

WATER RIGHTS DECISIONS IN THE  
WESTERN STATES: UPGRADING THE SYSTEM  
FOR THE 21ST CENTURY

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## PREFACE

In 1988 the Natural Resources Law Center initiated the Western Water Policy Project with the support of a grant by the Ford Foundation. This project includes a broad-ranging review of the laws, policies, and institutions governing the allocation and use of water resources in the western United States. It is aimed at addressing the adequacy of western water policy to respond to the needs of the contemporary West.

A major objective of the Western Water Policy Project is to encourage discussion of water policy issues. To further this objective we are initiating this Discussion Paper series. The papers in this series are written in conjunction with periodic workshops primarily involving a water policy working group. The members of this group are F. Lee Brown, James E. Butcher, Michael Clinton, Harrison C. Dunning, John Echohawk, Kenneth Frederick, David H. Getches, Helen Ingram, Edwin H. Marston, Steven J. Shupe, John E. Thorson, Gilbert White, Charles F. Wilkinson, and Zach Willey.

We welcome comments and responses to these papers.

Larry MacDonnell

# Water Rights Decisions in the Western States: Upgrading the System for the 21st Century

Steven J. Shupe\*

## INTRODUCTION

Something is amiss in the waters of the West. Symptoms of this disorder are found throughout the region:

- Denver and local water providers spent \$40 million on environmental studies and other permit requirements for the Two Forks Dam project, only to have the U.S. Environmental Protection Agency veto the permit in the final hour.<sup>1</sup>
- Irrigators in central Washington must watch their valuable orchard harvest wither in the summer sun during drought, although they have sufficient water delivered to flood their adjacent pasture land.<sup>2</sup>
- The Stillwater wetlands of western Nevada, an invaluable stopover to millions of birds in the Pacific Flyway, has shriveled in recent years by nearly 90 percent to only a few thousand acres fed by a trickle of returns flows in the Carson River.
- During the recent drought in southern Colorado, hospital emergency rooms treated a number of irrigators for shovel wounds incurred during volatile water disputes.<sup>3</sup>

Why do these problems exist at a time when millions of dollars are expended annually for water management and administration in each western state? Although the answer to this question is complex, a major reason is simply this: western water laws and institutions have been outpaced by the complexity of the issues that they were designed to address. Our decision making processes are in-

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<sup>1</sup> The Two Forks Project has been the primary strategy pursued for meeting growing water demands in the Denver area. It was designed to yield nearly 100,000 acre-feet per year for Denver and its suburban purveyors with waters developed on the South Platte River and imported from the Colorado River basin. In April 1989, the Administrator of EPA announced the initiation of the veto process pursuant to authority under the Clean Water Act, citing unacceptable environmental impacts.

<sup>2</sup> These irrigators own land that straddles the border between the Roza Irrigation District and the Sunnyside Valley Irrigation District in the Yakima Valley. RID land is typically planted in orchards and other high value crops, although RID is a newer water district with a relatively junior right. SVID land carries senior water rights associated with historic irrigation of pasture, alfalfa, and other crops. SVID, whose board must approve any out of district water transfers, is fighting applications filed in late 1989 by member irrigators who want to exchange their senior SVID rights for use on their RID land.

<sup>3</sup> Information provided through oral communications with Steven Vandiver, chief administrator of water rights in the upper Rio Grande basin for the Colorado Division of Water Resources, October 1989.

adequate to meet the current water resource challenge, as their guiding principles still have one foot firmly entrenched in the 19th century.

A new approach to decision making must be embraced if we are to adequately prepare for the water future of the 21st century. This paper looks at this need, beginning with a review of the policies that have driven western water decisions over the past decades. Next, the inadequacy of existing decisional processes is assessed, not only on a statewide policy level, but also in water district offices and at the headgate where policies are actually implemented. A description follows of the decisional areas needing immediate attention in the 1990s. The paper concludes with suggestions for long term improvements to the processes under which water resource decisions are made and implemented. Specifically, the notion of *certainty* in western water resources is exposed as a myth which must be eliminated from our mindset if finite supplies are to serve the future demands of the West. In its stead, adoption of flexibility in our codes and institutions will allow our successors to employ those solutions best suited for the challenges of the decades ahead.

## EVOLUTION OF WESTERN WATER INSTITUTIONS AND POLICIES

Water use in the West has undergone a series of stages over the centuries, dominated by changing principles. Prior to the arrival of non-Indian settlers, the attitude toward water and its use was generally one of reverence. Whether diverted for irrigation in the Southwest, harboring vast salmon runs in the Pacific Northwest, or simply flowing instream, water was revered as an essential component of life on both corporal and spiritual levels.<sup>4</sup> With the arrival of new settlers in the mid-1800s, however, the dominant attitude changed dramatically.

### *THE PERIOD OF APPROPRIATION*

In the 19th century, water became the fuel for the engine of growth as miners, irrigators, and other settlers arrived in large numbers from the East. During this period that the open-the-West ethic dominated the region, two major policy objectives arose that molded the emerging water laws and institutions. The first involved promoting the extensive diversion and use of water resources. Second, the newcomers wanted certainty.

