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Water Wars: Water Allocation Law and the Apalachicola-Chattahoochee-Flint River Basin¹

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This paper discusses the background and litigation involved in the dispute over water reallocation in the Apalachicola-Chattahoochee-Flint River Basin in the southeastern United States. It reviews the legal framework that has been used historically to settle water allocation disputes within and among states, with implications for the process now unfolding as negotiators for the states of Alabama, Florida, and Georgia attempt to find common ground.

Introduction

Throughout much of the twentieth century, states of the western United States confronted one another in disputes over reliable supplies of fresh water. Such interstate water allocation issues were relatively uncommon in the eastern United States where fresh water has been comparatively abundant. A series of severe droughts during the 1980s changed all that for the states of Alabama, Florida, and Georgia, however, forcing them to recognize the strains that continued population growth and economic expansion in the southeast have placed on the water resources of the region (Moore, p. 5).

In 1997, after litigation, studies, and an interim negotiated agreement, Alabama, Florida, and Georgia entered into two interstate compacts for the specific purpose of negotiating a long-term allocation of surface water resources in the major river basins shared by the states (Moore, p. 5). Three years later, having several times extended the deadline set by the compacts, the negotiators for the three states still had not reached agreement on the major water allocation issues confronting them.

This paper discusses the background and litigation involved in the dispute over water reallocation in the Chattahoochee River. It reviews the legal framework that has been used historically to settle water allocation disputes within and among states, with implications for the process now unfolding as negotiators for the states of Alabama, Florida, and Georgia attempt to find common ground.

Description of the Basin

The dispute among Alabama, Florida, and Georgia involves two river basins. The first of these is known as the ACF (the Apalachicola, Chattahoochee, and Flint Rivers). The Chattahoochee

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River has its headwaters in the hills and low mountains of northwest Georgia, from whence it flows southwest through metropolitan Atlanta to the Alabama-Georgia state line. The border between the two states follows the Chattahoochee River south to its confluence with the Flint River, which, having formed in the counties just south of Atlanta, flows generally toward the extreme southwest corner of the state of Georgia. The Chattahoochee and the Flint Rivers join just north of the Florida state line to form the Apalachicola River which, in turn, flows south through the Florida panhandle into Apalachicola Bay and the Gulf of Mexico.

The second river basin is the ACT (the Alabama, Coosa, and Tallapoosa Rivers). The Coosa and Tallapoosa Rivers have their headwaters in northwest Georgia (adjacent to, and northwest of, the headwaters of the Chattahoochee River). The two rivers flow southwest out of Georgia into northeast Alabama. Meandering southwest, the two rivers join near Montgomery to form the Alabama River. The Alabama River flows generally south until joining the Tombigbee River to form the Mobile River, and then emptying into Mobile Bay.

Multiple Uses, Multiple Demands

A series of federal reservoirs operated by the United States Army Corps of Engineers (Corps) provide flood control, navigation support, hydroelectric power generation, water supply, and recreation on both river systems. The rivers also support a complex ecosystem, including the nation's premier oyster and shellfish habitat in Apalachicola Bay.

Many of the uses along these rivers depend heavily on the manner in which the Corps operates control structures on the federal impoundments, managing lake levels and stream flow throughout the river basins. However, no single set of protocols governing reservoir releases is equally suited for all uses. For example, flood protection requires that reservoirs be maintained with unused capacity in order to impound flood waters, regulating their release so as to protect downstream property from flooding. However, assuring adequate municipal water supplies in the event of a protracted drought requires that reservoirs be used to store more, rather

than less, water. Navigation requires that reservoirs release water during dry periods to maintain streams at navigable depths so that commercial barge traffic and pleasure craft can ply the river waters. Natural ecosystems are typically adapted to "natural" hydroperiods, the natural tendency for rivers to alternate between flood stage and low flow in response to normal rainfall events.

Water Allocation as an Interstate Issue

History of Water Use in the ACF Basin

The Corps published its first report on the development of water resources in the ACF River Basin in 1939 (Vest, p. 690).³ The Corps recommended that Congress approve "full development" of the ACF River Basin for flood control, navigation, and hydroelectric power generation. Congress subsequently authorized specific projects, including the construction of Buford Dam which was completed in 1958.

The Corps' eventual role in reallocation of water to meet Atlanta's water supply needs is based on two acts of Congress (Vest, pp. 690-691). First was the Flood Control Act of 1944, authorizing the Corps to reallocate surplus water at federal reservoirs to industrial and domestic use. The Act defined surplus water as "water in excess of that required to meet project purposes" (Vest, p. 691). The second act of Congress underlying the Corps' role in reallocating water to Atlanta was the Rivers and Harbors Flood Control Act of 1958, of which Section 301 allowed the Corps to store water in federal reservoirs for municipal and industrial uses. Neither of these acts authorize the Corps to make significant modifications to existing projects. If significant modification to a project is needed, specific Congressional authorization would be required.

In the early 1970s, public officials in Georgia began to recognize that the rapidly growing Atlanta metropolitan area would eventually outstrip existing capacity to supply freshwater to domestic and industrial users (Vest, p. 691). In 1972, Congress authorized the Corps to conduct a *Metropolitan Atlanta Area Water Resources Management Study* to develop a long-range water supply plan for the Atlanta area. During this study, the Corps analyzed

over 50 water supply plans, from which it selected three. In 1981, the Corps published a feasibility study for public comment on the three final alternatives: construct a re-regulation dam downstream from Buford Dam, reallocate storage in Lake Lanier from hydropower to water supply, or dredge the Morgan Falls reservoir to increase the storage capacity.

In 1982, the Corps published a final report in which it recommended the construction of the re-regulation dam (Vest, p. 691). This proposal met strong opposition because of its environmental impacts. In 1988, after additional analysis, the Corps issued a revised recommendation favoring adoption of the reallocation alternative. In 1989, the Corps issued a draft Post Authorization Change (PAC) report, recommending that 20 percent of the water currently reserved for hydropower production be reallocated for water supply. The proposed reallocation would provide for the water supply needs of Atlanta through the year 2010. This report included an Environmental Assessment (required by the National Environmental Policy Act) which concluded that reallocation would not have a significant adverse impact on the environment.

Alabama Sues the Corps of Engineers

In response to the Corps' Post-Authorization Change report calling for reallocation of water from Lake Lanier to supply water to Atlanta, the State of Alabama filed a lawsuit on June 28, 1990 (Vest, p. 692).⁴ The lawsuit challenged the validity of the Corps' reallocation plan on five counts.

