codes Ann. sec. 89-804 (1947).

31. Neb. Rev. Stat. sec. 46-204 (1968); Enterprise Irr. Dist. v. Willis, 135 Neb. 827, 284 N.W. 326, 327 (1939).

32. Neb. Rev. Stat. sec. 71-3001 (Cum. Supp. 1967).

33. Id., sec. 71-3004 (Cum. Supp. 1967).

34. State v. Nielsen, 163 Neb. 372, 79 N.W. 2d 721, 728 (1956).

35. Neb. Rev. Stat. sec. 46-252 (1968).

36. Nev. Rev. Stat. sec. 533.035 (1967).

37. Barnes v. Sabron, 10 Nev. 217, 243-44 (1875).

38. Nev. Rev. Stat. sec. 533.060 (1967).

39. Nev. Rev. Stat. sec. 533.040 (1967).

40. Nev. Rev. Stat. sec. 533.055 (1967).

41. Implementation and Enforcement Plan for Water Quality Control adopted by New Mexico Water Control Commission; June 20, 1967 at p. 53.

42. N.M. Stat. Ann. 75-5-22 (1953).

43. N.M. Stat. Ann. 75-5-24 (1953).

44. N.D. Cent. Code sec. 61-01-02 (Supp. 1969).

45. Volkman v. City of Crosby, 120 N.W. 2d 18 (N.D. 1963).

46. N.D. Cent. Code sec. 61-01-01.1 (Supp. 1969).

47. N.D. Cent. Code sec. 61-01-02 (1960).

48. N.D. Cent. Code sec. 61-04-15 (Supp. 1969).

49. N.D. Cent. Code sec. 61-01-05 (1960).

50. Okla. Stat. Ann. tit. 82, sec. 1-A (Supp. 1969).

51. Rules, Regulations and Modes of Procedure of the Oklahoma Water Resources Board, ch. 1, sec. 115.1(3) (Supp. 1964).

52. Okla. Sess. Laws 439 (1968).

53. Okla. Stat. Ann. tit. 82, sec. 1351 (Supp. 1969).

54. Okla. Stat. Ann. tit. 82, sec. 34 (1952).

55. Okla. Stat. Ann. tit. 82, sec. 3 (1952).

56. In Re Water Rights of Deschutes River, 148 Ore. 389, 36 P. 2d 585, 587 (1934).

57. Ore. Rev. Stat. sec. 449.077 (1967).

58. Haney v. Neace-Stark Co., 109 Ore. 93, 216 P. 757, 764 (1923)

59. Id.

60. Ore. Rev. Stat. sec. 540.410 (1963).

61. S.D. Code sec. 46-1-4 (1967).

62. S.D. Code sec.46-1-6(6) (1967).

63. S.D. Code sec. 46-5-34 (1967).

64. S.D. Code sec. 46-5-14 (1967).

65. Tex. Rev. Civ. Stat. art. 7467 (1954).

66. Tex. Rev. Civ. Stat. art. 7492 (1954).

67. Tex. Rev. Civ. Stat. art. 7468, 7470 and 7471 (1954).

68. Tex. Rev. Civ. Stat. art. 7559 (1954).

69. Tex. Rev. Civ. Stat. art. 7548 (1954).

70. Sigurd City. v. State, 105 Utah 278, 142 P. 2d 154, 157 (1943).

71. Utah Code Ann. sec. 73-1-3 (1953).

72. In Re Water Rights of Escalante Valley Drainage Area, 10 Utah 2d 77, 348 P. 2d 679, 682 (1960).

73. Hague v. Nephi Irrigation Co., 16 Utah 421, 52 P. 765, 767 (1898).

74. Desert Livestock Co. v. State, 110 Utah 239, 171 P. 2d 401, 403 (1946).

75. Utah Code Ann. sec. 73-14-1 (1953).

76. Utah Code Ann. sec. 73-1-11 (1953).

77. Utah Code Ann. sec. 73-3-20 (1953).

78. Herriman Irrigation Co. v. Butterfield Mining Co., 19 Utah 453, 57 P. 537, 540 (1899).

79. Wash Rev. Code sec. 90.14.020 (3) (Supp. 1968).

80. Wash. Rev. Code sec. 90. 14.031 (Supp. 1969).

81. Wash Rev. Code sec. 90.14.020(7) (Supp. 1968).

82. Wash. Rev. Code sec. 90.03.030 (Supp. 1961).

83. Lincoln Land Co. v. Davis, 27 F. Supp. 1006, 1008 (D. C. Wyo. 1939); Wyo. Stat. Ann. sec. 41-47 (1957).

84. Wyo. Stat. Ann. sec. 41-37 (1957).

85. Wyo. Stat. Ann. sec. 41-29 (1957).

APPENDIX V

STATUTES RELATING TO THE RECLAMATION LAW OF THE UNITED STATES*

32 Stat. 388, Ch. 1093 (1902)

33 Stat. 714, Ch. 567 (1905)

33 Stat. 1032, Ch. 1459 (1905)

34 Stat. 116, Ch. 1631 (1906)

34 Stat. 259, Ch. 3288 (1906)

34 Stat. 519, Ch. 3559 (1906)

36 Stat. 835, Ch. 407 (1910)

36 Stat. 895, Ch. 32 (1911)

36 Stat. 925, Ch. 141 (1911)

37 Stat. 265, Ch. 278 (1912)

38 Stat. 686, Ch. 247 (1914)

38 Stat. 727, Ch. 316 (1914)

38 Stat. 822, Ch. 75 (1915)

