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Pre-Conference Statement for the Session on:

“Integrating Environmental, Cultural and Other Values in Water Law and Policy”

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“Allocating and Managing Water for a Sustainable Future: Lessons from Around the World”

Natural Resources Law Center
University of Colorado School of Law

June 11 – 14, 2002

Editor’s Note: The following document is a draft and incomplete chapter, prepared by the Session Coordinators in order to help steer and organize the initial thinking of the panelists, and to serve as a reference for conference attendees. Upon completion of the conference, this material will be revised and integrated with material from the panelists and will reflect ideas raised at the conference. Ultimately, it will comprise a chapter in a book based on the conference. Given that this is a working document, the authors should not be directly quoted, and the draft nature of the document should be noted in any use of, and references to, this work.

Contents

1. The Problem: Protecting Public Values in Systems of Private Rights...	3
A. State Laws Create “Rights” That Allow Use Of Water For Private Gain.....	4
B. Public Interests and Values	6
2. Public Interest Protection.....	6
A. Public Interest Review	8
B. Area of Origin Protection Laws.....	9
C. Public Trust Doctrine	10
D. Instream Flow Maintenance Programs	11
E. Reserved Rights for Federal Public Lands	11
F. Environmental Regulation	12
1. Environmental Impact Assessment Requirements.....	12
2. Clean Water Act.....	13
3. Riverbed and Wetland Protection	13
4. Endangered Species Protection.....	14
5. Federal Power Act.....	15
6. Wild and Scenic River Designation	16
7. River Restoration Laws	16
G. Ad Hoc Negotiations and Other Collaborative Processes.....	17
H. Conclusion.....	18
3. Indigenous Rights and Interests	19
A. A Brief History of Indian Water Rights.....	20
B. Tribal Rights are Determined by State Courts.....	24
C. Negotiated Settlement of Indian Water Rights Claims as an Alternative to Litigation	26
D. Current Issues	28
1. Finality of Determinations of Rights.....	28
2. Water Marketing	30
3. Tribal water codes and administration	31
4. Use of Rights for New Purposes	33
E. Conclusion	35
	**** <i>end of draft material</i> ****
4. Critique and Conclusions.....	35
Bibliography	36

1. The Problem: Protecting Public Values in Systems of Private Rights

In the American West, as in most societies of the world, water is a public resource of which private uses are allowed according to rules designed to protect and enhance broad public values. Not everyone would agree on the definition of “public values,” but they generally attach to services that water provides that are important to large numbers of people in society, and they often are difficult to quantify in monetary terms. A few examples illustrate the diverse services provided by water in the arid and semi-arid American West: preservation of biological diversity in healthy, functioning aquatic ecosystems; opportunities for aesthetic appreciation and spiritual renewal; recreational activities such as fishing, boating, swimming, bird watching, hiking, and scenic driving; cultural identity and historical activities related to streams and lakes; and concerns for future economic opportunities dependent on reliable water supplies. Some of these services result in commercially valuable activities and industries; others lack easily measured monetary value but nonetheless support the economic well-being of society.

Since the first non-Native people came to the United States, the task of water law has been to allocate water to individuals and enterprises for utilitarian purposes and thus further a broad public interest in economic expansion. Until it was so allocated, water remained a public resource. Private uses allowed by law, however, could come into conflict with public uses. For example, occasionally the public’s right to use waterways for boating came into conflict with uses that obstructed or depleted the flow of streams, or water contamination impaired domestic water uses. Only in recent years has the law recognized that the rights of the public can be strong enough to trump individual economic uses.

Two phenomena have combined to create a greater consciousness of the public’s interest: (1) scarcity of water sources; and (2) an increased understanding of the interconnection of forms of life (including human life) that are dependent on ecosystem health. Scarcity of water in the United States results in part from a growth in urban demand and in part from the demand for free-flowing streams to sustain ecosystems and for human recreational uses. Because most useful sites for major water projects have been developed or are off-limits for environmental reasons, the old response to water problems – developing new sources with structural projects – is no longer viable.

Most states’ water laws included nominal protections for the public interest, but historically these public rights had little significant impact on utilitarian purposes. Recently, however, state and federal laws have given more substantial, if uneven, protection to the public interest. Today, there are many legal mechanisms for protecting the public interest. Some are imposed at the point when waters are appropriated or when an existing use is changed. Some apply when a dam or other major structure is built. Federal environmental laws have proven the strongest mechanisms for asserting and protecting diverse public interests.

In this section we examine the roots of competition between public and private rights. In section II, we examine the means that have been adopted by state and federal legislatures and, in some cases, by courts to ensure that public interests are protected, with a particular emphasis on environmental protection. Section III focuses on Indian water rights, which raise legal and equity issues similar to public interest concerns but are administered in a unique legal framework with a different set of problems.

A. State Laws Create “Rights” That Allow Use Of Water For Private Gain

Water law developed differently in the eastern and western parts of the United States. In the East, landowners along streams and adjacent to lakes held “riparian rights” to the waters for the benefit of their lands. Although “pure” statements of the law said that the landowner’s right was to the full flow of the stream, undiminished in quantity and quality, the law virtually always allowed water to be diverted from the stream by other riparian landowners for uses on their lands. The riparian doctrine envisions water users on a particular watercourse sharing the water equitably, as expressed in the “reasonable use” rule. In the West, by contrast, rights to use water were based on “prior appropriation” – the idea that the first person to put water to use should have a right to continue that use regardless of subsequent diversions by others, upstream or downstream. The prior appropriation doctrine explicitly allows an appropriator to put water to use far from the stream of origin—even in another watershed.

These contrasting approaches reflect differences in the availability of water in the two regions as well as historical differences in land ownership and use. The West is drier than the East, and the availability of water varies tremendously seasonally and geographically. Thus, public policies developed in the middle of the nineteenth century aimed at providing basic human necessities and favored the productive use of water by permitting citizens to establish private rights and to protect their uses under the law. In those days the land was almost entirely federal property or “public land” but the federal government did not dictate the manner of allocating water rights. Indeed, it allowed states to create their own systems of assigning rights to use water located on government land.

In this way, the government encouraged investments in irrigation systems to serve lands granted to private parties by the government and investments for mines located on public lands. Like a subsidy, giving private parties free rights to use water created an incentive to economic activity that was considered necessary to accomplish regional and national goals of expansion and growth. This was consistent with the government’s desire to promote western expansion and with local economic development efforts.

Given the settlement patterns in this region, other departures from eastern water law were necessary. For example, an appropriator did not need to be a landowner inasmuch as most of the land in the West in the nineteenth century was the property of

the federal government until it was patented (transferred) to homesteaders, miners, states, or railroads under various government programs. Rights could be lost, however, if the holder of the rights discontinued the beneficial use.

Today, rights in both eastern and western states are managed largely under permit systems, with administrative agencies issuing permits and administering water use according to rules most of which have been codified. Not every state has a permit system; Colorado, for instance uses courts in place of administrative agencies. There are also marked differences among state programs. But rights to use water – even under administrative permit systems – are generally considered a form of property.

The property in water use is novel in two ways. First, it is not a possessory right like rights to real or personal property that allow the owner to exclude others from access to or use of land or personality. Second, under Anglo-American law (as under the legal systems of many cultures) water is considered a public resource in which all members of society have an interest. Yet, as described above, the law provides means for private entities to hold property rights in use of the resource – “usufructuary rights.” Most courts and commentators have said that these private rights must be created and exercised in ways that are consistent with the public’s interests.

One attribute of the special kind of property right in water is that most systems have allowed the rights to be transferred. The West’s prior appropriation system did not restrict water rights to use on a specific plot of land or to a specific type of use. Instead, water rights could be transferred by one user to another and water could be used wherever technology and economics would let it be moved. Thus, as the region’s economies matured, its water rights system could adapt to satisfy growing and competing demands. Even in the East, where water rights were ostensibly attached to specific land, exceptions were made by courts to allow water use on non-riparian lands in order to satisfy economic and social demands.

An appropriator’s capacity to transfer a water right — that is, to transfer legal priority to use a quantity of water for a beneficial purpose — is a fundamental element of the “property” that the law recognizes in water use. The transfer of water rights is subject to the condition that a change of use should not damage the water rights of any other water user. This rule of “no injury” is the only universal restriction against water transfers. Initially some states also limited transfers with other restrictions, but those restrictions have largely fallen with the need to move water from agricultural to urban uses. Meanwhile, legislatures have imposed other restrictions that were considered necessary to protect the public interest.

B. Public Interests and Values

When water is allocated, developed, or transferred, interests of the public are often affected. Almost any new or changed use of water has some effect on interests or values of the public, potentially depriving existing users of quantities of water, changing the flow of streams, or affecting water quality. The effects include:

- Environmental impacts, including reduced streamflows, loss of wetlands, damaged ecological systems including fish, wildlife, and riparian vegetation, and diminished water quality;
- Harm to other public values that are difficult to quantify, such as aesthetics and loss of recreational opportunities;
- Economic and social effects including the loss of income, employment, and business opportunities.

Even pumping groundwater can have adverse effects where there is a connection between surface water and groundwater. Extraction of groundwater can alter surface flow with potentially adverse effects on vegetation and riparian habitat. The impacts are most frequently realized in the American West today as agricultural water rights are converted to urban uses. Drying up formerly irrigated lands can lead to soil erosion and blowing dust and the invasion of noxious weeds.

Historically, the emphasis on encouraging private investment and settlement in the West meant that these impacts received little consideration and no means of legal protection. The “pure” prior appropriation doctrine required that water be physically removed from a stream and put to a recognized beneficial use in order to claim a legally protected water right. Thus, those who enjoyed the instream benefits of water—recreational boaters, anglers, resort owners depending on scenic vistas, for example—could not claim a water right to assert their interests against those coming later to divert water from the stream. Similarly, courts and administrative agencies did not aggressively assert broader public interests in water in years in which early water users established the most senior water rights. The following section examines the tools available for such protection as well as new approaches developed in recent years.