The riparian doctrine, the standard water allocation principle in the eastern states, did little to promote extensive use of water or to provide certainty of right

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<sup>4</sup> "There has been a lot said about the sacredness of our land, which is our body; and the values of our culture, which is our soul; but water is the blood of our tribes, and if its life-giving flow is stopped or it is polluted, all else will die and the many thousands of years of our communal existence will come to an end." Statement of Frank Tenorio, in AMERICAN INDIAN LAWYER TRAINING PROGRAM, INDIAN WATER POLICY IN A CHANGING ENVIRONMENT 2 (1982).

Also, the earliest non-Indian irrigators who arrived via Mexico in the Southwest long before 19th century migration from the East carried with them a reverence for water. This attitude is still reflected in many Hispanic communities in the Southwest where irrigation is an important part of the economy and culture.

to diverters. It limited diversions only to those lands lying adjacent to a stream and restricted the quantity used to an indeterminate amount constrained by existing and future needs of other riparian landowners. The newcomers to the West rejected the riparian doctrine and in courts, legislatures, mines, and fields adopted the prior appropriation doctrine. This doctrine was well suited to the policies of the day. It encouraged extensive water use by rewarding the quickest to act,<sup>5</sup> and by creating a right based on the amount withdrawn to beneficial use. Thus, the larger the diversion to beneficial use, the larger the right established.

The doctrine was also the epitome of legal certainty. A water right became a vested property interest granted in perpetuity. It gave its holder the permanent right to divert water as against later appropriators. Also, the prior appropriation doctrine gave a large measure of legal certainty to those who established water rights after the initial water appropriations had been made. These junior users were protected by the non-injury rule, whereby senior water rights holders could not modify their use if such change proved detrimental to others diverting from the stream.

The institutions that arose during the Period of Appropriation in the western territories and states also reflected the dual objectives of extensive water use and certainty. Ditch cooperatives, canal companies, and irrigation districts were formed by neighbors to pool their financial resources to divert more water after the best irrigation sites were taken by the first wave of homesteaders. In addition, in order to augment the certainty provided by the prior appropriation doctrine, various procedures were adopted under state law. Local courts undertook adjudications to decree the quantity and priority of the rights established by competing appropriators on numerous stream systems. Also, many western states established agencies around the turn of the century to enforce water right priorities and to issue permits for new water appropriations.

All these actions during the Period of Appropriation promoted the desire of the newcomers to put water to use and to obtain as much certainty as possible. As the 20th century emerged, however, it became clear that new approaches were needed to continue to pursue these goals. The natural runoff in many river basins was insufficient to support additional summer irrigation, although water flowed in abundance during the spring runoff. Also, drought cycles brought debilitating uncertainty to junior water rights holders whose crops wilted due to lack of late-season supply. The period in which new users could simply appropriate a secure water supply from most western streams had ended. In 1902, with congressional passage of the Reclamation Act, the curtain rose on the Project Development Era in the West.

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<sup>5</sup> This principle of "first in time, first in right" initially arose in the gold fields of California when miners fought over rights to water. See *Irwin v. Phillips*, 5 Cal. 140 (1855). Other western states adopted the prior appropriation doctrine primarily as a result of competition over irrigation supplies. See e.g., *Coffin v. Left Hand Ditch Co.*, 6 Colo. 443 (1882).

### *THE PROJECT DEVELOPMENT ERA*

The 1902 Reclamation Act set in motion a multi-billion dollar effort to construct dam projects throughout the western states. Although a number of reservoirs had been built by irrigation districts and canal companies in the late 1800s to augment supplies, local funds rarely sufficed to build the new dams needed to apply additional waters to beneficial use and to provide drought insurance to existing users. The Reclamation Act provided federal money for constructing dams and the associated irrigation projects,<sup>6</sup> with subsequent repayment of a portion of the costs made through local water districts.<sup>7</sup>

Although some of the repayment contracts for federal projects were entered with existing irrigation districts, most western states authorized the formation of new water entities (commonly called conservancy districts) to contract with the Bureau of Reclamation. A number of legislatures also created state water development agencies to promote and finance projects for improving the reliability of water supplies. Additionally during the Project Development Era, large numbers of groundwater wells were drilled to further enhance individual and regional water security.<sup>8</sup>

These actions during the decades of the Project Development Era helped to advance the objectives of extensive water use and certainty. In addition, they reflected the emergence of a further policy goal that has driven water decisions during much of the 20th century: the accommodation of future water demands. Legislators who wished to see their states' economies expand understood that extensive use of existing supplies and providing legal certainty to early water rights could diminish the potential for new growth. Where would new industries and expanding cities find additional supplies if the natural flows were already locked up under the prior appropriation doctrine? Dams were the primary answer, along with additional wells in some regions.

In the latter part of the 20th century, however, these answers no longer were feasible. The Project Development Era began to wane in the 1970s, primarily due to four factors. First, the best dam sites had already been taken by past projects. As a result, few economically feasible projects could be identified. Second, the easy federal money that fueled the Project Development Era was no longer available. Third, even where a feasible project and funding were found, environmental concerns could prevent construction of the new dam. And, regarding new well development, an improved understanding of overdraft problems and hydrologic connections between surface and ground waters put the skids on well drilling activity that injured existing users.

<sup>6</sup> Reclamation projects were primarily designed to provide agricultural supplies, although some of the projects, particularly in recent decades, included municipal and industrial components.