The first count challenged the reallocation as a violation of common-law water rights, alleging that the PAC would vest Georgia interests with expanded water rights at the expense of downstream interests (Vest, p. 692). The first count also alleged that the Corps had breached its duty to operate the ACF River Basin system in a neutral manner by favoring Georgia interests.

The remaining four counts of the suit alleged that the Corps violated the National Environmental Policy Act (NEPA) by failing to consider fully the environmental impacts of the proposed reallocation (Vest, p. 692). The complaint asked for an injunction to prevent the Corps from implementing the proposed

reallocation or entering into any water supply contracts, and requested a judicial declaration that the Corps failed to comply with the provisions of the NEPA requiring development of an Environmental Impact Statement. In August, 1990, the state of Florida petitioned to intervene in the lawsuit, as did the state of Georgia; the Alabama Wildlife Federation; the Cities of Montgomery and Gadsden, Alabama; and the City of Cartersville, Georgia.

Memorandum of Agreement and Basin Studies

In July 1990, officials from Alabama and Georgia met twice to seek compromise, but were unsuccessful. In August 1990, the Corps joined Alabama and Georgia in the negotiations and presented a "Memorandum of Agreement" (Vest, p. 693). On August 30, 1990, Alabama, Florida, Georgia, and the Corps negotiated a Joint Stay of Proceedings to be entered into by Alabama and the Corps. The court granted the stay on September 19, 1990, to allow the parties to reach a settlement without further litigation.

In January 1992, Alabama, Florida, Georgia, and the Corps entered into an agreement calling for a "process for cooperative management and development of regional water resources" (Erhardt, p. 202).⁵ The agreement required a three-year comprehensive study of local water resources. In the meantime, the Corps would withdraw its 1989 proposals to reallocate water from Lake Lanier, while Alabama, in turn, would request that its lawsuit against the Corps be placed on an inactive docket. The action defused the immediate danger of lengthy litigation, and created an opportunity for all parties involved to make constructive input.

The resulting *Comprehensive Water Resource Study* has since been referred to as "an unprecedented effort to develop the data necessary to fully address the water resource issues in the ACT and ACF" (Moore, p. 7). The study addresses four broad topics: water resource demands, water resource availability, flood and drought management strategies, and coordination mechanisms. The goal has been to produce the technical and strategic information required to develop a basin-wide management plan for water resources.

The Interstate Compacts

One significant result of the \$27 million comprehensive study was agreement among the three states that the water resource issues should be resolved in the context of two interstate compacts—one for each basin (Moore, p. 7). In early 1997, Alabama and Georgia entered into the ACT Compact, and Alabama, Florida, and Georgia entered into the ACF Compact. On November 20, 1997, President Clinton signed the legislation that provided Congressional approval of the compacts.⁶

The essence of the ACT and ACF compacts is the agreement to negotiate an "equitable apportionment" of the surface waters in each basin (Moore, p. 7). Neither compact contains an allocation itself; rather, the compacts establish a Compact Commission for each basin, which can approve an allocation formula for the next 50 years.

To understand the context within which the new Compact Commissions must seek an "equitable apportionment" of the surface waters in these river basins requires a review of the legal framework for resolving water allocation disputes that has evolved in the United States over the past two centuries.

Water Allocation Law and Interstate Water Disputes

State Water Allocation Laws

State governments have been primarily responsible for defining rights relative to the quantity of water used (Cox, 1981, pp. 108-109). Much of the state water law that still governs public and private relationships as they pertain to water resources in the United States is not a product of legislation. Rather, it is the cumulative product of court decisions. The judicial rule-making process, referred to in the legal literature as the "common law" process, is a mechanism of long standing in the United States, with historical roots in English common law. Although the courts in the United States inherited a body of general principles from England, the body of common law that emerged over time was shaped by the kinds of disputes brought before the courts, and by the tendency of courts to adhere to precedent (Brion, 1979). That is, courts of a jurisdiction

typically applied certain principles to similar cases, and as the disputes presented to the court covered a variety of basic issues, the courts evolved a comprehensive body of judicial doctrine pertaining to water allocation disputes.

In general, water law has evolved separately for each of several phases of the hydrologic cycle. Accordingly, specialized doctrines of watercourse law, groundwater law, and diffused surface water law have evolved. Moreover, western jurisdictions produced water law doctrines that are distinctly different from those produced in eastern jurisdictions. Finally, a number of states have initiated basic changes in water law by legislation and the creation of administrative bodies with regulatory authority.

The issues concerning the ACF and the ACT basins are surface watercourse issues. Water law has seen its greatest development with regard to water in streams because surface water bodies were, historically, the first to be developed for water supplies and power (Cox, p. 190). Two basic doctrines of watercourse law evolved as the individual states, through custom and case law, resolved water rights issues: the "riparian doctrine" in the east and the "doctrine of prior appropriation" in the west. Some states have applied the two doctrines jointly, and others have adopted legislation creating various forms of administrative water law. However, the riparian and prior appropriation doctrines still form the basis of water law for most states.

Prior Appropriation Doctrine

The doctrine of prior appropriation developed in the western states and is still predominant in those states (Carriker, p. 5). The basic principle of water rights under the doctrine of prior appropriation is "first in time, first in right." In principle, the rights of water users of a common water source are ranked in the order of the dates on which each water use was initiated. The right of an earlier (senior or prior) appropriator is superior to that of a later (junior or subsequent) appropriator.

The doctrine of prior appropriation was originally developed as common law, and its basic concepts were refined through the judicial process. However, most western states have adopted water use

legislation and have established detailed administrative procedures for implementing the water allocation function of the doctrine (Carriker, p. 6). The water right under prior appropriation is initiated by application of water to beneficial use and does not arise as a function of land ownership. Use of water is not necessarily restricted to land in contact with the watercourse, and water may be transported for productive uses both within and between watersheds. This flexibility as to place of use has been restricted by statute in some states. The water right in most of the western states is transferable. A feature that enables the system of water rights to accommodate new rights is that other appropriators, including junior appropriators, must not be adversely affected by the assignment and exercise of new rights.