2. Public Interest Protection

Generally, three types of activity affect the public’s interest in streams: (1) diversions that deplete streamflows; (2) structures such as dams that obstruct streams and change flow patterns and temperatures; and (3) discharges that pollute waterways. The first type of activity falls within an ambit that has been governed by state law. The other two are largely regulated by federal law. Because of a tradition in the United States of

allowing states to allocate quantities of water according to their own laws, the federal government's environmental protection programs have raised federalism issues. As a legal matter, the federal government has ample power to preempt state laws, but there is political resistance to national legislation and administrative actions that conflict with state water laws. Although state laws recognize water as a public resource, states have done little to protect the public's interest.

This failure cannot be attributed to lack of legal authority. The earliest state legislation or constitutional provisions asserted that grants of private rights in water must be consistent with the public interest or public welfare. Other laws were more specific in preserving particular social or economic interests, especially agriculture. For instance, some laws said that agricultural uses should be protected and speculation should be prevented in water. Some state laws made water rights appurtenant to specific lands and flatly prohibited their transfer.

Most water rights systems attempt to limit or prevent adverse impacts on the public from water uses at the time new users obtain permits. This type of protection, however, is neither universal nor even among different states or adequate in most states. Processes limited to water rights holders exclude individuals and other entities that experience economic, environmental, and social impacts from water use and development but are not legally recognized water users. There is pressure in most jurisdictions to include all such affected interests in the process of determining whether the public interest is served by a proposed water decision. This is the primary means for dealing with the public interest in state water laws.

Some states have laws regulating transfers away from a watershed or locale that are intended to protect the area of origin. Local governments, Indian tribes, and rural communities in the area where water originates frequently suffer the greatest effects when water decisions benefit more populous areas or interests with greater political or economic power. For example, water removed from nearby water sources and used elsewhere may inhibit the future development of local communities. Water taken out of existing agriculture and transferred elsewhere may reduce agricultural employment in the area and impact agriculture-related businesses. For their part, municipalities that are required by law to maintain a certain water quality may find that reduced streamflow will increase their costs of treating sewage because it is more difficult to dissolve the discharged waste to meet water quality standards. As tax bases decline and local businesses suffer there is a resulting decline in the ability of the local government to provide services to citizens. The area, in turn, becomes less attractive to new businesses. Social impacts of water allocation, development, and transfer include changes in community structure, cohesiveness, and control of natural resources.

Public interest concerns are often addressed indirectly through state laws creating programs to protect instream flows. In addition, strong federal laws protecting endangered species, water quality, and wetlands provide additional support for the public

interest. Laws that attempt to protect the public's interest in water must address how to represent values other than those of water rights holders. Public agencies usually receive comments from parties directly involved in decisions concerning the allocation, development, and transfer of water rights. Sometimes members of the public also can comment; unless individuals have water rights, however, they are "third parties" to the transaction and historically they lacked a voice in the process. Modern laws have begun to include various interests who were affected by the allocation of water rights or other decisions concerning water use in decision-making processes.

Opportunities to protect the public interest arise in the water decision-making process when water is allocated to new uses, new projects are proposed, and when water uses are changed or transferred. The discussion below describes several methods to integrate public values and assesses their effectiveness. We conclude that there is considerable potential for the programs now in use in the United States but that they now provide incomplete protection for the interests of the public.

A. Public Interest Review

State laws often stipulate that water allocation must be consistent with the "public interest" or "public welfare." In practice, states rarely deny new uses or transfers in order to protect the public interest, but instead impose additional conditions on the appropriation or transfer. Some state laws specifically protect an area of origin from movement of water to another area or watershed. In the absence of statutory protection for the public interest courts have invoked the "public trust doctrine" to review existing water allocations. A few examples illustrate the diversity of states' public interest review.

State law requires Idaho's Department of Water Resources director to determine whether a proposed water use is in conflict with "the local public interest," but the statute does not define this standard (Idaho Statutes, sec. 42-203A). Therefore, the Idaho Supreme Court has read the statute with reference to other laws of Idaho and of other states that define the public interest (*Shokal v. Dunn*, 707 P.2d 441 (1985)). Following that ruling, the Director of Water Resources has convened hearings aimed at reaching decisions that ensure "the greatest benefit possible to the public [from public waters] for the public" (*Shokal v. Dunn*, 707 P.2d at 448 (citing *Young & Norton v. Hinderlider*, 15 N.M. 666, 110 P. 1045, 1050 (N.M. 1910))). Affected citizens can present evidence about matters such as aesthetics, recreation, fish, and ecosystem functions that will be impacted by the proposed water decision. The agency considers not only benefits to the applicant but also economic effects, alternative uses, minimum stream flows, wastewater, and conservation.

Not all states apply the same public interest requirements to changes of use or transfers that they impose on new appropriations. The Supreme Court of Utah, however,

upheld the application of the same criteria to changes in use that it applies to new appropriations (*Bonham v. Morgan*, 788 P.2d 497 (1989)). In Nevada, a statute requires the state to reject an application for a water transfer that would result in damaging the public interest (Nevada Revised Statute, sec. 533.370(3)). Wyoming, one of the few states with a special process to evaluate transfers, considers potential economic losses to the community relative to the benefits of the transfer and the availability of other sources of water (Wyoming Statutes Annotated, sec. 41-4-503). California, through the State Water Resources Control Board, reviews proposed transfers to determine if they would cause an unreasonable effect on the economy in the area of origin or on fish, wildlife, or other water uses (California Water Code, sec. 109).

Although almost every state in the West, except one Colorado, uses some type of process to review the public interest in water decisions, all could improve the way in which they review the effects. The majority of the states lack clear standards to define the public interest that they are trying to protect. Many of the social, economic, and ecological interests affected by water allocation, transfer, and use are simply not included in the considerations of state agencies. If the elements constituting the public interest were comprehensively articulated, government employees could use them as a guide for state policy in resolving conflicts among competing interests and to understand better the tradeoffs inherent in any water decision. Comprehensive water planning is another way to articulate both the elements of the public interest and state policies related to them.

B. Area of Origin Protection Laws

The prior appropriation doctrine historically did not limit where water was used. A few states have enacted special laws to limit water transfers from one watershed to another. These “area-of-origin protection laws” provide a specific type of public interest review that focuses on the area where water originates. Such restrictions apply to new appropriations as well as to transfers of existing rights.

California’s population distribution depends on removing huge quantities of water from sparsely populated areas with copious water to growing cities where water demand is high. On paper, the legal protections for areas of origin in California are strong. For example, one state law gives an exporting area an absolute priority to the future use of the water over the priority of the importing area (California Water Code, sec. 10505). Another law reserves to the county of origin all of the water necessary for its future development (California Water Code, sec. 10505.5). As a practical matter, however, it would be difficult for an area or county of origin to stop exporting water and to cut off an urban area that has grown dependent on it. Montana has a law that requires participation of the state in transfers of water out of a watershed; large transfers are limited and the state is obliged to consider public interest factors (Montana Code Annotated, sec. 85-2-402(5)). An Arizona law gives irrigation districts a veto over exports of water beyond their boundaries (Arizona Revised Statutes, sec. 45-172(5)).

Colorado allows conservation districts to make transbasin diversions from the watershed of the Colorado River only if they will not inhibit or increase in cost the present or future water supply for the exporting area (Colorado Revised Statutes Annotated, sec. 37-45-118(1)(b)(II)). The law is interpreted to require districts that import water to the eastern side of the Rocky Mountains to construct special reservoirs for “compensatory storage” in the watershed of the Colorado River (*Colorado River Water Conservation District v. Municipal Subdistrict, Northern Colorado Water Conservancy District*, 610 P.2d 81, 84 (Colo. 1979)). There are no similar restrictions against large cities such as Denver that import the majority of the water from distant watersheds in Colorado.

State restrictions designed specifically to inhibit transfers of water beyond state borders raise constitutional problems. The United States Supreme Court has decreed that water is essentially an “article of commerce,” and restrictions that discriminate against interstate commerce violate the Commerce Clause of the United States Constitution (*Sporhase v. Nebraska*, 458 U.S. 941, 953-54 (1982)). To be constitutional, the regulation of water use must be impartial, treating equally users of water within and without the state.

C. Public Trust Doctrine

The examples described above require public interest review before a new water use or changed water use is approved. In some instances, however, courts have held that a state’s decision to permit private use of public resources can be voided when water rights are allocated or transferred without review of the public interest (*National Audubon Society v. Superior Court*, 658 P.2d 709 (Cal. 1983); *In re Water Use Permit Applications*, 9 P.3d 409 (Hawaii 2000)). The public trust doctrine recognizes that water is fundamentally a public resource and that private interests in it should be advanced without inhibiting the public benefits of using it. As applied, the doctrine allows a court to reexamine established water rights in order to ensure that public values are protected, including the public value of environmental protection. The doctrine has its origins in civil and common law principles that recognize that recognize the public servitude such as the right of passage over navigable waters and the states property rights in the beds of navigable waters.

D. Instream Flow Maintenance Programs

In recent years almost all the western states have passed laws protecting instream flows. These states either appropriate water rights to themselves that are used to maintain streamflow levels or they remove from appropriation by private parties the amount of water that is necessary to maintain desired flows. At present, only Arizona and Alaska permit individuals and private organizations to appropriate waters for instream flows. In all other states only a state agency can hold the right.

Statutory programs to protect streamflows are criticized for being ineffective because typically by the time a state appropriates rights for instream flows, the water in the stream has already been fully appropriated by others. Therefore, the state's new instream flow appropriations are so junior in time that it is possible for senior rights to dry up the stream most of the time.

Some states, however, permit the state to buy or accept donations of senior water rights with priorities sufficient to maintain streamflows all or most of the time. Ultimately, effective protection of the streamflows will depend on the acquisition of senior water rights in most western streams. Private groups in some states have formed "water trusts" to finance purchases of senior water rights; these rights must be transferred to the state agency authorized to hold instream flow rights unless the state allows private entities to hold them.

Instream flow protection laws do not always protect all of the public uses for which flowing water is needed. The Colorado statute permits appropriations of a quantity of water sufficient "to protect the natural environment to a reasonable degree" (Colorado Revised Statutes Annotated, sec. 37-92-102(3)). The state board that holds the rights has interpreted this language narrowly and has used it almost entirely to protect cold-water fish such as trout. Thus, the law is unavailable to protect water quality, riparian vegetation, wetlands, or recreation.