<sup>7</sup> On paper, irrigators were supposed to repay the project costs associated with the agricultural component of reclamation projects. However, due to long payback periods and favorable interest rate provisions, only a fraction of the actual costs have been recouped by the federal Bureau of Reclamation through repayment contracts.

<sup>8</sup> Cheap electricity, improved pump technology, and new well drilling techniques made the boom in ground water development possible after World War II.

In response to the decline of water project construction, a new era took root during the 1980s. Instead of looking for unappropriated surface and ground water for additional supplies, many cities and other users began turning to existing water rights to meet growing demands. The Era of Reallocation had begun.

### THE ERA OF REALLOCATION

Although the acquisition of agricultural water rights goes back to the beginning of this century,<sup>9</sup> water marketing and transfers did not become common features in the West until recent years. In the late 1980s, water marketing evolved from simply a buzz word into a major force that began shaping the future of many western cities, industries, and others needing stable water supplies. Numerous mechanisms, both involuntary and voluntary, were wielded to reallocate water from existing to new uses. For example, involuntary transfers, although infrequent, resulted through forfeiture of unused rights, condemnation by public entities, adverse possession, or invocation of the public trust doctrine.<sup>10</sup> By far the most common transfer mechanism, however, encompasses *voluntary* marketing agreements between those holding water rights and those needing additional supplies. These strategies can involve the purchase of irrigated farmland to obtain the associated water rights;<sup>11</sup> acquisition of stock in a canal company, irrigation district, or other water distribution entity;<sup>12</sup> financing conservation improvements to obtain the salvaged water;<sup>13</sup> options to purchase irrigation water only during dry years;<sup>14</sup> participation in formal water banks;<sup>15</sup> and other arrangements.<sup>16</sup>

The breadth and complexity of water marketing activity in the Era of Reallocation are taxing the capacity of our water laws and institutions. In addition, the spread of another major policy force further complicates matters. Protection of the public interest in water is becoming an unavoidable consideration in water resource decisions in most western states. The public interest can be many things to different people, ranging from keeping municipal water rates low

<sup>9</sup> The earliest, and most notorious, example of major water marketing activity occurred shortly after the turn of the century when Los Angeles secretly purchased thousands of acres of irrigated farmland in the Owens Valley in order to export the associated water entitlements to municipal use. See M. REISNER, *CADILLAC DESERT* (1987) for an excellent account of this process.

<sup>10</sup> For additional information on water transfer mechanisms, see Shupe, Weatherford, & Checchio, *Western Water Rights: The Era of Reallocation*, 29 NAT. RESOURCES J. 413 (1989).

<sup>11</sup> This type of water marketing is most common in Arizona. During the 1980s, more than \$100 million was spent by central Arizona cities and developers on water ranches located primarily in the western part of the state.

<sup>12</sup> The most active market in district shares has been in northeastern Colorado, particularly involving Colorado-Big Thompson units. CBT units have been traded since the early 1960s, with the price peaking in 1980 at about \$3,000 per acre-foot of permanent water entitlement.

<sup>13</sup> The most significant example of this strategy is found in southern California where the Metropolitan Water District of Southern California has agreed to pay more than \$200 million to the Imperial Irrigation District over 35 years to fund water conservation projects. MWD will in return be allowed to divert 100,000 acre-foot per year of water salvaged through the IID conservation efforts to supply its municipal customers in the Los Angeles and San Diego areas.

<sup>14</sup> Weatherford & Shupe, *Reallocation of Water in the West*, 78 AMER. WATER WORKS ASSOC. J. 63 (Oct. 1986).

<sup>15</sup> The primary water banks that have a history of operation are found in Idaho (where irrigators put surplus water up for sale) and in the Los Angeles where the state runs a groundwater exchange pool to assist municipal pumpers who want to trade their entitlements. In addition, agricultural districts in eastern Washington and central California have begun experimenting with water banks.

<sup>16</sup> For descriptions of recent past water transactions, see THE WATER MARKET UPDATE SOURCEBOOK (S. Shupe ed. 1990). For current market activity, see *Water Intelligence Monthly* published by Stratecon, Inc., Claremont, California.

to buffering rural communities from the effects of water transfers. However, the primary public interest consideration currently involves protecting public values in the aquatic environment. This includes protecting wetlands, fisheries, recreational opportunities, and other economic and intangible values associated with free-flowing waters.

How can our water laws and institutions handle this new reallocation era and accommodate competing values in limited water resources? In order to answer this question, it is first necessary to analyze the existing processes that are used to formulate and implement water decisions in the West.

## THE INADEQUACY OF EXISTING DECISIONAL PROCESSES

When assessing the decision making processes that drive western water policies, commentators naturally look to state capitals. Here, legislators and officials formulate policy decisions, codify them into law, and develop administrative procedures for implementation. These steps began in most capitals more than one hundred years ago during the Period of Appropriation, with various refinements being added over the decades, depending upon the state.

In the State of Washington, the legislature in 1988 decided to undertake a thorough analysis of the adequacy of its laws and institutions that had evolved over the decades to handle water resource issues. It hired an Independent Fact Finder who interviewed over 200 water users from various interest groups and scrutinized the water code to pursue the analysis.<sup>17</sup> The following summary of the opinions of interest groups provide insights into difficulties not only in Olympia, but also into decisional problems experienced in most western states.