The Riparian Doctrine

The riparian doctrine is a collection of judicially developed principles used by the courts in the eastern United States to decide cases involving water-use conflicts (Carriker, p. 4). The basic concept of the riparian doctrine is that private water rights are tied to the ownership of land bordering a natural watercourse. The riparian right is constitutionally protected and cannot be taken without due process of law. The right is of a "usufructuary" nature, meaning, essentially, that it represents a right to use and profit from the water as long as that use does not reduce the quality or accessibility of the water to other riparians.

Two independent theories of riparian rights have been identified: the natural flow theory and the reasonable use theory (Carriker, p. 4). Under the natural flow theory, each riparian owner is entitled to the natural flow of the stream except as diminished by the domestic uses of upstream riparians. Nondomestic uses are permitted only to the extent that they do not perceptibly diminish the natural flow.

The reasonable use theory, on the other hand, is based on the principle that each riparian landowner has the right to make any use of water, provided that the use is reasonable in relation to the needs of other riparian owners (Carriker, pp. 4-5). The reasonable use theory is based on a concept of sharing. The limits of an individual water right are determined by the impact of the water use on others and do not necessarily prohibit a reduction in stream flow.

Critique of the Common Law Dispute-Settlement Process

In recent years, criticism has been directed toward the common law riparian system. The general point of this criticism is that the common law standards of reasonableness and the resolution of conflict through litigation are not adequate to deal with the impending water problems brought on by population and economic growth (Carriker, p. 14).

Critics point to the fact that the common law riparian system restricts the use of stream water to riparian owners on riparian land and asserts that better use may be made at other places by riparian or nonriparian owners (Carriker, p. 14). "Reasonable use" as a condition of the riparian right entails uncertainty for riparian owners, since reasonableness of each use depends, in part, on the needs of other riparian owners, including the unforeseen exercise of a previously unused right as new water uses emerge. Additional uncertainty results from the need for litigation in order to establish the extent of a riparian's entitlement to reasonable use. Critics argue that such uncertainty has costly economic consequences, as when industries refuse to locate in an area for fear that the legal right to water may be diminished in some unforeseen manner. Moreover, critics argue that the courts are incapable of uniformity in application of the law because of their lack of expertise and the inefficiency of a case-by-case approach. The common law dispute-settlement process also is not well-suited to protecting environmental values associated with a watercourse, since environmental quality considerations transcend individual riparian landowner interests.

Administrative Water Allocation Law

In response to criticisms of the common-law dispute-settlement process based on riparian doctrine, several statutory proposals providing for comprehensive regulation of water resources in a riparian jurisdiction have been suggested and/or adopted (Carriker, p. 16). Florida, historically a riparian state, is foremost among states that have adopted aspects of administrative water law. The Florida Water Resources Act of 1972 brought into existence a form of administrative water law based

largely on "A Model Water Code" which had been developed by scholars at the University of Florida's College of Law (Carriker, p. 23). It provided for a system of administrative regulation within the framework of the riparian water law system. It created five water management districts, encompassing the entire state. A nine-member governing board makes policy for each district subject to provisions of the statute, a statewide water policy, and oversight by the Florida Department of Environmental Protection. The districts are required by statute to regulate consumptive use of all waters of the state, all alterations in natural flow patterns of water, and the design and installation of wells. The basic standards for evaluating applications for consumptive use permits are provided by the statute. A proposed water use must be "reasonable" with respect to uses of other riparians, or, in the case of groundwater, to adjacent landowners. The proposed water use must be "beneficial" and must involve only the quantity of water necessary for an economically efficient operation in a use which is consistent with the public interest. Established minimum stream, lake, and groundwater levels are included in the consideration of reasonable beneficial uses and in the granting of permits.

Georgia water law was traditionally based on the riparian reasonable use doctrine (Carriker, p. 24). A 1964 Georgia Water Quality Control Act was amended in 1977 to require permits for withdrawals, diversion, or impoundment of surface water in excess of 100,000 gallons per day and to require limits to permissible use of surface waters. Agriculture was exempt. Competition for limited water supplies was to be managed by adherence to a classification system which assigns priorities. In cases involving a proposed transfer of water outside the basin of origin, consideration must be given to competing intrabasin uses. A state groundwater permitting system was authorized by the Georgia General Assembly in 1972 (Carriker, p. 25). It required a permit for withdrawal of groundwater in excess of 100,000 gallons per day, exempting agriculture. Permit provisions cover timing of withdrawals, protecting against salt water encroachment in coastal regions, adverse effects on other uses, well depth, spacing, pumping levels, and pumping rates.

Alabama law for water allocation and use has not been the subject of significant legislation (Carriker, p. 20). Such law, as exists, is based largely on case law according to which rights to surface water are attached to the ownership of riparian land. Riparian owners cannot convey their rights, and they must use the water only on riparian land. Alabama courts have not clearly distinguished the riparian natural flow and reasonable use theories, having, instead, used both and sometimes mixed the two.

Implications of State Water Allocation Law for ACF Issues

While both Alabama and Georgia adhere to water allocation law grounded in the riparian doctrine, that doctrine, as such, does not clarify which of the two states controls use of water from the Chattahoochee River, which defines the common border between the two states throughout much of its length. Shannonhouse,⁷ writing in 1962, found that the "title to land bounded by a watercourse includes the bed of the stream to the thread or center of the main channel, nothing to the contrary appearing in the landowner's instrument of title." If Shannonhouse is correct, it would appear that, where it comprises their common border, Alabama and Georgia have equal claim to the Chattahoochee River (Erhardt, p. 207). However, the United States Supreme Court ruled in *Alabama v. Georgia* [64 U.S. (23 How.) 505 (1859)] that the west bank of the Chattahoochee River constituted the eastern border of Alabama. The Court found that Georgia specifically intended to maintain control of the river when it sold its rights to all of its territory west of the Chattahoochee in 1802. If the Court's decision in *Alabama v. Georgia* still has the force of law, it may preclude Alabama from now claiming any riparian rights to the Chattahoochee River (Erhardt, p. 208).

Erhardt (p. 209) asserts that observation of the actual use of the Chattahoochee River weakens any argument favoring an exclusive right for Georgia to control the river. While Georgia may have validly claimed the Chattahoochee River to be wholly within its territory, Alabama has always had the right of navigation on the river. Moreover, riparian rights typically accrue to the party owning land abutting a watercourse, without reference to ownership of the

bed of the watercourse. In any case, users along the Alabama side of the Chattahoochee River have done more than simply navigate the waterway: They have been withdrawing water from it (a fact generally known and acknowledged by all parties). Erhardt (p. 210) points to the "doctrine of adverse possession" found in real estate law, whereby a right to use of property may be established *de facto* by a pattern of unchallenged use of the property over a period of time. Finally, Erhardt points to a 1965 agreement between the State of Alabama Water Improvement Commission and the State of Georgia Water Quality Control Board, in which the state of Alabama was delegated regulatory authority over the discharge of waste into the Chattahoochee River by an industrial plant located on the Alabama side of the river.