E. Reserved Rights for Federal Public Lands

In much of the West, large expanses of land are owned by the federal government and managed for multiple public values. The government has reserved some of these lands for specific public purposes that require water: national forests, wildlife refuges, recreation areas, wilderness areas, and military bases. Although military bases require water for traditional consumptive uses, many of the other land designations may require water for instream flow uses.

The doctrine of federal reserved water rights says that the federal government, when setting aside lands for public purposes that require water, impliedly reserved rights water sufficient to fulfill those purposes (*Arizona v. California*, 373 U.S. 546 (1963)).

This is a court-made doctrine that traces to precedents dealing with the establishment of Indian reservations and its development is discussed below in Part III (*Winters v. United States*, 207 U.S. 564 (1908)). In the context of federal public lands, however, the U.S. Supreme Court has read the doctrine restrictively to limit rights to the minimum amount of water necessary to accomplish the explicitly articulated federal purposes of each reservation (*Cappaert v. United States*, 426 U.S. 128 (1976)). It has also construed legislation creating federal reservations narrowly. For instance, national forests do not have reserved water rights for the instream flows needed for fish and wildlife because they were created primarily to provide a supply of timber (*United States v. New Mexico*, 438 U.S. 696 (1978)). In any event, the U.S. government has rarely taken action to enforce reserved rights, even where it has been found to have such rights.

F. Environmental Regulation

Environmental laws that deal with the protection of water quality, wetlands, and endangered species indirectly deal with the effects of water allocation, development, use, and transfer. Nearly all these laws are federal and therefore federalism concerns arise when they conflict with or curtail the uses of water under state water rights. With the exception of state statutes required to implement federal programs, state environmental laws are generally not very strong or effective in protecting the public's interest in water.

The sections below summarize the provisions of major federal laws that impact water allocation and management. In section G we discuss collaborative approaches, which typically work outside of established institutions. These approaches frequently are used when the actual environmental regulations are enforced.

1. Environmental Impact Assessment Requirements

The National Environmental Policy Act of 1969 (NEPA) (42 U.S.C.A. secs. 4321-4370, 4321(2)(a)(1)) requires the assessment of potential environmental impacts of proposed "major federal actions." After a public participation process, an agency completing this analysis explains its decision in a document known as an environmental impact statement (42 U.S.C.A. sec. 4332(2)(c)). NEPA applies to proposals that require a federal approval or license or to use water in federal facilities where there will be a significant environmental impact. A few western states, including California and Washington, have adopted laws with similar requirements for projects permitted or sponsored by the state. The state or federal laws that require an assessment of environmental impacts are important mechanisms for evaluating the effects of water development and transfer. The information that is developed is valuable in providing a fair and comprehensive review of the public interest. NEPA is essentially a procedural requirement and does not mandate that a final decision be environmentally benign. It

only requires that the agency adequately present complete information before making its decision.

2. Clean Water Act

Water quality can decline with excessive depletions of a watercourse because the contaminants become more concentrated in the remaining flows. With some exceptions, however, state water agencies consider exclusively issues related to the quantity being allocated and not the quality.

Generally water quality is protected by the Clean Water Act (CWA) (33 U.S.C.A. secs. 1271-1387). Although CWA is a federal law, it is administered by most states. Under the CWA, anyone who makes a “point source” discharge of pollutants into the water must have a permit that limits the quantity of particular pollutants according to standards established by the federal government (33 U.S.C.A. sec. 1362(14)). The permit also must require sufficient limitations on discharges to protect the overall quality of the watercourse receiving the waste water. Standards for water quality are set by the states and are specific to particular waterways. The permitting program has effectively regulated industries and municipal sewage treatment plants that discharge wastes into rivers and lakes.

The CWA does not deal with declines in water quality caused by other than point source discharges. There are provisions in the Act that encourage states to take action to control non-point sources and a requirement that they identify waterways where the water quality is not effectively controlled by point source regulation. The states are then to impose “total maximum daily loads” of pollutants. Lacking any firm enforcement mechanisms and surrounded by political criticism, this part of the program had not been fully implemented. The nation still has neither an effective program to prevent non-point source pollution nor any formal controls of water depletions to protect water quality.

The potential effects of depletions from new diversions or transfers away from the stream on water quality can be considered as part of the process of public interest review but this is rarely done because states typically separate their administration of water allocation and water quality (Getches et. al. 1991). More typically, water laws protect the right to use a quantity of water even if it causes deterioration in water quality. When state water allocation laws come in conflict with water quality laws, the right to use water is recognized as superior to the protection of water quality.

3. Riverbed and Wetland Protection

A special program under §404 of the Clean Water Act regulates “dredging and filling” of “navigable waters.” The statute defines navigable waters as all “waters of the United States.” This has been interpreted administratively to include all adjacent

wetlands, and wetlands are defined as any area capable of sustaining riparian vegetation. The activities covered are more than traditional dredge and fill operations undertaken to deepen channels for navigation. Depositing “fill material” can include any construction in a waterway or wetland. Thus, the statute covers water projects, dams, and diversion structures.

The impact of § 404 on water development is much greater than pollutant discharge regulations. Almost any type of construction activity to develop or use water occurs in or on the banks of a stream or technically interferes with a wetland. Where wetlands are affected by water development activity, §404 requires the United States Army Corps of Engineers to conduct a global review of the public interest. In practice, the authority exercised by the Corps of Engineers is not nearly as broad as its powers, although the potential scope of its public interest inquiry is great.

4. Endangered Species Protection

The Endangered Species Act of 1973 (ESA) (16 U.S.C.A. secs. 1531-1543) is another federal statute that can affect proposals to divert, develop, or transfer water. The ESA absolutely prohibits any action by the federal government that would jeopardize the continued existence of an endangered species. Federal agencies considering activities that could jeopardize endangered species are required by §7 of the ESA to consult with the U.S. Fish and Wildlife Service to determine the effects of the development or action on the habitat of any endangered species. If, in the opinion of the Fish and Wildlife Service the action would jeopardize the endangered species, the action cannot go forward unless there is a reasonable and prudent alternative that will not cause the jeopardy.

The ESA is extremely powerful because nearly every major water project – not just those undertaken directly by the federal government – requires some kind of federal approval (such as under §404 of the Clean Water Act), or receives federal financing. Thus, the ESA has proved to be a formidable barrier to water development that could be destructive of fish or wildlife habitat where endangered species are found. The Act, indeed, may be the most significant law affecting new water development.

Another section of the statute, §9, prohibits actions that “take” or “harass” an endangered species. These terms are broadly interpreted to include harm to the habitats of endangered species. Unlike §7, which is specific to federal agency actions, §9 extends to private actions. The section has rarely been applied to private water development or uses. In one exceptional case, however, the Anderson-Cottonwood Irrigation District killed several Chinook salmon while operating its pump diversion facility. The Chinook are an endangered species. The state court enjoined the irrigation district’s activities, prohibiting it from possessing or taking the endangered species (*Department of Fish and Game v. Anderson-Cottonwood Irrigation District*, 11 Cal.Rptr.2d 222 (Cal. App. 1992)).

5. Federal Power Act

For many years, federal law has required licenses for hydroelectric-generating dams located on navigable waterways or their tributaries. Congress enacted the Federal Power Act of 1920 (16 U.S.C.A. sec. 790 et. seq.) to promote the coordinated development of rivers, and established a licensing agency known as the Federal Energy Regulatory Commission (FERC) to grant licenses for uses “best adapted to a comprehensive plan” for each river (16 U.S.C.A. sec. 803). FERC considers a variety of issues related to economics and other subjects. Although the Federal Power Act contains a provision saying that nothing in it shall affect state water laws, and another requires that an applicant for a license must show that it has complied with state laws, states cannot prevent a dam under the jurisdiction of FERC from being licensed and constructed (*First Iowa Hydro-Electric Cooperative v. Federal Power Commission*, 328 U.S. 152 (1946)). Thus, state water law is subordinate to FERC’s licensing authority.

Especially relevant to protection of the public interest is the mandate in the Federal Power Act that FERC’s planning for a river should take into account all “beneficial public uses, including recreational purposes” (*Udall v. Federal Power Commission*, 387 U.S. 428, 449 (1967) (citing 16 U.S.C. 797(e)). This has been held to include consideration of the effects of the dam on anadromous fish (*Udall v. Federal Power Commission*, 387 U.S. at 450). Not surprisingly, older projects were built with little concern for such uses as fish and wildlife or recreation and subsequently have proved to be highly detrimental to fish. Historically, FERC was primarily concerned with maximizing a river’s potential for hydroelectric power development. The agency did try to prevent negative impacts on navigation, but other public interests were not serious obstacles to the construction of dams.

In recent years, however, as the licenses for old dams expired often after a term of fifty years, the commission has been more mindful of other public interests. This is partly the result of amendments to the Act and partly because of the enactment of the Fish and Wildlife Coordination Act of 1934 (16 U.S.C.A. secs. 661-667, 661) which requires FERC to give “equal consideration” to protection of fish and wildlife.

FERC now requires dam owners to release water in amounts and at times needed for fish and wildlife and other environmental purposes. These requirements have brought FERC into conflict with state agencies in some cases. Typically, the conflict has been over whether FERC or the state that issues water rights for the project has the last word on how much water must be left in the stream or that must by-pass the dam to protect fish habitat. In one major case, the state of California tried to impose requirements on a power company for the benefit of fish. The Supreme Court held that the preemptive force of the Federal Power Act left such matters within the exclusive jurisdiction of FERC, so that the less protective requirements would apply (*California v. Federal*

Energy Regulatory Commission, 495 U.S. 490 (1990)); it is sufficient if FERC considers the recommendations of the state fish and wildlife agency.

FERC's reputation for environmental protection is mixed. Although it has a strong environmental mandate, it often fights tenaciously to license dams that are subject to more lax requirements than a state would impose. There are, however, modern examples of the agency taking significant protective action. In some cases, state laws are not strict and FERC's requirements, such as requiring by-pass flows for fish, are the only public interest requirements. In a few recent cases, the commission has considered requiring removal of dams subject to relicensing in order to restore a fishery. The Edwards Dam in Maine, for instance, was removed in 1837. Two dams that have blocked salmon migration in the Elwha River basin in Washington are targeted for removal, and a hydroelectric dam at the confluence of the Blackfoot and Clark Fork Rivers in Montana may give way for a whitewater recreation park.