### LESSONS FROM WASHINGTON STATE

#### *Clarity*

A lack of clarity in state water statutes was repeatedly denoted as a key contributor to confusion in decisional processes and in discussions among parties. With undefined terms interspersed among old water statutes and with new laws often overlaid on existing ones, it has been difficult for parties to have productive negotiations and resolve their problems. They repeatedly stated during the fact finding process that the state needs a clearly articulated water policy, with all key terms precisely defined, inconsistencies eliminated from prior statutes, and with new provisions that address the complex issues that have arisen in recent years.

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<sup>17</sup> The author of this paper was hired by the Washington legislature as the Independent Fact Finder. Details of the process are found in Shupe, *Washington's Water Future: The Report of the Independent Fact Finder to the Joint Select Committee on Water Resource Policy*, July 1988.



### *Balance*

The interested parties also consistently expressed the need for the state to bring more balance into water allocation decisions. Each party felt that its positions were not adequately considered in the process of balancing interests among competing groups. For example, offstream user groups and hydropower interests felt that the Department of Ecology (the state's primary water agency) failed to recognize their water needs in proposing the department's instream flow protection policy in 1987. Instream flow proponents also argued for better balance, noting that for decades the state had ignored instream resource requirements in its water allocation decisions. Therefore, proper balancing today means deference to the needs of fisheries and other instream flow activities.

### *Instream Flow Protection*

Offstream user groups and hydropower interests generally expressed the belief that the current level of instream resources can be maintained without unreasonably constraining future development. According to many, net instream resources in Washington's waters (fish populations, recreational opportunities, and other instream benefits) can be preserved through mitigation of certain losses, proper selection of water supplies that minimize impacts, and taxpayers sharing the higher costs generated by environmental protection. In order to promote this protection while accommodating new water demands, some parties suggest designating the state's streams into categories for 1) high levels of offstream supply, 2) high levels of instream resource protection, and 3) preservation in pristine condition.

Instream resource proponents, although supportive of efforts to protect existing instream resources, expressed the need to enhance streamflows to undo past damage. They generally desire an optimal level of flow for streams based not only on re-establishing fisheries, but on other instream uses as well (e.g., recreation, tribal religious practices, aesthetics, and wildlife habitat). Also, they are against the idea of public funding of mitigation efforts for depletions caused by municipal, agricultural, and other diversions. In fact, most want to see state water bonds and all other state water subsidies eliminated so that the entire costs of water development and mitigation is paid by water suppliers and their customers.

### *Water Use Efficiency*

Most interest groups supported the concept of better water use efficiency, although some are more cautious than others. Primary differences concern whether conservation should be promoted mainly through regulations that dictate efficiency improvements or through positive incentives to encourage conservation. Also, while most parties expressed support for strong efficiency standards on new water rights, many existing offstream users are leery of having the state revisit vested water rights under stricter efficiency standards. They fear that

the state may impose rigid conservation provisions that overstep the constitutional bounds protecting their water rights against unreasonable interference.

Water marketing was often raised in the context of water use efficiency. A number of parties supported a freer market to allow the transfer of existing water rights to new uses. Also, many promoted the idea of allowing the marketing of water salvaged through conservation techniques. However, this concept raised many concerns, primarily from those who believe that conserved water should be dedicated back to the public to enhance instream flows, and from downstream users who fear that such marketing will deprive them of a portion of their historic flows.

### *Planning*

Another theme raised by interviewed parties was the need for better planning. Many groups mentioned with favor a three-tiered planning approach to water resource allocation and management: 1) statewide policies embodied in statute; 2) priorities and standards established on a regional level; and 3) specific allocation decisions made on a streamwide or case-by-case basis. A number of parties also suggested that certain allocation decisions (i.e., establishing new instream flow rights and issuing new water use permits) be deferred until basin planning processes or streamwide adjudications are complete.

### *Administration*

Current administrative and enforcement efforts were often raised as problems that state officials and legislators should confront. Most notably, parties registered concerns over lack of coordination within and among water agencies. For example, the Department of Ecology issued well permits that conflicted with the Health Department's policies to regulate public water supply systems. Also, parties frequently pointed to internal inconsistencies within Ecology, particularly between the central and regional offices. The need for cooperative efforts between state and tribal entities was also cited, where coordinated arrangements can help both tribal and state agencies better manage mobile water resources.

Parties that regularly deal with Washington's water administration expressed the need for better data regarding water use and supplies. In particular, more information is needed on groundwater, including its relationship to surface flows, to make important allocation decisions. Problems were also cited regarding the inadequacy of water rights data maintained by the state. This lack of accessible information exacerbates the problem of inadequate enforcement of water rights. Enforcement difficulties in turn lead to the perpetuation of unlawful diversions that rob water rights holders of their flows and undermine important instream resources, particularly in smaller streams.

*ENFORCEMENT AT THE HEADGATE*

The final point made in the preceding summary—inadequate enforcement at the diversion headgates—is not unique to Washington. Throughout the West, the limitations of headgate enforcement create problems for water users and those attempting to administer rights. Also, these limitations in the field can constrain implementation of progressive water policies adopted by legislators and officials. Lawmakers can pass whatever innovations they choose regarding water use and protection, but they are of little value if the policies cannot be implemented at the headgate.