40 Stat. 105, Ch. 27 (1917)

41 Stat. 163, Ch. 24 (1919)

41 Stat. 451, Ch. 86 (1920)

41 Stat. 605, Ch. 192 (1920)

43 Stat. 116, Ch. 150 (1924)

43 Stat. 672, Ch. 4 (1924)

45 Stat. 1057, Ch. 42 (1928)

45 Stat. 1522, Ch. 541 (1929)

46 Stat. 367, Ch. 292 (1930)

46 Stat. 1421, Ch. 307 (1931)

48 Stat. 401, Ch. 55 (1934)

49 Stat. 1570, Ch. 688 (1936)

50 Stat. 844, Ch. 832 (1937)

50 Stat. 869, Ch. 870 (1937)

52 Stat. 291, Ch. 187 (1938)

53 Stat. 1187, Ch. 418 (1939)

53 Stat. 1418, Ch. 717 (1939)

54 Stat. 49, Ch. 51 (1940)

54 Stat. 155, Ch. 132 (1940)

54 Stat. 402, Ch. 390 (1940)

54 Stat. 1178, Ch. 888 (1940)

54 Stat. 1219, Ch. 922 (1940)

57 Stat. 14, Ch. 14 (1943)

62 Stat. 725, Ch. 651 (1944)

58 Stat. 879, Ch. 665 (1944)

59 Stat. 10, Ch. 19 (1945)

60 Stat. 641, Ch. 596 (1946)

60 Stat. 1080, Ch. 965 (1946)

63 Stat. 722, Ch. 630 (1949)

63 Stat. 724, Ch. 650 (1949)

64 Stat. 39, Ch. 78 (1950)

64 Stat. 595, Ch. 896 (1950)

64 Stat. 1124, Ch. 1183 (1950)

66 Stat. 282, P.L. 415 (1952)

66 Stat. 325, P.L. 444 (1952)

66 Stat. 549, P.L. 495 (1952)

67 Stat. 566, P.L. 258 (1953)

68 Stat. 568, P.L. 540 (1954)

68 Stat. 666, P.L. 566 (1954)

68 Stat. 752, P.L. 606 (1954)

68 Stat. 890, P.L. 683 (1954)

68 Stat. 1190, P.L. 774 (1954)

69 Stat. 244, P.L. 130 (1955)

69 Stat. 354, P.L. 163 (1955)

70 Stat. 28, P.L. 419 (1956)

70 Stat. 105, P.L. 485 (1956)

70 Stat. 155, P.L. 520 (1956)

70 Stat. 247, P.L. 575 (1956)

70 Stat. 483, P.L. 643 (1956)

70 Stat. 524, P.L. 690 (1956)

70 Stat. 775, P.L. 858 (1956)

70 Stat. 1044, P.L. 984 (1956)

70 Stat. 1058, P.L. 992 (1956)

70 Stat. 1059, P.L. 993 (1956)

71 Stat. 48, P.L. 85-47 (1957)

71 Stat. 372, P.L. 85-152 (1957)

71 Stat. 590, P.L. 85-264 (1957)

71 Stat. 608, P.L. 85-283 (1957)

72 Stat. 82, P.L. 85-370 (1958)

72 Stat. 297, P.L. 85-500 (1958)

72 Stat. 542, P.L. 85-611 (1958)

72 Stat. 563, P.L. 85-624 (1958)

72 Stat. 963, P.L. 85-797 (1958)

73 Stat. 641, P.L. 86-357 (1959)

74 Stat. 156, P.L. 86-488 (1960)

74 Stat. 225, P.L. 86-529 (1960)

74 Stat. 411, P.L. 86-624 (1960)

74 Stat. 732, P.L. 86-648 (1960)

74 Stat. 882, P.L. 86-745 (1960)

75 Stat. 204, P.L. 87-88 (1961)

76 Stat. 96, P.L. 87-483 (1962)

76 Stat. 389, P.L. 87-590 (1962)

76 Stat. 395, P.L. 87-594 (1962)

76 Stat. 407, P.L. 87-612 (1962)

76 Stat. 634, P.L. 87-706 (1962)

76 Stat. 1173, P.L. 87-874 (1962)

77 Stat. 49, P.L. 88-29 (1963)

77 Stat. 68, P.L. 88-44 (1963)

77 Stat. 249, P.L. 88-140 (1963)

78 Stat. 156, P.L. 88-278 (1964)

78 Stat. 744, P.L. 88-536 (1964)

78 Stat. 808, P.L. 88-561 (1964)

78 Stat. 848, P.L. 88-565 (1964)

78 Stat. 897, P.L. 88-578 (1964)

78 Stat. 925, P.L. 88-583 (1964)

78 Stat. 955, P.L. 88-599 (1964)

79 Stat. 213, P.L. 89-72 (1965)

79 Stat. 244, P.L. 89-80 (1965)

79 Stat. 902, P.L. 89-232 (1965)

80 Stat. 376, P.L. 89-553 (1966)

*This is a partial listing only, and it does not purport in any manner to be all inclusive.

APPENDIX VI

TITLE III - PUBLIC LAW 85-500 - JULY 3, 1958

TITLE III - WATER SUPPLY

SEC. 301. (a) It is hereby declared to be the policy of the Congress to recognize the primary responsibilities of the States and local interests in developing water supplies for domestic, municipal, industrial, and other purposes and that the Federal Government should participate and cooperate with States and local interests in developing such water supplies in connection with the construction, maintenance, and operation of Federal navigation, flood control, irrigation, or multiple purpose projects.