In summary, the erosion over time of a strict reading of the language by which Georgia ceded land to Alabama, as well as Alabama's open use of the Chattahoochee River as if it were a true riparian system, strengthens Alabama's claim that it has riparian rights to the Chattahoochee River (Erhardt). Since the Apalachicola River, formed by the confluence between the Chattahoochee and Flint Rivers, is bounded on both sides by the state of Florida, no similar doubts as to Florida's riparian status seem to exist.

Methods for Addressing Interstate Water Disputes

If it is granted that Alabama, Florida, and Georgia share riparian status with respect to the ACF River Basin, some basis is required for resolving interstate disputes over the watercourse. Historically, there have been three means by which interstate water conflicts have been resolved: by congressional apportionment; by the doctrine of equitable apportionment, as applied through an exercise of original jurisdiction by the United States Supreme Court; and through the formation and operation of interstate compacts.

Congressional Apportionment

The United States Constitution, Article I, Section 8, gives Congress the authority to apportion waters of interstate rivers through its use of the power to regulate commerce among the states (Erhardt, p.

211). The Supreme Court had originally held in *Kansas v. Colorado*⁸ that congressional apportionment of water rights was not valid under the Constitution. This ruling was overturned over 50 years later, when the Court held in *Arizona v. California*⁹ that Congress' implied powers, especially under the Commerce Clause, allowed for Congressional apportionment of water rights in the Colorado River. However, Congress has generally refrained from applying this power to all interstate water disputes. The only instance in which Congress has apportioned interstate water rights since *Arizona v. California* occurred in 1990, apportioning waters between California and Nevada in the Truckee and Carson Rivers as well as in Lake Tahoe.¹⁰

Congress' manifest reluctance to invoke the Commerce Clause and intervene in interstate water disputes has been attributed to the particular political difficulties attending such action (Erhardt, p. 212). Interstate water disputes are likely to focus on water supplies that are crucial to long-term regional economic development. Congressional intervention would "destabilize the precept that each of the states is equal in the control of shared water resources."¹¹ Moreover, legislators from states not involved in the dispute are reluctant to incur political risk by voting to impose a water allocation that may be unpopular with one or more disputant states. While Congressional apportionment remains a valid option for addressing disputes over the Apalachicola-Chattahoochee-Flint River Basin, the possibility of its use in this instance is remote.

The Supreme Court: Original Jurisdiction and Equitable Apportionment

A second method for addressing interstate water allocation disputes is rooted in the constitutional authority of the Supreme Court over "controversies between two or more States."¹² Additional authority was provided by Congress, stipulating that the Court "shall have original and exclusive jurisdiction over all controversies between two or more States."¹³

Conflict of Laws and the "Doctrine of Equitable Apportionment"

Once the Supreme Court decides to accept original jurisdiction for litigation between or among states, it must confront an issue of applicable law. If the dispute is between two states that use the same doctrine regarding their water rights, then local law can be applied (Erhardt, pp. 212-213). However, where the laws of the states differ, or where the Court decides that the local law will leave one state inequitably disadvantaged, it does not have to rule consistently with local law. Instead, equity is stressed over local rules (Erhardt, p. 213).

The doctrine of "equitable apportionment" resulted from the Court's ruling in the case of *Kansas v. Colorado*¹⁴ in 1907 (Vest, pp. 694-695). This case originated as a "conflict of laws" case. The State of Kansas brought suit in the Supreme Court to prevent Colorado from diverting waters from the Arkansas River. Kansas was a riparian rights state which vested property rights in land owners to the flow of the river "as it was accustomed to run" (an application of the "natural flow" theory of riparian water rights). Conversely, Colorado law adhered to the doctrine of prior appropriation which allows upstream landowners to "appropriate" the waters of a stream "for the purpose of irrigating its soil." The Court decided to apply "interstate common law" and held that the two states were entitled to an "equitable division of benefits" from the river.

Expanded Applicability of the Doctrine of Equitable Apportionment

Although *Kansas v. Colorado* involved a conflict of laws issue, the Court soon expanded the doctrine of equitable apportionment to states which followed similar laws in resolving their internal water rights disputes. For example, in *Wyoming v. Colorado* (1922), both states followed the doctrine of prior appropriation. However, the Court applied a form of the doctrine of prior appropriation that imposed on both states a duty to use the water reasonably (Vest, p. 696). Later in *Nebraska v. Wyoming* (1945), the Court held that although "priority of appropriation is the guiding principle" in equitable apportionment cases, the Court will look to many factors in order to reach a just and equitable result. In *Connecticut v.*

Massachusetts (1931), both states were riparian rights jurisdictions. The Court held that "a consideration of the pertinent laws of the contending States" would be one of several factors the Court would consider in arriving at an equitable apportionment (Vest, pp. 695-696). In *New Jersey v. New York* (1931), the Court held that New Jersey, the downstream state, could not require New York to give up its right to use the river in order that New Jersey would receive an undiminished flow, asserting that "the effort always is to secure an equitable apportionment without quibbling over formulas" (Vest, p. 697).

Limiting the Applicability of the Doctrine of Equitable Apportionment

Beginning with its decision in *Washington v. Oregon* (1936), the Court limited the invocation of the doctrine of equitable apportionment by requiring that the complaining state adhere to a higher standard of proving injury (Vest, p. 697). The Court concluded that Washington had not shown injury by clear and convincing evidence. In *Colorado v. Kansas* (1943), the Court granted Colorado an injunction to prevent Kansas users of the Arkansas River from bringing further lawsuits against Colorado for violating Kansas water right. The Court found that Kansas could not show that Colorado's increasing water diversions had "worked a serious detriment to the substantial interests of Kansas."¹⁵ These two cases indicate the Court's reluctance to adjudicate water rights disputes between states and the Court's preference to have such disputes settled pursuant to the Compact Clause of the U.S. Constitution (Vest, pp. 697-698).