Sitting in law offices or in state office buildings, it is comforting to think of "making a call" under the prior appropriation system as a rather straightforward exercise. The senior users, when they find that they are not getting their rightful share of flow, make a call for their water to the appropriate state official who informs the upstream juniors to reduce their diversions accordingly. This tidy scenario, however, is the exception rather than the rule in most western stream systems.<sup>18</sup>

In administering water use, western states rely to a great extent on the diverters themselves. What in practice occurs in many rural areas is that the local users have come to an accommodation among themselves regarding diversions. Although the irrigators undoubtedly know the quantity and priority of their decreed rights—and will defend them to the limit against state interference—practical considerations dominate during the irrigation season. Some of those considerations may include that the full amount of a decreed right is not needed for irrigation, that your neighbor with the junior right is your friend, that the local farm equipment outlet and seed distributors would disappear if water were not shared, that the juniors bypass enough flow so that your crops get by, that the state has not budgeted a watermaster for your area, and that you would be ostracized if you challenged the customary water use pattern that has evolved over the decades. Also, pooling water rights in order to get a sufficient head to irrigate is a common and essential practice in numerous watersheds.<sup>19</sup>

To augment these customary practices and cooperation, states have typically employed the minimum number of watermasters needed to keep the system running and to prevent open hostilities. This system, therefore, is a relatively fragile house of cards that does not easily accommodate the winds of change. What happens to this system when an irrigator sells a senior right for transfer to a city; or when an instream water right is established in the basin; or when Indian water rights are asserted with priorities senior to existing uses; or when the state

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<sup>18</sup> In many agricultural regions of the West, the 19th century adage can still be said to apply—"It is better to be upstream with a shovel, than downstream with a water right."

<sup>19</sup> For example, three users on a small creek may each have rights apportioning the entire flow in equal shares. Because it is far more efficient to irrigate with the entire flow of the creek for a few days rather than continuously irrigating with one-third of the flow, the neighbors rotate their irrigation schedules to each take the entire flow for a few days rather than diverting their decreed amounts.

decides to implement a conservation program to improve agricultural water use efficiency? In short, the limitations of the system of administration is quickly exposed, and the lives of local irrigators and state officials become more complex.

This fact helps to explain why many state engineers and others vehemently fight changes in water policy that accommodate environmental values, Indian tribes, and other emerging forces on the western waterscape. Implementation of progressive programs will expose the failings of the existing administrative structure in many states and require costly additions to the system. But overhaul of the system is unavoidable as we approach the 21st century. The winds of change are blowing whether one likes them or not.

### *THE ROLE OF WATER ENTITIES*

The previous discussion demonstrates the link between decision making at the state level with limitations in the field. Between state capitals and headgates, however, lies an additional force in the decisional process that is key to western water resources. This force is wielded by the directors of canal companies, municipal water departments, irrigation districts, and other entities that distribute water to users throughout the West.

With the emergence of the Era of Reallocation, we see both how the actions of municipal water entities can adversely affect rural areas and, conversely, how rural water districts can inhibit urban needs. Boards of directors, officials, and staff of these water entities are focused on the needs of their organization and member water users, although the effects of their actions can be regional. For example, the aggregate effect of numerous cities in a particular metropolitan area each buying up agricultural water rights based on their individual needs can create problems for the area of origin. Moreover, competition among the cities can exacerbate the problem because the cumulative purchases can result in more converted rights than the metropolitan area will need.<sup>20</sup>

To minimize the potential effect of this problem, water officials are looking at the idea of creating new water superagencies to coordinate the acquisition of additional supplies needed by a region's municipal water providers. In Arizona, this idea arose in 1989 as a way to meet the Phoenix area's future water demands, while minimizing the effects of water transfers on rural communities. Also, after the apparent demise of the Two Forks Dam project (which had been designed to meet the future water needs of more than 40 Denver area purveyors), the Colorado governor suggested creation of a metropolitan water authority to coordinate new acquisition efforts.<sup>21</sup>

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<sup>20</sup> Overbuying results when each city makes purchases based on optimistic population projections, hoping that it will get the lions share of regional growth as compared to neighboring suburbs. When all the cities do this, the amount of purchased water rights greatly exceeds the demands based on regional growth projections.

<sup>21</sup> Governor Roy Romer made these comments during a November 1989 speech at the University of Denver College of Law conference on "Colorado in the Wake of the Two Forks Decision."

The future of water supplies and transfers is also strongly influenced by decisions of agricultural districts. Because district bylaws usually give the board of directors authority over changes of use of irrigation shares, board actions can strongly constrain new water uses and transfers. The frustration that can grow out of this fact is reflected in a recent letter to the New Mexico legislature written by the former attorney for the Middle Rio Grande Water Conservancy District. The letter speaks for itself:

...the District effectively sits as a bank—a reservoir, if you will—whose Rio Grande rights are the foundation for the future growth of the state. At some future date, all growth in the Rio Grande Valley will require the transfer or retirement of District water rights, rights currently beneficially used by District farmers. In a very real sense, the waters used by the farmers and controlled by the Middle Rio Grande Conservancy District are the endowment for New Mexico's future.