6. Wild and Scenic River Designation

Under the Wild and Scenic Rivers Act of 1968 (16 U.S.C.A. secs. 1271-1287) rivers may be designated by Congress or by a state-nomination process to be protected against future development that would impair their free-flowing character as it exists at the time of designation. The primary effect of designation is that the federal government under its various regulatory programs cannot authorize water projects that obstruct the flow of the river. For instance, FERC cannot license new projects on these rivers. In addition, designation of a river effectively reserves a water right to the federal government preventing depletions of the stream that would impair the flows to the extent that the purpose of the designation would be defeated.

7. River Restoration Laws

In the past decade, Congress enacted several laws calling for large-scale restoration of river environments. The Grand Canyon Protection Act of 1992 (106 Stat. 4600), for example, ordered the U.S. Bureau of Reclamation to change the way it operates the Glen Canyon Dam in order to improve the downstream riparian and aquatic habitats. As a result of the act, the Bureau conducted an experimental "flood flow" in 1996—a large release intended to mimic historical spring runoff conditions in which high water levels with heavy sediment loads restored beaches and revitalized backwater native fish-rearing habitats. The act explicitly directed the Bureau to manage the Glen Canyon Dam to protect, mitigate, and improve the natural and cultural resources of the river downstream—a dramatic expansion of the project's purposes when compared with the original authorizing legislation.

In another example of legislatively mandated habitat restoration, the Central Valley Project Improvement Act of 1992 (106 Stat. 4706-4731) directed the Secretary of the Interior to dedicate and manage annually 800,000 acre-feet of water from the Central Valley Project for the primary purpose of fish, wildlife, and habitat restoration in California's vast and fertile Sacramento-San Joaquin River Valley. Although this water was classified as "surplus," irrigators participating in the large federal project had enjoyed its use during dry years, and thus faced cutbacks as a result of the new emphasis on habitat restoration. The act also required these water users to pay surcharges on irrigation water to finance environmental restoration. The law's enactment culminated a successful lobbying effort by a coalition of diverse interests: environmental groups, commercial and sport fishermen, duck hunters, waterfowl organizations, Native Americans, and urban and business interests.

G. Ad Hoc Negotiations and Other Collaborative Processes

Collaborative efforts among stakeholders (water rights holders and others) show promise for resolving conflicts between public interests and private rights shaped particularly for the river or locale in which the conflict arises. Dozens of initiatives throughout the western U.S. demonstrate the potential for these locally based, problem-solving entities.

In some cases, such groups have solved problems of diminished streamflows in popular fisheries by crafting voluntary agreements among water rights holders to change the timing of withdrawals; in return, fisheries proponents have agreed not to seek regulatory changes to the appropriators' water rights.

Sometimes third parties affected by a proposed water development, use or transfer are able to persuade the proponents to take voluntary action to protect the interests of the public. Unless there is a public process provided for under the law, it is difficult to initiate these negotiations. Only when third parties have sufficient political or legal leverage (for example, the threat of a veto under the Endangered Species Act) will the proponent of the development activity participate in negotiations. The fundamental problem with relying on negotiated resolutions of problems caused for third parties or the public in general as a result of water development or use is that the results are a function of the political power of the objectors. The results, then, are not consistent among similar projects and often provide incomplete relief where the objectors lack political or legal strength.

At the least, collaborative groups offer a forum for better expression of public interests. As they grow larger in scale of focus (such as whole river basins or major drainages) and number of participants, the proceedings take on more legal and political implications and their outcomes are more likely to require legislative enactment for implementation.

H. Conclusion

Everyone has an interest in the way water is used. When water is committed to new uses, or those uses are changed, or water is transferred, it creates impacts on the values of people besides those with water rights.

It is extremely important to ensure adequate protection for values that are widely held and of substantial interest to the public. Economic theory indicates that society will gain from the efficient allocation and reallocation of water rights; this argues for operation of free markets without excessive restrictions. Better protection of third parties increases the costs to the government of reviewing proposed transactions. Nevertheless, it is the obligation of governments to find effective and efficient methods to preserve the values of members of the public affected by water decisions.

Taken together, the several mechanisms for protection of the public interest create rather uneven results. In some cases there is ample protection of fish and wildlife and no consideration for recreation. In some states there is little protection under prevailing water laws, so that the only type of protection is under federal laws. In other places state and federal agencies compete for control of water projects, not necessarily to ensure greater protection but to preserve their relative scope of jurisdiction.

One way to add greater predictability for both the public and for water developers would be for each state to establish a dynamic and comprehensive system of water planning. Issues like the impacts on rural communities, environmental effects, protection of fisheries, wetlands, recreation, and drinking water can all be covered as well as flood control. Only a few states have this type of water plan. Such a plan can provide standards that enable the decision maker under almost any of the programs now in place to judge a proposal more wisely and fairly. A comprehensive plan would include a panoply of values and interests that could be affected by the development, transfer, or use of water. The plan could also discuss the relative importance to society of the values and their impacts.

Experts in the field of water law and policy should pursue methods to reduce the costs and increase the benefits of water use by providing broader and more effective protection of the public against negative effects of water decisions. A combination of administrative review designed to protect the interests of the public, laws to protect instream flows, and environmental regulation has provided some protection in the western states. Protection could be further improved by establishing a planning process to develop water policy that is more coherent and predictable.

3. Indigenous Rights and Interests

Protecting the rights of indigenous peoples arguably should be part of advancing the public interest. But it is more complicated because the “public interest” furthered by satisfying national obligations to tribes sometimes conflicts with the policies or asserted governmental authority of state governments. In this respect, the conflict is similar to the tension between federal enactments that promote the national environmental interest and state policies that arise from more localized or short-term interests. Besides the complication created by the federal system in the United States, protection of Indian rights also has been inhibited by the tribes’ lack of influence in national politics. On the other hand, U.S. law recognizes certain sovereign rights and property interests of tribes.

The foundational principles in Indian law tracing to the earliest days of the nation define a fiduciary relationship in which the national government is charged with protecting the rights of tribes in their lands. The same early cases give the Congress broad powers to implement this obligation but also to extinguish rights when lawmakers determine that it is in the interest of the country to do so. This great federal power in the area of Indian affairs has been invoked frequently to limit states’ efforts to encroach on the property rights and self-governing authority of tribes within their territory.

In modern times the federal policy toward Indian tribes has favored self-determination and economic self-sufficiency, but this has not always been the case. In the late nineteenth century, for instance, national policy sought to assimilate Indians into the mainstream of society by ending their communal pursuits, breaking up tribal land holdings, and promoting individual farm cultivation. Whether the national goal has been to promote individual or collective self-sufficiency on the lands reserved for tribes and their members, access to sufficient amounts of water to make the lands useful has always been essential.

Water is necessary for agriculture in arid environments and to maintain the habitat needed to sustain fish life. And for tribes, the integrity of land, water, and the natural world is often at the heart of traditional cultures and spiritual life. Tribes of the Great Plains were placed on reservations and told to give up their far-ranging hunts. In the desert Southwest, some tribes had established irrigation cultures using the sparse and seasonal streams. In the Northwest and Great Lakes regions reservations were created that limited the homelands and the historic fishing pursuits of native peoples.

In each case, encroaching populations of non-Indians and the resulting competition for water and water-dependent resources threatened the ability of Indians to survive on their reservations. Nonetheless, national policies in the era of homesteading and westward expansion encouraged this settlement. The resulting establishment of non-Indian communities and creation of property rights in land and water have conflicted and competed with the Indians’ capacity to use natural resources.

In the early days of the twentieth century the United States Supreme Court announced a remarkable doctrine of water rights that favored Indian tribes in their attempts to secure sufficient water to make their reservations useful. The “reserved rights doctrine” guaranteed tribes the right to use water to fulfill the purposes for which their reservations were established. The right could be exercised anytime in the future, even if non-Indians had used the water first and had been granted rights under state law.

The history of the tribes’ exercise of their ostensibly bold and potent reserved water rights for Indian reservations has been problematical. The tribes have lacked capital to put their water rights to use and now they compete with non-Indians who have built their economies using the water to which the Indians are rightfully entitled. Tribes have remained in a state of poverty and reservations are largely undeveloped. Some tribes near population centers have sought economic development by legalizing gambling. Their independent sovereignty makes them immune from state laws prohibiting gambling. But in most places long-term, economic well-being and cultural survival on their reservations depend on asserting and using their water rights for agricultural or industrial development.

Increasingly, tribes have pressed for a vindication of their theoretically great but actually underutilized water rights. The non-Indians know that the inchoate rights of the tribes pose a threat to their economic security. Because investments and property values are undermined by uncertainty, non-Indians and the western states that tend to support non-Indian interests have also urged that Indian water rights should be legally determined. Judicial processes now underway in most states are lengthy and expensive. In recent years several tribes’ water rights have been resolved in negotiated settlements and implemented through federal legislation. This remains the preferred method of quantifying tribal water rights primarily because it infuses federal funding into solutions that enable tribes to use their water rights and it protects established non-Indian uses.

A. A Brief History of Indian Water Rights

There are hundreds of Indian reservations in the western United States. In the nineteenth century, tribes who once hunted, fished, and gathered over large expanses of land were confined to reservations in order to reduce conflict with white settlers. In successive treaties and agreements the tribes agreed, often reluctantly or under pressure, to move onto smaller reservations. Typically the government sought to convert the Indians into farmers. Because the West is an arid region where agriculture is difficult without irrigation, most reservations required a supply of water if the Indians were to sustain life.

Other reservations were located along rivers to ensure that Indians could continue fishing to sustain their livelihoods and culture. Again, water was necessary to fulfill the purposes of the reservation. As a general matter, it is correct to say that all reservations

were intended to be permanent homelands for the tribes, where they could survive and be self-sufficient. Invariably, the reservations required water.