In these cases, the Court required proof of injury in satisfying the ripeness requirement for adjudication. States were required to prove injury by a clear and convincing standard. In a more recent set of cases, the Court has further expanded the burden of proof requirements necessary to sustain an action for equitable apportionment by extending the standard of proof to allegations, in defense of diversions, that reasonable conservation measures by the downstream state could avert any injury to the downstream state when an upstream state proposes to divert water from a river (Sherk, p. 578; as cited by Vest, p. 699).

A final limitation on the doctrine of equitable apportionment is represented in *Arizona v. California* (1963), in which the Court refused to apply the doctrine of equitable apportionment because the Boulder Canyon Project Act, passed by Congress, created its own scheme of apportionment; and, therefore, the Court ruled that it was without power to decide the case (Vest, p. 699). The Court declined to substitute its judgment for that of Congress.

Implications for Interstate Water Allocation Disputes

One component of equitable apportionment is that once a complaining state has proven its injury by clear and convincing evidence, the burden shifts to the state proposing the diversion to justify the diversion by clear and convincing evidence (Vest, p. 701). The justification must show that the benefits of diversion outweigh the detriment to other users or that conservation measures will eliminate the detriment. A second component of equitable apportionment is that the Court will consider the laws of the respective states as only one of many factors relevant to resolving the dispute. In all the cases in which the Court considered equitable apportionment, it has weighed the benefits of diversion against the detriments of opposing users. The doctrine of equitable apportionment has been referred to as the doctrine of "equitable priority."¹⁶ In other words, the Court determines if it is fair to give one user priority over another.

Alabama's lawsuit against the Corps probably could not have been brought as an action under the original jurisdiction of the Supreme Court because Alabama would probably be unable to prove injury by clear and convincing evidence (Vest, p. 700). Although the underlying dispute deals mainly with the method by which the Corps manages the system, the effect of Alabama's complaint could be to deny Atlanta the use of water resources it may rightfully be able to use. In order to avoid this effect, the State of Georgia could consider invoking the original jurisdiction of the Supreme Court to have the water equitably apportioned. Presumably, Georgia would then be required to justify the diversion by clear and convincing evidence.

In any case, there is doubt as to whether the Court is well-suited, institutionally, to render decisions about equitable priority among states. According to some legal scholars, the Supreme Court does not have the expertise needed to sufficiently examine the criteria it has established.

"The Supreme Court as an institution is not equipped to deal with the mass of technical data introduced into evidence in equitable apportionment litigation The technical evidence can tell us what supply we have to divide, how much reservoir evaporation to expect, the amount of return flow, and the point at which it returns to the stream. Evaluating conflicting evidence on these points requires the help of a trained technician, and the tradition of the courts tends to restrain them from securing such help."¹⁷

A state considering litigation before the Supreme Court as court of original jurisdiction is likely to be inhibited by the particular challenges and limitations inherent in application of the doctrine of equitable apportionment. These include the high standards of proof of injury required to establish ripeness, the costs of litigation before the Supreme Court, and the difficulty of representing complex and technical information in defense of states' claims (Erhardt, p. 214).

Federal-Interstate Compacts

Interstate Compacts and the Compact Clause

A third method for addressing interstate water disputes is the interstate compact. A state may enter into a compact with another state pursuant to the Compact Clause of the Constitution which provides that "no State shall without the consent of Congress . . . enter into any Agreement of Compact."¹⁸ *Hinderlider v. La Plata Co.*¹⁹ was the first case in which the Supreme Court was asked to apply the Compact Clause to interstate water disputes (Vest, p. 702). In this 1938 decision, the Court held that a judicial decision was not the sole remedy for interstate water disputes. It found that the Constitution provided two means of adjusting interstate controversies: legislative compact and judicial decisions (Vest, p. 703). The Court also

found that resorting to litigation is never essential unless states are unable to reach an agreement or unless Congress refuses to consent to a compact. The Court ruled that states have the power under the Compact Clause to divide the flow of a river, and that once the states have apportioned interstate water through a compact and Congress has consented, the compact is binding on all citizens of the respective states.

In *Texas v. New Mexico*,²⁰ the Court again ruled that, unless the compact is unconstitutional, "no court may order relief inconsistent with its express terms." The Court added, however, that it would not construe a compact, in absence of an explicit provision to the contrary, to "preclude a state from seeking judicial relief to resolve disputes." Consequently, the Court allowed litigation over the terms of the compact to proceed (Vest, p. 703).

Since Congress first approved a water compact dealing with the Colorado River in 1922, it has approved at least thirty other compacts dealing with various interstate water rights issues (Copas, p. 721).

Characteristics of Interstate Compacts

A key issue underlying the negotiation of interstate compacts pertains to prior appropriation of water for future use. States attempt to anticipate future uses of water and apportion rights accordingly (Copas, p. 719). The enforcement mechanism is an important aspect of any compact, and can take one of two forms.

The first model uses a prescriptive mechanism that provides guidelines for state agencies to implement, delimiting the scope of the arrangements to control the use of the resource and to control the activities of the management agencies themselves. In effect, the agreement becomes the enforcement mechanism for apportioning water rights between the states.

A second approach is the use of a standing interstate commission or agency (Copas, pp. 719-720). Such commissions consist of representatives of each state involved and may include the federal government. Commissions, as permanently standing bodies, can accumulate

information, remain constantly in negotiation, and adapt to changing circumstances. These commissions can retain professional staff, centralizing the collection of information and allowing for resulting efficiencies in communication and negotiation among parties.

Regional Approaches to Water Compacts

Water allocation issues in the Alabama, Florida, and Georgia tri-state area resemble those facing states in other regions of the United States. The Colorado River and the Delaware River both pass through several states, each with conflicting claims to the waters. These conflicting claims have led to the development of three main region-based compacts to deal with water apportionment (Copas, p. 724). These are the Colorado River Compact,²¹ the Upper Colorado River Compact,²² and the Delaware River Basin Compact.²³

The Colorado River Compact. The Colorado River Compact of 1922 is based on the notion of "equitable division and apportionment of the use of the waters of the Colorado River system" and beneficial consumptive use (Copas, p. 725). It provides 7.5 million acre feet of water per year for economically beneficial use to the states of both the upper and lower basin. The compact preserves "present perfected rights" in the beneficial use of the Colorado River, thus reducing the uncertainty of past users. The Compact lacks any kind of standing commission, and any disputes must be addressed on an ad hoc basis. The lack of a standing commission increases transaction costs when a dispute must be addressed. Commissioners must be appointed, negotiations organized, information gathered, and ultimately, a new agreement must be worked out. The Colorado River Compact requires the *ex officio* cooperation of the U.S. Department of the Interior's Bureau of Reclamation and the United States Geological Survey. However, no agency of the United States government was signatory to the compact, and nothing in the terms of the agreement addresses the claims of the federal government. Exclusion of the United States as a signatory is said to limit the effectiveness and efficiency with which the compact addresses water allocation issues in the Colorado River Basin.