Today the District is a bank without a banker.... [T]he District has a reputation of simply being impossible to deal with. Indeed, the transfer of water rights, with the concomitant commitment of financial and other resources, requires consistent, sensible policies, policies which the District is woefully lacking. The District is without any consistent set of guidelines or regulations to guide it in the conduct of its affairs, and to give others a sense of what they can expect. Everything is conducted on an ad-hoc basis, what receives the Board's blessing today can be anathema tomorrow. In an environment such as this, there is no possibility for real management; everything is forever left to Board discretion, which is unconstrained (or so it believes) by any meaningful policies. The risks for New Mexico are obvious. Water is wasted and mismanaged. Rights are carelessly not protected and perhaps lost. The resulting uncertainty has a chilling effect on growth.<sup>22</sup>

The letter then posed the question to the legislators whether an elected board of directors, "a Board representing at best a narrow constituency of New Mexico voters, voters who, in any event, have shown a disinclination to participate in District elections, is to be entrusted with the management of New Mexico's water endowment."<sup>23</sup> This question, although expressed a bit dramatically in this Albuquerque area example, is an important one facing many areas of the West where irrigation districts control water that is key to a region's future.

## DECISIONAL CHALLENGES OF THE 1990S

As stated in the introduction to this paper, the water laws and institutions of the western states have been outpaced by the complexity of the issues that they were designed to address. As a result, existing decisional processes need major improvements in order to accommodate the new Era of Reallocation and the breadth of the public interest in water resources. The concluding section of this paper suggests the types of activities needed to prepare for the long term water fu-

<sup>22</sup> Letter from Fred Abramowitz to the Joint Interim Committee on Natural Resources and Extractive Industry (Sept. 27, 1989).

<sup>23</sup> Abramowitz concluded that a statewide water agency should be appointed as steward over water decisions in the District.

ture in the West. The deficiency of past laws and institutions, however, has also left us with a series of problems that demand immediate attention. The following discussion addresses these problem areas and the need for decisive actions.

#### *PROMOTING WATER TRANSFERS WHILE PROTECTING COMMUNITY VALUES*

The transfer of existing water rights and the interbasin transfer of water promise to play a significant role in meeting new demands in the western states. Existing state laws, however, generally have two major flaws relative to water transfers. First, the laws need modification in order to facilitate water transfers in an efficient and cost-effective way. For example, clarification is necessary in many states regarding what amount of water may be transferred from existing irrigation rights. May only the component historically consumed by the crops be transferred, or may the irrigator salvage irretrievable losses and then market those savings? Also, states could in many instances simplify transfer proceedings and thereby reduce transaction costs that otherwise inhibit potential transfers. In addition, states may wish to override local provisions that prevent out-of-district sales, so long as reasonable protection exists against the debilitating effects of water transfers.

Most western state water codes do not adequately protect areas of origin from the conversion of irrigation rights for export to municipal regions. This is the second major legal flaw that needs rectification. Without protection, transfers of agricultural water rights to other uses can be devastating to the rural economy, environment, and culture. Loss of secondary businesses, dust and weeds from formerly irrigated land, and erosion of the tax base are only some of the potential adverse effects facing the area. But under most state laws, a transfer will only be constrained if it injures people's water rights, not their economy or way of life. Before the Era of Reallocation proceeds further, additional protective provisions are needed to mitigate the effects of transfers on community values.

#### *ACCOMMODATING ENVIRONMENTAL PROTECTION AND ENHANCEMENT*

When the Period of Appropriation arose in the 19th century, no consideration was given to the value of water in the natural environment. As a result, many important fisheries were diminished, and numerous other economic and intangible values of free-flowing streams were lost throughout the West.<sup>24</sup> In response to the growing recognition of the importance of these values, most state legislatures in recent years have established some form of streamflow protection, often creating instream water rights.<sup>25</sup> However, the practical effect of such rights is typically of little value to the environment. At best, they only act to maintain the sta-

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<sup>24</sup> For a discussion of the multiple benefits of instream flows, see Shupe, *Keeping the Waters Flowing: Stream Flow Protection Programs, Strategies and Issues in the West*, in *INSTREAM FLOW PROTECTION IN THE WEST* 2-4 (L. MacDonnell, T. Rice & S. Shupe eds. 1989).

<sup>25</sup> *INSTREAM FLOW PROTECTION IN THE WEST* (L. MacDonnell, T. Rice & S. Shupe eds. 1989).

tus quo, while the damage of past diversions continues. Moreover, enforcement of these rights against junior diverters is difficult.<sup>26</sup>

In response to the inadequacy of most existing state strategies, private actions have been initiated to get water back into critical streams, lakes, and wetlands. In California, the Audubon Society won a battle against Los Angeles' vested water rights in tributaries to Mono Lake. The California Supreme Court ruled under the Public Trust Doctrine that the state has never had the right to issue water use permits that damage the public interest in waters of the state.<sup>27</sup> Advocates in other western states are asserting the Public Trust Doctrine in an attempt to reallocate existing diversionary rights back to rivers and streams.