The fundamental legal principle giving rise to Indian water rights is stated simply: The establishment of a reservation results in an implied reservation of a right to take water sufficient to fulfill the purpose of reserving the land for the Indians. In the words of the United States Supreme Court:

The reservation was a part of a very much larger tract which the Indians had the right to occupy and use and which was adequate for the habits and wants of a nomadic and uncivilized people. It was the policy of the Government, it was the desire of the Indians to change those habits and to come pastoral and civilized people. If they should become such the original tract was too extensive, by a smaller tract would be inadequate without a change of conditions. The lands were arid and, without irrigation, were practically valueless. . . . The Indians had command of the lands and the waters – command of all their beneficial use, whether kept for hunting, “and grazing roving herds of stock,” or turned to agriculture and the arts of civilization. Did they give up all this? Did they reduce the area of their occupation and give up the waters which make it valuable or adequate? (*Winters v. United States*, 207 U.S. 564, 576 (1908)).

The Supreme Court announced the doctrine of “reserved water rights” in *Winters*. The case arose on the Fort Belknap Indian Reservation in Montana where the Indians had been placed after a series of treaties that had limited them to a small fraction of their former territory. The Court recognized the government’s intention of “civilizing” the Indians by making individual farmers of them and breaking up the communally held tribal lands. The government plan involved dividing up the reservation lands into individual land holdings, allotting the land to heads of Indian families to be cultivated, and then opening the rest of the land on and off the reservation for non-Indian homesteaders. Without sufficient irrigation water for the reservation, this civilizing scheme would fail. If the individual allotment policy fell, lands desired by settlers – the so-called “surplus lands” on reservations and former reservations – would not be available for white settlement.

It would have been grossly unfair to the Indians to confine them to reservations without the means to eke out a living. Moreover, the plan for obtaining and distributing former Indian land to non-Indians would have failed if the tribes could not survive on their reservations. Thus, the reserved rights doctrine of *Winters* became the cardinal rule of Indian water rights. It was later applied to federal reservations of land for parks, forests, military bases, and other public uses (*Arizona v. California*, 373 U.S. 546 (1963)). As with Indian lands the quantity of water reserved depended on the purposes for which the reservation was established.

Over the years, the reserved rights doctrine has promised more than it has delivered. The government has rarely applied it in litigation to assert rights as against non-Indian water users. The Indians themselves, until about thirty years ago, often lacked their own attorneys to represent them in protecting their water rights. They were sometimes represented by government attorneys in water litigation where the government had a conflict of interest. Meanwhile, non-Indians built dams and diverted water from streams and initiated uses that depended on that water.

Non-Indian water development was often planned and paid for by the federal government, which is ironic considering the well-established legal principle in American Indian law that the government is charged with responsibility to act for the benefit of Indian tribes. The National Water Commission found in its 1973 report that:

Following *Winters*, . . . the United States was pursuing a policy of encouraging the settlement of the West and the creation of family-sized farms on its arid lands. In retrospect, it can be seen that this policy was pursued with little or no regard for Indian water rights and the *Winters* doctrine. With the encouragement, or at least the cooperation, of the Secretary of the Interior – the very office entrusted with the protection of all Indian rights – many large irrigation projects were constructed on streams that flowed through or bordered Indian Reservations, sometimes above and more often below the Reservations. With few exceptions the projects were planned and built by the Federal Government without any attempt to define, let alone protect, prior rights that Indian tribes might have had in the waters used for the projects. . . . In the history of the United States Government’s treatment of Indian tribes, its failure to protect Indian water rights for use on the Reservations it set aside for them is on of the sorrier chapters (National Water Commission 1973, 474-475).

Many decades after the Supreme Court first articulated the reserved water rights doctrine, Indian water rights finally gained considerable attention when the Court issued its opinion in *Arizona v. California* (373 U.S. 546 (1963)). The case involved an allocation of the Colorado River’s flow among three of the states that touch the river. The United States, which was involved in the case because the river also crosses extensive Indian and federal lands, claimed reserved rights for five tribes along the river. The Supreme Court awarded those tribes 900,000 acre-feet of water per year – a huge quantity of water – which it determined by calculating how much water would be required to irrigate all of the practicably irrigable acreage on the reservations. This sent a strong message to water users all over the West that Indian claims could be made to formidable amounts of water. The reserved rights doctrine had been idle, but it was far from dead.

As explained earlier, prior appropriation was the historical method for allocating water in the American West. Although this doctrine has been altered in various ways and embellished with rules that satisfy important public purposes, most of the West’s water

long ago was allocated to the earliest users of water. The most valuable rights are the oldest because in times of shortage the holders of those rights can insist on delivery of the full quantity of water to which they are entitled. Accordingly, when senior users assert their rights, the most junior users often must curtail their water uses. The Supreme Court created reserved water rights to fit into the priority system, with a tribe's priority date established by the date its reservation was established. Because most reservations were established more than one hundred years ago, the accompanying water rights are usually quite senior.

This ability to fix a precise priority date for a tribe's water right makes it possible to determine which uses potentially must be cut back in order to allow water to flow to the reservation. That is, the tribe's position in the system of priorities is easy to determine. But the scope of the right – and thus its impacts on other water users -- remains uncertain until the quantity of water to which the tribe is entitled is determined. This is not an issue when non-Indians' water rights are established in the prior appropriation system because the quantity of their rights is determined based on the amount of water actually used in the past. The fact that reserved rights can exist without a history of actual use, then, can deprive neighboring water users of certainty. This lack of certainty can frustrate non-Indian neighbors when they seek to make investments or borrow money based on assumptions about how much water is generally available to them.

One solution to this uncertainty is to quantify Indian reserved rights. This can be done judicially by asking a court to decide how much water is necessary to fulfill the purposes of a reservation. Where the purpose of setting up the reservation was to allow the Indians to pursue agriculture, the courts follow the formulation in *Arizona v. California* (373 U.S. 546 (1963)) based on the reservation's practicably irrigable acreage (PIA). In arid areas the amount of water needed to produce crops can be enormous; in adopting the PIA formula, the Supreme Court opened the way for tribes to claim huge quantities of water. The Court expressly rejected the idea that tribes should just get merely a "fair share" of the water in a river or that rights should be determined based on reservation populations. The court said that rights were not to meet present needs, but to meet future needs and therefore should be set according to the reservation's full capacity to use water.

A court seeking to determine how much land is irrigable and how much water is required for irrigation must examine evidence of soil type, structure, and depth, topography, salinity content, possible crops, and climate. As this information usually is based on expert studies in hydrology, soil science, engineering, and economics, trials can be long and expensive. Given the importance of scarce water, the process can also be contentious.

B. Tribal Rights are Determined by State Courts

The United States has two separate court systems, state and federal. The individual court systems of the fifty states have local courts with general jurisdiction and appellate court systems. These state courts usually handle water rights matters arising within a particular state. The United States generally is not subject to the jurisdiction of state courts, and the principle of sovereign immunity provides that the United States cannot be sued without its consent. Thus, ordinarily state courts would not be able to adjudicate federal reserved water rights. Similarly, Indian tribes are also considered sovereign governments with sovereign immunity from suit without their consent or the consent of the U.S. Congress.

Federal courts, with district courts sitting in every state and a separate system of appeals, have more limited jurisdiction than state courts. The primary task of federal courts is adjudicating “federal questions,” including interpretation and application of federal laws. This can include determining how much water a tribe would be entitled to use for a reservation established under a treaty or agreement with the United States. The U.S. Congress decided in the 1950s, however, that when a state court takes jurisdiction over the adjudication of all water rights in a river, the United States will waive its sovereign immunity to suit and the state court can determine all federal water rights. It passed a law authorizing state courts to adjudicate Indian reserved rights, called the McCarran Amendment of 1952 (43 U.S.C.A. sec. 666).

Congress recognized in the McCarran Amendment the importance to non-Indians of knowing clearly the extent of water rights of others with whom they compete for water in times of shortage under the prior appropriation doctrine. The law applies to all water rights of which the United States is the “owner.” Although the United States only holds title to Indian water rights in trust for the tribes, the Supreme Court has held that Congress intended to extend state jurisdiction over those rights whenever the rights to an entire river were being adjudicated (*Colorado River Water Conservation District v. United States*, 424 U.S. 800, 810 (1976)). This caused great concern for tribes because they feared that state courts were likely to be less equitable to them than federal courts. There is a history of tension between tribes and states. The Supreme Court long ago described the situation of Indians relative to states: “They owe no allegiance to the states, and receive from them no protection. Because of local ill feeling the people of the States where they are found are often their deadliest enemies” (*United States v. Kagama*, 118 U.S. 375, 384 (1886)).

After the Supreme Court made it clear that Indian water rights were subject to determination in state courts, many states initiated “general stream adjudications” -- legal proceedings involving sometimes tens of thousands of water rights claimants in an entire river basin. These cost and complexity of these proceedings have proved burdensome to everyone. Some of these adjudications have continued for over twenty years and have

not neared completion. Today, there are over sixty Indian water rights cases pending in state courts.

Although Indians believed that state courts would not provide fair trials for their water rights claims, the results have been mixed. In most cases the tribes have been able to prevail on the United States as their trustee to furnish lawyers and expert witnesses. Alliances of government and tribal lawyers have presented cases competently to the courts. In some cases, the state courts have awarded tribes impressively high quantities of water. Yet the overall record is not reassuring to critics who say that relegating tribal rights to the mercies of state courts is bound to be unfair to Indians.

In the adjudication of the Big Horn River, for example, the Wyoming Supreme Court affirmed the right the tribes of the Wind River Reservation to some 400,000 acre-feet of water, most of the water in the river (*In re General Adjudication of All Rights to Use Water in the Big Horn River System*, 753 P.2d 76, affirmed, *Wyoming v. United States*, 492 U.S. 406 (1989)). Undeniably, the amount of water, based on a lower court's determination of the amount of irrigable acreage on the reservation, is enormous. Yet the state supreme court rejected the tribes' claims for water to be used for mineral development, fisheries, wildlife, and aesthetics. It also rejected the tribes' attempt to extend their reserved water rights to groundwater. Many scholars and at least some other courts differ with each of these holdings. Whether or not the state court erred in defining the scope of the tribes' reserved water rights, it awarded them enough water to overshadow the impacts of those parts of the decision. The state challenged the decision in the United States Supreme Court but the state court decision was upheld, although barely; the Justices on the Supreme Court were divided by a vote of four to four.