The Upper Colorado River Compact. The Upper Colorado River Compact exists specifically to allocate the 7.5 million acre feet of water provided to the upper river basin in the Colorado River Compact (Copas, p. 726). Rather than set fixed numbers, the Upper Colorado River Compact grants to each signatory state a percentage of the stream flow. This apportionment works in conjunction with Article III of the Colorado River Compact to maintain exact proportions, depending on water supplies in the Colorado during times of surplus and shortage. The Upper Colorado River Compact provides for the formation of the "Upper Colorado River Commission." The Commission is authorized to adopt rules and regulations, conduct studies of stream flows and uses, and determine the quantity of the consumptive use of water apportioned by the compact. The Commission represents a mechanism allowing for the flexible application of the terms of the compact. Transactions costs are lowered as long-standing commissioners work together, share information equally available to all, and are available to negotiate anew as circumstances require. The Upper Colorado River Compact requests the President to appoint a commissioner, but, again, the federal government is not a signatory to the compact, and the compact does not bind the federal government to any set level of consumptive water use. In fact, the compact stipulates that nothing within the statute can affect the rights or powers of the United States government in the waters of the upper Colorado river system. The exclusion of the United States government as a signatory is deemed to limit the effectiveness of the compact at addressing water allocation issues.

The Delaware River Basin Compact. The Delaware River Basin Compact²⁴ resulted from water supply concerns for the projected 40 million people who will live within the basin by the year 2010 (Copas, p. 728). The Delaware River Basin Compact represents one of the first attempts to create a truly integrated water allocation mechanism. It accomplishes this by including the federal government as a signatory to the pact, thus replacing the overlapping authority of 43 state agencies; 14 interstate agencies; and 19 federal agencies, with one commission given broad powers for administration of the river basin. By granting generous powers to the

Commission and by providing for the active participation of the federal government, the compact assures a regional approach.

Arguments for a Federal-Interstate Compact

The virtues of the federal-interstate compact, as illustrated by the Delaware River Compact, are typically identified with reference to shortcomings of interstate compacts that do not adequately integrate the federal government into their structure and conduct.

The federal government has neither been a party to the traditional compacts nor been formally committed in any way to support the compact programs The federal government in those situations appears to be little more than an honored observer, without obligation to see that federal plans or programs in the region are coordinated to the maximum extent feasible with those of the states.²⁵

Critics of interstate compacts question the commitment of individual states to the regional approach, noting that the participation of member states has been cautious and hesitant, concerned primarily with preservation or promotion of their individual and parochial interests (Erhardt, p. 224). However, federal-interstate compacts provide states with the opportunity to define their own roles, the roles of other member states, and the role of the federal government. As an on-going process, it enables each party to acquire some control through continuous monitoring of the other parties, and offers a comparatively attractive method by which to resolve interstate water rights disputes as they arise. Otherwise, conflicts end up in court, and the parties are subject to increased costs, lengthy delays, and fewer opportunities for direct negotiation.

The Apalachicola-Chattahoochee-Flint River Basin Compact

In early 1997, Alabama, Florida, and Georgia entered into the Apalachicola-Chattahoochee-Flint (ACF) Compact [Public Law Number 105-104, 111 Statute 2219 (1997)], and on November 20, 1997,

President Bill Clinton signed the legislation that provided congressional approval of the compact (Moore, p. 7). The ACF compact contains agreement to negotiate an equitable apportionment of the surface waters of the ACF basin. The compact does not contain an allocation itself; rather, the compact establishes a Compact Commission for the basin, which can approve an allocation formula for the next 50 years. Each party to the compact has a voting member of the commission, and approval of any allocation must be unanimous.

The ACF and the Federal Commissioner

The language of the ACF Compact is based in part on the Delaware River Basin Compact (Moore, p. 7). While the Delaware Compact provided a template, the ACF Compact differs in certain aspects from that agreement. Most notably, the ACF Compact does not include the federal government as a signatory to, and full voting member of, the Commission. While early negotiations leading up to the ACF agreement included the federal government, represented by the Department of Justice, the states initially agreed on compact language that did not include a major role for the federal government. The Department of Justice and its Congressional allies threatened to withhold Congressional approval of the ACF Compact unless certain recommendations were incorporated into the language of the compact. Accordingly, the final compact provided for a non-voting federal member on the Compact Commission.

The federal commissioner cannot vote (Moore, p. 7); however, the compact stipulates that, if the state commissioners agree on an allocation, the federal commissioner then has 255 days to concur or "nonconcur" in the allocation. If the federal commissioner does not concur, then he must set forth his reasons in writing. According to the compact, "the reasons for nonconcurrence shall be based solely upon federal law." The compact also instructs the federal government and its agencies "to the maximum extent practicable, to exercise their powers, authority, and discretion in a manner consistent with the allocation formula, so long as the exercise of such powers, authority, and discretion is not in conflict with federal law."

Taken together, these provisions suggest that the federal commissioner holds an effective veto over any allocation formula that is not in compliance with federal law.

Allocation Negotiations Under the Compact

The compact commission created a negotiating committee to negotiate and recommend an allocation formula to the commission for approval. The negotiators from each state have met approximately monthly since February 1998. The compact established a deadline of January 1, 1999, for reaching agreement on an allocation formula (Moore, p. 8). However, the compact also permits the states to extend the deadline for up to one year, and in December 1998, with no agreement in sight, the states agreed to the maximum extension, giving themselves until January 1, 2000, to reach agreement.

The negotiations have included broad and continuous stakeholder participation (Moore, p. 8). However, stakeholder input has been largely informal to this point. While the compact provides for a formal "public comment period," that opportunity arises only after the states have reached agreement.