Many believe, however, that there are better ways to recapture water for the environment than through courtroom battles over the public trust. The Nature Conservancy and other organizations are currently acquiring numerous water rights through purchases, exchanges, and gifts for dedication back to important streams and wetlands.<sup>28</sup> In some instances, state agencies are joining in these efforts.<sup>29</sup> State legislatures should take steps to support these steps through funding as well as through ensuring that the necessary programs and enforcement are authorized. Also, statutes could be passed to dedicate forfeited and wasted water rights back to the public for instream flow protection.<sup>30</sup>

#### INTEGRATING INDIAN RIGHTS INTO THE WESTERN WATERSCAPE

Shortly after Congress passed the 1902 Reclamation Act, the U.S. Supreme Court recognized that Indian tribes have water rights for their reservations generally superior in priority to non-Indian diversions.<sup>31</sup> Consequently, it would seem that as the Project Development Era got under way, Indian tribes would be the beneficiaries of a large portion of the reclamation efforts. Such was not the case, however. As stated by the prestigious National Water Commission in 1973:

<sup>26</sup> Making a call to protect instream flows is even more difficult than for diversionary water rights because often there is no stream gaging station to indicate when the flow falls below the protectable level. Also, even when a gage is in place, daily monitoring by staff is usually infeasible. However, these problems can be overcome. The state of Washington has implemented an innovative strategy for making calls to protect critical flows that involves satellite telemetry and a toll free number that junior irrigators must call to see if they are out of priority relative to instream flow rights. For a description of this system, see Barwin & Slattery, *Protecting Instream Resources in Washington State*, in *INSTREAM FLOW PROTECTION IN THE WEST* 369-402 (L. MacDonnell, T. Rice & S. Shupe eds. 1989).

<sup>27</sup> *National Audubon Society v. Superior Court*, 658 P.2d 709 (1983), *cert denied*, 464 U.S. 977 (1983). For a discussion of the Public Trust Doctrine, see Dunning, *The Public Trust Doctrine and Western Water Law: Discord or Harmony?*, 30 *ROCKY MTN. MIN. L. INST.* 17 (1984).

<sup>28</sup> The Nature Conservancy's recent purchases have included water for swans in Idaho, trout in Colorado, and wetlands in Nevada. They have also received a gift of water rights, valued at \$7 million, in the Gunnison River of Colorado primarily for recreational purposes.

<sup>29</sup> The California Department of Fish and Game has purchased water from the Bureau of Reclamation to assist salmon runs in the San Joaquin River basin. In Colorado, the Department of Natural Resources has proposed spending \$6 million to acquire Yampa River rights for the protection of endangered fish species.

<sup>30</sup> Two major attempts at this were made in state legislatures during the 1989 session. In Oregon, HB 3203 called for water permits to be reissued every 20 years, and reduced based on changing efficiency standards, with the savings reallocated to instream flow protection. In Texas, HB 1128 proposed to give the Texas Water Commission authority to amend existing water rights in order to protect fish and wildlife habitat, water quality, and instream flows. Neither bill, however, passed.

<sup>31</sup> *Winters v. United States*, 207 U.S. 564 (1908).

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 one of the sorrier chapters.<sup>32</sup>

Today, therefore, tribes are struggling to assert their rights to water, while states are attempting to minimize the potential effect of those efforts on non-Indian water users. In 1963, the Supreme Court ruled that tribes are entitled to the amount of water needed for future as well as existing uses, and established "practicably irrigable acreage" (PIA) as the yardstick to quantify the water right for future uses on agricultural reservations.<sup>33</sup> The series of events that this ruling, along with the 1952 McCarran Amendment,<sup>34</sup> has set off could be considered somewhat comic, if the repercussions of the subsequent actions were not so serious.

States have initiated comprehensive stream adjudications—some with more than 100,000 parties<sup>35</sup>—that will ultimately cost millions of dollars and take decades to complete, with the primary purpose of simply quantifying tribal rights. Bevy of scientist and economists have spread out over reservations armed with instruments and equations to prove each other wrong on the witness stand and to show how much water tribes will need in the future—based on current crop prices, electrical rates, and irrigation construction costs. Tribal and state officials, along with their lawyers and engineers, negotiate around tables to sign permanent agreements that will limit their future generations' ability to adapt to changing needs and circumstances.

Instead of going through these contortions, state leaders should simply acknowledge the Supreme Court's ruling that Indian tribes are entitled to develop additional water supplies as their on-reservation need for water grows.<sup>36</sup> Tribes and states could then focus their resources on working together to solve the long term challenge of regional water management, rather than spending their money on adjudications, consultants, and legal fictions. Under either scenario, some non-Indian users may face future dislocation when tribe's assert their lawful need for water supplies. But the chances for minimizing adverse effects are greater when state, tribal, and federal resources are focused together on finding solutions rather than in perpetuating an adversarial approach.

<sup>32</sup> U.S. National Water Commission, *Water Policies for the Future—Final Report to the President and to the Congress of the United States* 475 (1973).

<sup>33</sup> *Arizona v. California*, 373 U.S. 546 (1963).

<sup>34</sup> 43 U.S.C. 666(a)(1986). The McCarran Amendment provided the consent of the United States to be joined in state court for the purposes of determining federal water rights in a general stream adjudication. This waiver of sovereign immunity has been interpreted by the Supreme Court to apply to Indian tribes as well. See *Arizona v. San Carlos Apache Tribe*, 463 U.S. 545 (1983).

<sup>35</sup> Two state general stream adjudications are currently proceeding with more than 100,000 parties joined to determine their water rights. These are the Gila River adjudication in Arizona and the Snake River adjudication in Idaho.