The *Big Horn* case is the only state court adjudication of Indian water rights that has proceeded through final judgment and appeal to the Supreme Court. But other state courts have handed down rulings in general stream adjudications, some favorable and some unfavorable to Indian tribes. In Arizona, the state supreme court has held that the treatment of groundwater under state law as a resource that is allocated and managed under a regime entirely separate from surface water could not affect any rights the tribes had to groundwater under the reserved rights doctrine because those rights were a matter of federal law (*San Carlos Apache Tribe v. County of Maricopa*, 972 P.2d 179 (Ariz. 1999)). In Idaho, however, the state courts have rejected tribal claims to exemption from the state adjudication process under the McCarran Amendment (*In re Snake River Basin Water System*, 764 P.2d 78 (Idaho 1988)).

C. Negotiated Settlement of Indian Water Rights Claims as an Alternative to Litigation

The results in state court adjudications of Indian water rights vary, but all are terribly costly and take years to conclude. The combination of unpredictability and the burdens of litigation have induced all parties to consider seriously negotiation as an alternative to litigation. Since the 1980s there have been about 18 negotiated settlements of Indian water rights. Settlement negotiations usually are commenced after a tribe or the United States becomes involved in litigation with a state and non-Indian water users. Sometimes this is part of a general stream adjudication started by a state under the McCarran Amendment. It also can follow litigation in federal courts brought by the tribe or the United States. In a few cases settlement negotiations have begun without litigation.

Negotiations typically allow for all interested parties to participate. Sometimes they require court decisions to decide basic legal questions like the tribe's priority date. Negotiations are most useful when there are factual disagreements based on technical data. Rather than dwell on these contests, the parties seek to craft a solution that will satisfy at least some of their respective needs. Instead of an all-or-nothing court decision with a clear-cut victory for one side, they seek ways to provide recognition for tribal water rights without jeopardizing existing water uses. Although the tribes may not receive the full quantities of water originally or potentially claimed, they often get money – mostly from the federal government – to enable them to build facilities to put their quantified water rights to use.

The “lubrication” of federal funding has been a key element in most Indian water rights settlements. It has allowed for tribes to secure not only paper water rights, but also “wet water” delivered through irrigation systems and pipelines for domestic supplies. At the same time, non-Indians have gained assurance that they can continue using water under water rights that are junior to tribal water rights. Sometimes federal or state funding is also assured for projects that benefit non-Indian water users. Because funding is usually part of a settlement package, an agreement reached by the various parties in negotiation usually must be approved and monies appropriated by Congress. Thus, settlements are almost always accompanied by federal, and sometimes accompanying state legislation. Although each Indian water rights settlement is unique, several examples illustrate how they work.

Congress has approved two water settlements in Arizona. In 1978, the Ak-Chin Indian Community agreed with the Secretary of the Interior to forgo a substantial amount of water claims against non-Indian users in exchange for 85,000 acre-feet of irrigation water provided by a federal well-field water project (Public Law No. 95-328, 42 Stat. 409 (1978); Public Law No. 98-530, 98 Stat. 2698 (1984); Public Law No. 102-497, 106 Stat. 3528 (1992)). Using the well water on the Ak-Chin reservation, however, would deplete the groundwater under the Papago Indian reservation. In order to avoid this problem, the

Department of Interior renegotiated a water contract with an irrigation district, which received its water from the Colorado River to deliver its surplus water to the tribe. In 1982, the San Xavier Band of the Tohono O’Odham Nation first settled its groundwater claims without involving the federal government in the settlement process. The tribe could not proceed without the federal government participation and financial support in the final water settlement. The bill was ultimately approved (Public Law No. 97-293, 96 Stat. 1274 (1982)). These water settlements exemplify successful water negotiations, which provide the tribes with promises for delivered water and a consideration of their reserved water rights.

Each settlement is different because the legal, geographic, and economic situations of tribes vary and so do the political factors. The ability of tribe and its neighbors in one state to achieve a settlement will differ with the relative power of the members of Congress that represent that state. The receptiveness of Congress to settlements will also vary depending on the economic health of the federal government at the time a settlement package is presented. Notwithstanding the inevitable differences among them, a review of the Indian water rights settlements to date that are summarized in Figure 1 shows several characteristics that are common to many of them.

- **Federal investment in water or water facilities.** By providing funds to build dams and delivery works, the settlement can ensure delivery of water to both Indians and non-Indians.
- **Non-federal cost-sharing.** A typical condition of providing federal funds is that state or local governments bear a portion of the cost of the settlement.
- **Creation of tribal trust fund.** Cash funds are usually appropriated for the use of the tribes. Sometimes the money is to be used for water development and sometimes it is available generally for economic development.
- **Limited off-reservation water marketing.** For various reason, tribes that are entitled to water rights cannot or do not want to use all of their water on their reservations. Allowing them to lease water for use by non-Indians off the reservation can provide cash income that can help build the tribe’s economic self-sufficiency while allowing non-Indians to use water they need. Under the legal systems governing water in the West, water rights can be transferred with few restrictions beyond protection of other water rights holders. Denying tribes the same right seems inequitable. Most settlement packages allow the tribes to market their water but nearly all restrict these transfers more than the transfer of non-Indian water rights are restricted.
- **Deference to state law.** Often the settlements require that Indian water use be subject to state water law, at least when the water is used off the reservation. Where two or more states enter into a compact allocating the use of a river that is

the source of water used to satisfy tribal water rights claims, the Indian water rights settlement agreement and accompanying legislation usually provide that the compact will govern water use.

- **Concern for efficiency, conservation, and the environment.** Less pervasive among the settlements but included in many of them is a provision for improving the efficiency of water use and advancing environmental values.
- **Benefits for Non-Indians.** Perhaps the most important characteristic of Indian water settlements in terms of giving them political viability is that they provide benefits for non-Indians. At a minimum, they receive certainty that their established water uses can continue. If the United States agrees to build water facilities they may get access to water that will allow new uses. In some cases, non-Indians have been able to obtain federal funding for projects that otherwise would have been politically impossible. They have succeeded in the context of Indian water rights settlements, however, by “wrapping their projects in an Indian blanket.”

D. Current Issues

1. Finality of Determinations of Rights

One of the goals of non-Indians in seeking quantification of Indian rights is to provide the certainty they need in order to make investments and borrow money to build water projects and to develop their lands. This was surely a motive for enactment of the McCarran Amendment. Tribes also can benefit from knowing the extent of their rights as they try to attract investments in water facilities and otherwise to realize value from the important asset of water rights. Yet the tribes that have had their water rights adjudicated have learned that they must suffer the consequences if they have inadequate legal representation in the litigation of their claims. Even if mistakes are made, they cannot later return to court and ask for their water rights to be adjusted because that would disrupt non-Indian expectations. The likelihood that the outcome of a quantification will be immutable raises a serious concern for any tribe embarking on a quantification of its water rights.

In two cases where tribes had their rights fixed in the past and wanted to reopen cases to expand their rights, the Supreme Court has refused to allow any change in tribal rights. In *Arizona v. California* (373 U.S. 546 (1963)) five tribes along the Colorado River had been represented in court by the U.S. Department of Justice. Attorneys for the U.S. failed to claim all of the tribes’ practicably irrigable acreage. Thus, the tribes’ water rights were limited to the quantity needed for the irrigable lands claimed by the government. The tribes later hired their own lawyers and experts and reopened the case. They proved that additional lands were irrigable and asked the Supreme Court to award a

greater quantity of water. But the Supreme Court in 1983, twenty years after the original decision, held that the quantification could not be changed except where there was actually an error in boundaries that a court had corrected (*Arizona v. California*, 460 U.S. 605 (1983)). The Supreme Court said there is a “strong interest in finality” in western water law and therefore it would be unfair to the non-Indians who had relied on the earlier decision if the tribes were allowed to increase their claims.

In another case, the Pyramid Lake Paiute Tribe also had depended on the United States to protect its interests in court. Early in the twentieth century the U.S. Bureau of Reclamation built a federal irrigation project to benefit non-Indian farmers. The tribe historically depended on fishing, and its reservation consisted almost entirely of a large lake. The federal water project diverted nearly all of the water from the single stream that supplied water to the lake. The U.S. went to state court to secure the necessary water right before building the project. Purporting to represent both the tribe and the irrigation project, the federal government claimed only water rights sufficient to irrigate the Indian lands in the narrow ring of land around the lake, and claimed no water to maintain the Indians’ fishery. Without water to sustain the fishery and the lake level, the lake shrunk and the fish started to die off.

Years later the tribe, through its own attorneys, proved that the U.S. had failed to claim sufficient water rights due to its conflict of interest and got a lower court to order the government to take action consistent with its trust responsibility and stop diverting all the water to the reclamation project. The U.S. also was forced to reopen the old case that had given the tribe inadequate water rights. But, on appeal, the U.S. Supreme Court refused to let the case be reopened, citing the interest of the non-Indians in having certainty in their water rights (*Pyramid Lake Paiute Tribe of Indians v. Morton*, 354 F.Supp. 252 (D.D.C. 1972), supplemented by 360 F.Supp. 669 (D.D.C. 1973), reversed, 499 F.2d 1095 (D.C.Cir. 1974), certiorari denied, 420 U.S. 962 (1975)).

The outcomes in these two cases make it imperative for tribes whose reserved water rights are being determined to participate fully and aggressively in asserting the full extent of those rights. This is difficult for tribes with limited financial resources. In recent times the United States has provided funding for some tribes for lawyers and experts, however, even when it has represented the tribes as a trustee.

The daunting specter of a final and unalterable judgment may provide an argument against seeking an adjudication of reserved water rights. In most cases, however, tribes have no choice about whether to adjudicate their rights because the United States can be sued any time a state initiates a general stream adjudication and must claim all federal and Indian water rights. Although the tribe, as a sovereign government, remains immune from being sued, the rulings of the Supreme Court teach that if the tribe abstains from the litigation it does so at its peril.

2. Water Marketing

One of the most controversial questions concerning Indian water rights is whether tribes can sell or lease their water to non-Indians outside their reservations. In many cases, the government decided that Indians should become farmers, and moved them to reservations for that purpose. Some tribes do not have a cultural tradition that is based on agriculture, however, or are unable to produce a livelihood because they were put on reservations that are too small or that have poor lands for farming. This has led some tribes to consider allowing others to use their water off the reservation. As we have explained earlier, most of the negotiated settlements of Indian water rights provide for some off-reservation use of tribal water rights, although it is typically restricted in location and scope.