In March 1998, negotiators from each state presented a statement of "principles" on which they would base an allocation formula (Moore, p. 8). These statements of principles revealed some early differences among the states in perceptions of how water resources in the basin should be shared. Alabama and Florida argued that consumptive uses should be defined and allowable limits on consumptive uses should be set. In contrast, Georgia argued for state sovereignty, resisting external limits on consumption patterns, provided minimum state line flows are delivered.

The states also disagreed on how the negotiations should proceed. Alabama urged the states to adopt a framework for the allocation formula and proceed by establishing acceptable definitions (Moore, p. 8). Georgia insisted that the states move directly to the substantive issues of reservoir releases and minimum river flows, leaving definitions and formalities to be

worked out after the parties had reached an agreement in principle.

Given its choice of simulation model by which to generate information to guide allocation decisions, Georgia argued that the large federal reservoirs should be operated "as if drought were imminent," keeping them full until drought conditions require releases to supplement river flows (Moore, p. 8). Georgia summarized this suggestion as a proposed minimum flow that would always be matched or exceeded. Georgia's negotiating position reflects its preoccupation with satisfying the water demands of its rapidly growing Atlanta metropolitan area.

Alabama and Florida opposed this approach. Florida wanted assurances that it would receive a minimum flow only on very rare occasions, proposing instead that reservoirs be operated to mimic the "natural flow regime." Florida is explicit about the environmental and ecological basis for its negotiating position (Moore, p. 9). Florida has received help from the Nature Conservancy in developing its proposal, and the Nature Conservancy has promoted the natural flow regime in other river basins. The Nature Conservancy explains the natural flow regime as one that propagates the natural cycles of flood and drought through the basin, with the frequencies and durations experienced over the period of record. Florida places great economic value on the "natural flow regime," arguing that oysters in the Apalachicola Bay, which account for 90 percent of Florida's oyster production, will benefit from the natural flow regime.

Alabama's proposal focuses on using the federal reservoirs as Alabama claims they were originally intended (Moore, p. 9). The reservoirs in the ACF were planned in 1945, when the 76th Congress authorized the Apalachicola-Chattahoochee-Flint Rivers navigation project. Four large reservoirs were built on the Chattahoochee River, primarily for navigation purposes. Today, however, the reservoirs are very important for recreation and for domestic water supplies. The Corps has used its discretionary authority to permit water withdrawals and to take recreational interests into account in the operation of the federal reservoirs. As the demands on the federal reservoirs have increased, navigation has suffered.

Alabama's proposal points to the original purposes of the reservoirs to argue that they should not be kept full at the expense of navigation and the associated higher water flows.

By December 1998, Alabama, Florida, and Georgia had accepted a common format for the allocation agreement, and each state had issued a full proposal (Moore, p. 10). Several issues remained unresolved, however, including whether to provide for an interim allocation, compensation for adversely affected parties, verification and enforcement, and basic reservoir operating questions. Moreover, the states had not agreed on the choice of simulation models by which to generate information needed to evaluate various stream flow and reservoir management protocols. One observer believes progress has been slow because the public nature of the negotiating sessions tends to restrict the candidness of the negotiators and limits their incentives to compromise (Moore, p. 9).

The National Environmental Policy Act and the Federal Commissioner

In 1998, President Clinton named Lindsay Thomas as federal commissioner for the compact (Moore, p. 7). Thomas is a former Georgia congressman and president and CEO of the Georgia Chamber of Commerce.

Commissioner Thomas was careful to avoid debate or comment on the various allocation proposals advanced during the first rounds of negotiations. However, his office and a dozen federal government agencies maintain a keen interest in the negotiations. Their interest is structured in large part by requirements set forth in the National Environmental Policy Act²⁶ (NEPA) of 1969. NEPA requires that the federal commissioner prepare an Environmental Impact Statement (EIS) and a Record of Decision before he issues a letter of concurrence or nonconcurrence with respect to any agreement negotiated by the three states that are party to the compact (Moore, p. 10). The United States Army Corps of Engineers has been designated the lead agency for purposes of preparing the EIS, although more than a dozen federal agencies are participating in the process.

The Corps immediately recognized that analyzing the environmental, social, and economic impacts of a 50-year water allocation formula covering large portions of three states would be a tremendous undertaking, and that the 255 days provided by the compact for the federal commissioner to concur or nonconcur with a selected allocation formula will not be enough time to complete an EIS for each formula (Moore, p. 10). The Corps has had to move ahead with the NEPA process on a schedule parallel to the negotiations themselves. Accordingly, the Corps is analyzing the impacts of a decision that will respond to an as-yet-unknown allocation formula.

To address this problem, the Corps has prepared a draft EIS that evaluates a high-, medium-, and low-flow scenario (Moore, p. 10). The Corps' analysts hope that these flow conditions will "bracket" the actual formula developed by the Compact Commissions. The lack of specificity under this approach leads the Corps to describe this NEPA document as a "programmatic EIS," which takes a broad look at the overall impacts, leaving local detail regarding the implementation of an allocation agreement to future NEPA investigations which will take the form of new, site-specific environmental assessments.

Another factor bearing upon the complexity of the EIS requirements stems from the sheer number and diversity of federal government agencies involved in the NEPA process (Moore, p. 10). These include the Environmental Protection Agency, the Fish and Wildlife Service, Southeastern Power Administration, U.S. Geological Survey, Department of Agriculture, U.S. Forest Service, U.S. Park Service, Maritime Administration, and the National Oceanic and Atmospheric Administration. Each agency has a different interest in the allocation and each is identified with different stakeholder groups and with different authorizing and appropriations committees in Congress.

Current Status

The January 1, 2000, deadline came and went without significant progress in negotiations. The failure to complete negotiations was, perhaps, not surprising, given the limited progress on substantive issues from the first months of negotiation in 1998.

At one point, Georgia indicated that it may proceed with construction of the proposed reservoir in western Georgia that spurred controversy in the first place (Moore, p. 66). While all three states have announced a preference for avoiding litigation, each has said it is prepared for litigation if necessary. Meanwhile, the commissioners have voted another one-year extension of the deadline for completing the negotiations, and have contemplated engaging the services of a professional mediating team.

Conclusion

One observer has described the Apalachicola-Chattahoochee-Flint River Basin Compact negotiations as the Comprehensive Study/Interstate Compact/Negotiated Allocation Formula approach (Moore, p. 66). If negotiations on formulae for allocating the waters of the river basin eventually succeed, this approach may form the new paradigm for resolving interstate water disputes, especially in the eastern United States.