(b) In carrying out the policy set forth in this section, it is hereby provided that storage may be included in any reservoir project surveyed, planned, constructed or to be planned, surveyed and/or constructed by the Corps of Engineers or the Bureau of Reclamation to impound water for present or anticipated future demand or need for municipal or industrial water, and the reasonable value thereof may be taken into account in estimating the economic value of the entire project: *Provided,* That before construction or modification of any project including water supply provisions is initiated, State or local interests shall agree to pay for the cost of such provisions on the basis that all authorized purposes served by the project shall share equitably in the benefits of multiple purpose construction as determined by the Secretary of the Army or the Secretary of the Interior as the case may be: *Provided further,* That not to exceed 30 per centum of the total estimated cost of any project may be allocated to anticipated future demands where States or local interests give reasonable assurances that they will contract for the use of storage for anticipated future demands within a period of time which will permit paying out the costs allocated to water supply within the life of the project: *And provided further,* That the entire amount of the construction costs, including interest during construction, allocated to water supply shall be repaid within the life of the project but in no event to exceed fifty years after the project is first used for the storage of water for water supply purposes, except that (1) no payment need be made with respect to storage for future water supply until such supply is first used, and (2) no interest shall be charged on such cost until such supply is first used, but in no case shall the interest-free period exceed ten years. The interest rate used for purposes of computing interest during construction and interest on the unpaid balance shall be determined by the Secretary of the Treasury, as of the beginning of the fiscal year in which construction is initiated, on the basis of the computed average interest rate payable by the Treasury upon its outstanding marketable public obligations, which are neither due nor callable for redemption for fifteen years from date of issue. The provisions of this subsection insofar as they relate to the Bureau of Reclamation and the Secretary of the Interior shall be alternative to and not a substitute for the provisions of the Reclamation Projects Act of 1939 (53 Stat. 1187) relating to the same subject.

(c) The provisions of this section shall not be construed to modify the provisions of section 1 and section 8 of the Flood Control Act of 1944 (58 Stat. 887), as amended and extended, or the provisions of section 8 of the Reclamation Act of 1902 (32 Stat. 390).

(d) Modifications of a reservoir project heretofore authorized, surveyed, planned, or constructed to include storage as provided in subsection (b), which would seriously affect the purposes for which the project was authorized, surveyed, planned, or constructed, or which would involve major structural or operational changes shall be made only upon the approval of Congress as now provided by law.

SEC. 302. Title III of this Act may be cited as the "Water Supply Act of 1958".

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