Non-Indians control the best agricultural lands on many reservations. The allotment policy opened up the reservations to non-Indian settlement; today, non-Indians cultivate 69% of all farmland and have 78% of the irrigated acreage on reservation lands throughout the nation. Moreover, in the last one hundred years, the allotments issued to individual Indians have descended through inheritance to an unwieldy number of heirs. The only way to put these lands to use is to lease them, usually to non-Indian farmers. A share of the tribe's reserved water rights attaches to allotted lands and the right to use water can go with a lease to non-Indians (*Skeem v. United States*, 273 Fed. 93 (9th Cir. 1921); 25 U.S.C. sec. 415).

There is considerable debate about whether tribes should have the legal right to allow their water rights to be used outside their reservations, however. Opponents of Indian water marketing argue that the nature of the reserved right is to make reservation lands useful and this purpose is not fulfilled when water is used elsewhere. Proponents say that the ultimate purpose of the reservations was to provide a homeland where Indians could be self-sufficient. This goal may be best achieved if tribes can enter the marketplace and realize the economic value of tribal resources.

Off-reservation Indian water marketing could provide a way to continue and expand non-Indian uses. Simply paying Indians for the right to use their water could buy the certainty that is now lacking for non-Indian users. Nevertheless, non-Indians who have depended on using undeveloped Indian water without charge do not want to be forced to start paying for it. They have raised policy and legal arguments against marketability.

The most substantial legal question about Indian water marketing is whether a tribe has the legal right to convey what is essentially a property right. One of the oldest rules of Indian law is that tribes cannot transfer land or rights in land to non-Indians without the participation or approval of the United States government (*Johnson v. McIntosh*, 21 U.S. (8 Wheat.) 543 (1823); Non-Intercourse Act, 25 U.S.C.A. sec. 177). Any legal doubt on this point can be resolved by obtaining congressional consent. This

consent was granted in several negotiated Indian water settlements that allowed water marketing. Action by Congress also moots the issue of whether there is a fundamental conflict between the Supreme Court's original rationale for reserved water rights and a tribe's use of them outside the reservation. In any event the legal restraint on alienation of Indian property is intended to protect Indian rights from encroachment by non-Indians or the states. This suggests that the primary concern in whether Indian water should be marketable is whether the tribes have been dealt with fairly. Presumably, congressional approval should depend on a finding that it is in the best interests of the tribe.

Some observers have proposed that Congress should authorize tribes to lease their water rights subject to the approval of the Secretary of the Interior just as tribes can now lease tribal lands with secretarial approval. One of the arguments offered in favor of Indian water leasing is that non-Indians may freely transfer their water and water rights so long as the rights of others are not harmed. Therefore, it is inequitable to deny tribes the same attributes for its water rights. As yet, Congress has not seriously considered legislation for Indian water leasing.

3. Tribal Water Codes and Administration

As sovereigns over their members and territory, Indian tribes can legislate and regulate water rights. Their ability to do so has been frustrated, however, by political impediments to the federal government's approval of tribal water codes and by some recent decisions of the Supreme Court that limit the reach of tribal regulatory authority over non-Indians on reservations.

It is clear that a state has no jurisdiction to regulate Indian use of Indian water rights. This is part of a 150-year legal tradition of maintaining tribal jurisdiction over Indians and their property on reservations, free from state control. The harder question is under what circumstances non-Indians on an Indian reservation can be controlled by tribes and when they are subject to state jurisdiction. Generally, if non-Indians are on Indian land, they like Indians can be subjected to tribal jurisdiction. The Supreme Court's decisions in this area have created doubts about whether tribes can regulate non-Indians, especially if they are on non-Indian owned land.

One case says that a tribe may have jurisdiction over a non-Indian on its reservation, even on the non-Indian's fee land, if the non-Indian's conduct would threaten or have a "direct effect on the political integrity, the economic security, or the health and welfare of the tribe" (450 U.S. 544, 566 (1981)). The use of waterways on a reservation presumably would affect some or all of these interests. But in a case dealing specifically with the applicability of a tribal water code, *United States v. Anderson* (736 F.2d 1358 (9th Cir. 1984)), the court held that the tribe lacked the requisite interest to regulate. This was because the stream in question originated outside the reservation, ran only a short

way along the reservation boundary, then turned away and joined the Spokane River outside the reservation.

In *Holly v. Confederated Tribes & Bands of the Yakima Indian Nation* (655 F. Supp. 557 (E.D. Wash. 1985), affirmed subnom, *Holly v. Totus*, 812 F.2d 714 (9th Cir. 1987), certiorari denied, 484 U.S. 823 (1987)) the same court upheld the application of a tribal water code to non-Indians using water on their land within the reservation where the stream was entirely on the reservation. The court added, however, that the tribe could not control “excess” water used by non-Indians – presumably water not subject to reserved water rights.

It would appear that tribes with comprehensive, well-developed codes and regulations governing waters on their reservation would be better able to demonstrate the need to regulate non-Indian water to further tribal interests. For instance, the U.S. Supreme Court upheld the exclusive authority of the Mescalero Apache Tribe to regulate game and fish on its reservation, including hunting and fishing by non-Indians (*New Mexico v. Mescalero Apache Tribe*, 462 U.S. 324 (1983)). This case did not deal with regulation on non-Indian land, but the court did emphasize the importance to the tribe of having unified regulation of a resource like wildlife. Similarly, the political integrity of tribal government control of resources would depend on unified control of water resources.

Tribes attempting to enact legislation to regulate water resources on their reservations do not have support from the U.S. Department of the Interior. Perhaps half of the tribal constitutions have provisions that require certain tribal legislation to be approved by the Secretary of the Interior before it will be effective. For twenty-six years the department has maintained a moratorium on approval of any tribal water codes that would extend to non-Indian water use. On two occasions the department has circulated draft regulations governing the approval of such codes, but they were met with a firestorm of opposition from western senators and congressmen. The federal government has departed from the moratorium in only a few cases to approve tribal codes as part of negotiated water settlements approved by Congress.

The last administration voiced sympathy for the tribal effort to regulate water resources, but did not change the policy. Secretary Bruce Babbitt said that if a tribe wanted to enact a water code and confronted a requirement for secretarial approval, as is the case in many tribal constitutions, all the tribe had to do was to amend its constitution to remove the requirement for secretarial approval of ordinances, and he would approve the amendment removing the approval requirement so the tribe could adopt a water code without the need for federal approval. Although not all tribes have a secretarial approval requirement for tribal codes, and those that do may have a means to remove the impediment, the apparent policy of the Department of the Interior disfavoring tribal codes could portend difficulties if code enforcement is challenged by a non-Indian and a court is called upon to examine the tribe’s authority to enact the provision.

Notwithstanding the uncertain area of tribal water code enforcement over non-Indians within a reservation, many tribes have sophisticated codes. Some have well-trained professionals on the staffs of water resources departments that do water resources planning and enforce water rights among those who share in the use of water on the reservation.

4. Use of Rights for New Purposes

Reserved water rights can be quantified for any purpose for which the federal government established an Indian reservation. As described earlier, the most commonly expressed purpose for creating reservations was to enable the Indians to pursue agriculture, but reserved rights can arise from other purposes. For example, in historically important fishing and hunting areas reservations were located to provide access to rivers and lakes to enable the continuation of these traditional lifestyles.

In *United States v. Adair* (753 D.2d 1394 (9th Cir. 1983), certiorari denied *Oregon v. United States*, 467 U.S. 1252 (1984)), the court found that a treaty provision guaranteeing the Klamath Tribe the exclusive right to hunt, fish, and gather on its reservation showed the primary purpose for creating the reservation. Other parts of the treaty mentioned agriculture; the court found that encouraging the Indians to take up farming was a second essential purpose of the reservation. Although state law did not allow water rights for fishing and hunting, the court held that the Indians had such a right which could be enforced to prevent non-Indians from depleting streams below levels that were required to maintain streamflows for fish and game.

A more difficult question arises when a tribe wants to use water for purposes other than those for which its reserved water rights were quantified. For instance, if rights were quantified for agricultural uses, can a tribe use the water for industrial purposes, or for a fishery, or even to water a golf course? When the Supreme Court approved the report of a Special Master and decided the reserved water rights of tribes on the Colorado River, the Master's report said that tribes' use of water was not limited to the uses that were the basis of quantification. In *Arizona v. California* (439 U.S. 419 (1979)) in 1979 the Court approved this report.

In the *Big Horn* adjudication, the court quantified the tribes' reserved rights based on irrigable acreage (753 P.2d 76, 98 (Wyo. 1988), affirmed, *Wyoming v. United States*, 492 U.S. 406 (1989)). The Wind River Tribes decided to use a portion of these rights to restore streamflows within the reservation and build up the fishery. They recognized an opportunity to recover the natural ecosystem and to reap economic benefits from tourism and recreational uses by attracting anglers. Non-Indian water users on the reservation who would have had to leave water in the stream instead of diverting it for irrigation objected. The state supreme court rejected the tribes' attempt to use water for instream

flows, saying that any change in use would have to be in accordance with Wyoming state law, which does not recognize such instream uses as “beneficial” (*In re General Adjudication of All Rights to Use Water in the Big Horn River System*, 835 P.2d 273 (Wyo. 1992)). The United States Supreme Court did not review the decision.

If a tribe changes its water rights to uses that were not the basis for a quantification of reserved rights and this must be approved under state law, the matter will be reviewed under the so-called “no injury” rule. This rule applies to all changes in use under the prior appropriation system. Limiting tribes to one use and prohibiting all changes would be inconsistent with that system of water rights. When prior appropriators change their use they must show that no other water users are hurt by the change. If the no injury rule were applied to Indian reserved water rights it could render them useless. Recall that tribes generally have not been able to raise the capital needed to put water rights to use. On the Wind River Reservation, for instance, the federal government financed an irrigation system that has served mostly non-Indians and the Indians have made little use of the system. Commencing Indian uses on Wind River and in other river basins where hundreds of non-Indian water users have built their investments on the use of water that the tribe, as the senior water rights holder, could have claimed, is bound to cause injury.