Despite the slow start experienced by the negotiating teams, the ACF process is a potential model for resolving future water disputes for several reasons. First, the Supreme Court has indicated its preference for this kind of effort, and has shown an unwillingness to assume original jurisdiction and preside over judicially determined equitable apportionment. Second, the ACF and ACT models have included a comprehensive study of the water resources of the two basins. As demands for domestic water supplies continue to grow, and as competing demands for recreational, environmental, and commercial fishery amenities of the resource intensify, complex water resource studies will be required in order to generate information by which to support water management protocols. Third, the ACT/ACF Compacts may have identified a viable role for the federal government. Some states oppose voting membership on a Compact Commission for the federal government. Yet the federal government is obliged, by numerous and diverse statutory mandates, to play an instrumental role in decisions concerning the management and use of water, and must therefore be involved in decisions concerning the interstate allocation of water. Therefore, the non-voting federal commissioner, who must concur in the ultimate

allocation decision of the states, may represent a workable compromise. In any event, the ACT/ACF process represents the most recent interstate compact negotiations, as well as the most complex. Any future efforts to craft a solution mechanism for interstate water allocation issues will benefit from the ACT/ACF experience.

Progress has been made, regardless of the status of negotiations. The Comprehensive Study represents the region's most complete data base of hydrologic information. It will be the single, most complete source for information on water demand from all uses, the economic value placed on these uses, and projected changes in patterns of water use over the next 50 years (Moore, p. 67). And finally, the representation of environmental concerns to be served by a "natural flow" criteria for controlling levels and flows in the rivers is unprecedented in the history of interstate compact negotiations.

References

- Brion, Denis J. *A Compendium of Water Allocation Law in the Eastern United States*. Lexington, VA: Washington and Lee University School of Law, 1979.
- Carriker, Roy R. *Water Law and Water Rights in the South: a Synthesis and Annotated Bibliography*. Mississippi State, MS: Southern Rural Development Center Synthesis-Bibliography Series No. 16, November 1985.
- Copas, David N., Jr. "The Southeastern Water Compact: Panacea or Pandora's Box? A Law and Economics Analysis of the Viability of Interstate Water Compacts." *William and Mary Environmental Law and Policy Review* 21, no. 3 (Summer 1997): 697-734.
- Cox, William E. "Water Law Primer." *Water Resources Planning and Management Division, Proceedings of the American Society of Civil Engineers* 108 (March 1982): 107-122.
- Erhardt, Carl. "The Battle Over 'The Hooch': Federal-Interstate Water Compact and the Resolution of Rights in the Chattahoochee River." *Stanford Environmental Law Journal* 11 (1992): 200-228.
- Moore, Grady C. "Water Wars: Interstate Water Allocation in the Southeast." *Natural Resources and Environment* 14, no. 1 (Summer 1999): 5-10, 66, 67.
- Vest, Robert E. "Water Wars in the Southeast: Alabama, Florida, and Georgia Square off over the Apalachicola-Chattahoochee-Flint River Basin." *Georgia State University Law Review* 9, no. 3 (April 1993): 689-716.
- Additional Notes:**
3. Vest cites *Long-Term Water Supply Needs of the Atlanta Region from the Apalachicola-Chattahoochee-Flint River Basin and the Operation of Buford Dam and Lake Sidney Lanier in Meeting Those Needs, 1991: Hearing Before the Subcommittee on Water Resources of the House Committee on Public Works and Transportation*, 101st Congress, 2d Session, 1990.
 4. Vest cites, *Downstream Impacts of Water Supply Allocation and Management Along the Apalachicola-Chattahoochee-Flint River Basin and the Alabama-Coosa River Basin: Hearing Before the Subcommittee on Water Resources of the House Committee on Public Works and Transportation*, 101st Congress, 2d Session, 1990.
 5. Erhardt cites *Memorandum of Agreement by, between, and among the State of Alabama, the State of Florida, the State of Georgia, and the United States Department of the Army*, January 3, 1992 (on file with the *Stanford Law Journal*).
 6. *Apalachicola-Chattahoochee-Flint River Basin Compact*, Pub. L. No. 105-104, 111 Stat. 2219 (1997); and *Alabama-Coosa-Tallapoosa River Basin Compact*, Pub. L. No. 105-105, 111 Stat. 2233, 1997.
 7. Shannonhouse, Royal G. "Common Law Rules Regarding the Use of Surface and Groundwater in the Southeastern States." *Water Law and Policy in the Southeast: Papers Prepared for Presentation at the Southeastern Water Law Conference*, University of Georgia, November 7-10, 1961, 1962, p. 7. (As cited in Erhardt, p. 207).
 8. 206 U.S. 46 (1907). See also, Copas, page 714.
 9. 373 U.S. 546 (1963). See also, Copas, page 714.
 10. Public Law Number 101-618, 104 Stat. 3289, Title II (1990).
 11. Sax, Joseph L., Robert H. Abrams, and Barton H. Thompson, Jr. *Legal Control of Water Resources: Cases and Materials*, second edition, 1991, p. 137. (As cited in Erhardt, p. 207).
 12. U. S. Constitution, Article III, Section 2, Clause 1.
 13. 28 U. S. Code, Section 151(a)(1) (1993 & Supp. 1997).
 14. 206 U.S. 46 (1907).
 15. 320 U.S. 383 (1943).
 16. Vest, page 701, cites: Sherk, George W. "Equitable Apportionment after *Vermejo*: the Demise of a Doctrine." *Natural Resources Journal* 29 (1989): 565.

17. Erhardt, page 213, cites: Meyers, Charles, and A. Dan Tarlock. *Water Resource Management*, second edition, 1980, pp. 401-402.
18. U.S. Constitution, Article I, Section 10, Clause 3.
19. 304 U.S. 92, 104 (1938).
20. 462 U.S. 554 (1983).
21. Colorado River Compact, *Colorado Revised Statutes Annotated*, Section 37-61-101 (West 1990).
22. Upper Colorado River Compact, *Colorado Revised Statutes Annotated*, Section 37-62-101 (West 1990).
23. Delaware River Basin Compact, *Delaware Code Annotated*, Title 7, Section 6501 (1974).
24. Public Law Number 87-328, 75 Stat. 688 (1961).
25. Erhardt, page 224, cites: Tarlock, A. Dan. *Law of Water Rights and Resources*, 1991, pp. 94-95.
26. 42 United States Code, Sections 4321 *et seq.*