There is no doubt that the equities of established non-Indian water users deserve consideration. The non-Indian irrigators are neighbors and they are not responsible for the way the system from which they benefit was developed and for the fact that it has operated to the detriment of the Indians. The government created the system and the non-Indians inherited the situation. So the non-Indians reasonably expected that the present conditions would continue. On the other hand, they have been using Indian water to build their wealth. Under these circumstances, it seems inappropriate to apply the no injury rule mechanically. This would halt tribal progress and extend even longer the already long-delayed tribal benefits from use of reserved water rights.

Walker and Williams propose that tribes like those on the Wind River Reservation exercise their authority to administer and regulate water rights on their reservations and in doing so take control over the “change of use” question (Walker and Williams 1991). They can adopt criteria for “sensible water use policies for all reservation citizens” non-Indian as well as Indian (Walker and Williams 1991, 5:10). Some non-Indians have relied on state permits to use water diverted on the reservation that are over eighty years old. Walker and Williams urge that tribes “balance the complex interests of these non-Indians against . . . [t]he unique historical circumstances of water development on Indian reservations [that] may well compel compromise” (Walker and Williams 1991, 5:9). They say that one such compromise would be for tribes to adopt a public interest standard for tribal reservation water administration and apply it in a way that considers, along with other equities, the injury to juniors of changing the use of reserved water rights.

E. Conclusion

The doctrine of Indian reserved water rights is certainly a potent force for tribes. Yet its application has not justified the worries of non-Indians. First, only a handful of tribes – fewer than thirty – have finally determined the extent of their rights. Of those, only a few have put a significant portion of their water rights to use. Consequently, non-Indians have not been affected adversely by Indian water use. As Richard Collins wrote:

[T]his situation has generated powerful political and financial forces that oppose Indian development, of which there has been very little. There have been extravagant claims of the threat posed by Indian water claims, but actual conflict has been almost entirely a war of words, paper, and lawyers. Indian calls are not shutting anyone's headgates (Collins 1985, 56:482).

The doctrine is strong in theory and the challenge to lawyers and tribal leaders is to give it potency in practice. The fora for doing this are many. The processes for adjudication or negotiation for determining reserved water rights are expensive and arduous. They are also uneven in result, depending as they do on the fortuity of how much political power a particular state's congressional delegation wields and the timing relative to the nation's economic health. Once tribal rights are quantified they will remain unused because of a shortage of capital, restrictions on marketing, and limits on changes of use. The tribes must also be able to exercise comprehensive control over the water when there are non-Indian users within the reservation. Achieving justice and equity for Indians, then, depends not only on have a generous legal foundation but fair and reasonable means to use and regulate water resources.

4. Critique and Conclusions

Author's Note: This section will be completed based on reviews by other experts, input from the panel, and discussion at the conference. Some points that may be covered include:

- o Both environmental interests and Indian tribes have run into the problem of long-established water rights – system protects the status quo above all.
- o Historical allocation rules have changed over the years to reflect broader public concerns and equities of interests not protected in original allocations.
- o States have been inconsistent in their willingness to change laws to reflect these interests, so the federal government has taken a more active role.
- o Looking ahead: Economic and social forces driving water use will encourage more movement in these directions – water for urban use, recreation, and environmental protection. Recognizing and protecting public, cultural, and other “non-traditional” interests will present an increasing challenge to western water managers.

Bibliography

Ak-Chin Indian Water Rights Claims, Public Law No. 95-328, 42 Stat. 409 (1978); Public Law No. 98-530, 98 Stat. 2698 (1984); Public Law No. 102-497, 106 Stat. 3528 (1992).

Arizona v. California, 373 U.S. 546 (1963).

Arizona v. California, 439 U.S. 419 (1979).

Arizona v. California, 460 U.S. 605 (1983).

Arizona Statutes, sec. 45-172(5) (2001).

Bates, Sarah F., David H. Getches, Lawrence J. MacDonnell, and Charles F. Wilkinson. *Searching Out the Headwaters: Change and Rediscovery in Western Water Resource Policy* (Washington, D.C.: Island Press, 1993).

Bonham v. Morgan, 788 P.2d 497 (Utah 1989).

California v. Federal Energy Regulatory Commission, 495 U.S. 490 (1990).

California Water Code, sec. 109 (2002).

California Water Code, sec. 10505 (2002).

California Water Code, sec. 10505.5 (2002).

Cappaert v. United States, 426 U.S. 128 (1976).

City and County of Denver v. Sheriff, 96 P.2d 836, 844 (Colo. 1939).

Clean Water Act of 1976, 33 U.S.C.A. secs. 1271-1387.

Colorado Big Thompson Project, Colorado River Water Conservation District v. Municipal Subdistrict, Northern Colorado Water Conservancy District, 610 P.2d 81 (Colo. 1979).

Colorado Revised Statutes Annotated, sec. 37-45-118(1)(b)(II) (2002).

Colorado Revised Statutes Annotated, sec. 37-92-102 (2002).

Colorado River Water Conservation District v. United States, 424 U.S. 800 (1976).

Dan Tarlock, James Corbridge, and David H. Getches. *Water Resource Management: A Casebook in Law and Public Policy* (Westbury, N.Y.: The Foundation Press, 1993).

David H. Getches, Charles F. Wilkinson, and Robert A. Williams, Jr.. *Cases and Materials on Federal Indian Law* (St. Paul, MN: West Publishing Co., 1998).

David H. Getches, Lawrence J. MacDonnell, and Teresa Rice, *Controlling Water Use: The Unfinished Business of Water Quality Protection* (Boulder: University of Colorado, Natural Resources Law Center, 1991).

El Paso v. Reynolds, 597 F. Supp. 674 (N.M. 1984).

Endangered Species Act of 1973, 16 U.S.C. secs. 1531-1543.

F. Lee Brown and Helen Ingram, *Water and Poverty in the Southwest* (Tucson: University of Arizona Press, 1987).

Federal Power Act of 1920, 16 U.S.C.A. sec. 790, et seq.

Fish and Wildlife Coordination Act of 1934, 16 U.S.C.A. secs. 661-667.

First Iowa Hydro-Electric Cooperative v. Federal Power Commission, 328 U.S. 152 (1946).

Holly v. Confederated Tribes & Bands of the Yakima Nation, 655 F. Supp. 557 (E.D. Wash. 1985), affirmed, *Holly v. Totus*, 812 F.2d 714 (9th Cir. 1987), certiorari denied, 484 U.S. 823 (1987).

Idaho Statutes, sec. 42-203A (2000).

In re Application of Sleeper, No. RA 84-53 (N.M. District Court for Rio Arriba County 1985).

In re General Adjudication of All Rights to Use Water in the Big Horn River System, 835 P.2d 273 (Wyo. 1992).

In re Snake River Basin Water System, 764 P.2d 78 (Idaho 1988).

In re Water Use Permit Applications, 9 P.3d 409 (Hawaii 2000).

Jana L. Walker and Susan M. Williams, "Indian Reserved Water Rights," *Spring Natural Resource and the Environment* 5(1991): 6.

Johnson v. McIntosh, 21 U.S. (8 Wheat.) 543 (1823).

MacDonnell, Lawrence J.. *The Water Transfer Process as a Management Option for Meeting Changing Water Demands* (Boulder, CO: Natural Resources Law Center, 1990).

_____. “Transferring Water Uses in the West,” *Oklahoma Law Review* 3(1990):119.

National Audubon Society v. Superior Court, 658 P.2d 704 (Cal. 1983).

National Environmental Policy Act of 1969, 42 U.S.C.A. secs. 4321-61 (as amended).

National Research Council, *The Mono Basin Ecosystem: Effects of Changing Lake Level* (Washington, D.C.: National Academy Press, 1987).

_____. *Water Transfers in the West: Efficiency, Equity, and the Environment* (Washington, D.C.: National Academy Press, 1992).

National Water Commission, *Water Policies for the Future—Final Report to the President and to the Congress of the United States* (1973).

Nevada Revised Statutes, sec. 533.370 (2001).

New Mexico v. Mescalero Apache Tribe, 462 U.S. 324 (1983).

Non-Intercourse Act, 25 U.S.C.A. sec. 177 (2001).

McCarran Amendment of 1952, 43 U.S.C.A. sec. 666.

Montana Statutes Annotated, sec. 85-2-402(5) (2002).

Oregon v. California, 373 U.S. 546 (1963).

Pyramid Lake Paiute Tribe of Indians v. Morton, 354 F. Supp. 252 (D.D.C. 1972), supplemented by 360 F. Supp. 669 (D.D.C. 1973), reversed, 499 F.2d 1095 (D.C.Cir. 1974), certiorari denied, 420 U.S. 962 (1975).

Richard B. Collins, “The Future Discourse of the *Winters* Doctrine,” *University Colorado Law Review* 56(1985): 481.

Richard W. Wahl, *Markets for Federal Water: Subsidies, Property Rights, and the Bureau of Reclamation* (Washington, D.C.: Resources for the Future, 1989).

Salt River Water Users' Association v. Kovacovich, 411 P.2d 201 (Ariz. App. 1966).

San Carlos Apache Tribe v. County of Maricopa, 972 P.2d 179 (Ariz. 1999).

San Xavier Band of the Tohono O’Odham Nation Water Rights Claims, Public Law No. 97-293, 96 Stat. 1274 (1982).

Shokal v. Dunn, 707 P.2d 441 (Idaho 1985).

Skeem v. United States, 273 F. 93 (9th Cir. 1921).

Sporhase v. Nebraska, 458 U.S. 941 (1982).

Thomas J. Graff, “Environmental Quality, Water Marketing and the Public Trust: Can They Coexist?” *UCLA Journal of Environmental Law and Policy* 5(1986): 137.

Udall v. Federal Power Commission, 387 U.S. 428 (1967).

United States v. Adair, 753 F.2d 1394 (9th Cir. 1983), certiorari denied, *Oregon v. United States*, 467 U.S. 1252 (1984).

United States v. Anderson, 736 F.2d 1358 (9th Cir. 1984).

United States v. Kagama, 118 U.S. 375 (1886).

United States v. New Mexico, 438 U.S. 696 (1978).

United States v. Winters, 207 U.S. 564 (1908).

Wild and Scenic Rivers Act of 1968, 16 U.S.C.A. secs. 1271-1287.

Wyoming Statutes Annotated, sec. 41-4-503 (2001).

25 U.S.C. sec. 415 (2001).