<sup>36</sup> Such an approach would also help defuse the controversy over off-reservation marketing of tribal waters. If the measure and extent of the Indian water right were defined as the amount needed for on-reservation use at any time, this would not include any right to off-reservation leasing of unused entitlements. Only if tribes chose to terminate existing on-reservation uses in order to market the saved water (as is allowed under state law for any user) could the entitlement be marketed off reservation.



## REGULATING GROUNDWATER WITHDRAWALS

An additional decisional challenge demanding immediate attention is the issue of groundwater use. When thousands of wells were drilled in the West after World War II and created a new surge of economic growth, little thought was given to their long term effects on aquifers or on surface flows. Today, however, we know that wells either mine finite groundwater supplies, or ultimately deplete nearby streams and rivers which typically are fully appropriated by surface diverters. Although a number of states have subsequently placed moratoria on well drilling in overdrafted areas, this measure does little to mitigate the effect of continued pumping from existing wells.

In a few instances, states have attempted to address this problem with innovative solutions. The most comprehensive effort to regulate and preserve groundwater resources was enacted by the Arizona legislature through the 1980 Groundwater Management Act. By mandating conservation measures, retiring agricultural wells, allowing marketing of pumping entitlements, and through other measures, the act is designed to eliminate overdraft by the year 2025.<sup>37</sup>

In northeastern Colorado where junior wells were depleting flows in the South Platte River, the state engineer enacted rules that phased out well pumping unless the owners acquire water to augment the river. In response, well users organized special districts that bought and retired surface rights and developed additional storage in the South Platte basin.<sup>38</sup> In the Los Angeles area, after overpumping resulted in saltwater intrusion into the local aquifer, a groundwater exchange pool was formed to facilitate transfers of pumping entitlements to accommodate changing needs. The pool was created pursuant to court decree and is run by the California Department in Water Resources. Additional examples of innovative solutions need to be implemented by state officials in numerous western regions in order to prevent irreversible damage to existing aquifers and to avert dislocation of surface users by junior well pumping.

## PREPARING FOR THE FUTURE

Solving the four immediate decisional challenges discussed above will assist in preparing for the West's water future. Focusing on these issues alone, however, will not set the stage for long term solutions to water resource problems. Instead, fundamental changes need to be made in the laws, institutions, and processes that guide water decision making.

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<sup>37</sup> ARIZ. REV. STAT. ANN. §§ 45-401 to -655. For a description of the Act, see Ferris, *Arizona's Groundwater Code: Strength in Compromise*, 78 AM. WATER WORKS ASSOC. J. 79 (Oct. 1986).

<sup>38</sup> See Shupe, *Administration of Ground Water Rights: A Darkening Cloud Over Irrigated Agriculture*, 20 GONZ. L. REV. 729, 741 (1984/85).

### *PROPOSALS FOR CHANGE*

The key element in designing processes for future water decision making is the fair weighing of multi-party interests. With water playing an essential role throughout western society, all interests must have a voice in the decisions made regarding its use, protection, and management. Although some western states have adapted their institutions to accommodate this need, most still reflect a imbalance that arose during a previous water era.

Although proper weighing of multiple interests is important in local decision making, it is most critical at the statewide level. In order to achieve this end, a model for decisional processes at state capitals should include:

- A system of bill assignments in the legislature that insures that water bills are heard by committees that are not in the pocket of a single water constituency (i.e., municipalities, environmentalists, or agriculturalists). Otherwise, a minority position could consistently prevent the full legislative body from considering important new water proposals that bring needed modifications to the system; and
- A water resource agency overseen by a policy review board composed of members representing the various constituencies affected by water decisions. The board would insure that decisions of agency staff do not favor a single position or constituency.

Changes at the district level are also needed to prepare for the long term challenges of the new water era. State legislators should, in light of evolving needs and circumstances, revisit the old enabling statutes under which irrigation and conservancy districts were formed. Although the needs of the district water users are of critical importance, district boards should not be allowed to favor local constituencies to the detriment of the overall public interest in water. Also, new enabling legislation may prove desirable for establishing additional types of districts to confront emerging problems. These could include regional districts for identifying municipal water supplies or new rural entities to spearhead water efficiency improvements.

Changes at the headgate are also required in order to bolster the effectiveness of decisional processes. This does not mean, however, that the practices of irrigators that have developed over the decades should be subordinated to a textbook approach to water administration. Instead, lawmakers should gain an understanding of the current customs and limitations involved in headgate enforcement, then improve the administration system by building upon this knowledge. The state's role in enforcement will inevitably increase as the complexities of water management grow and new policies are implemented. But coordination with local customs and needs is essential to minimize potential costs and disruption.

## REVISITING PAST POLICY OBJECTIVES

As a final step in assessing our long term needs for water decision making, it is useful to revisit the four major policy objectives that evolved during past water eras (i.e., extensive use of water; certainty of right; meeting future water needs; accommodating the public interest).<sup>39</sup> In short, are they appropriate baggage to carry with us into the 21st century?

Beginning with the policy objective that made its debut in the Project Development Era—meeting future water needs—it is clear that this concept remains an important element in future decisional processes. Water management decisions must not only reflect current needs, but also consider the water requirements of future users. Moreover, this approach is complemented by the goal of accommodating the public interest. Effective water planning incorporates the overall interests that society has in water as well as the future demands of water users. This public interest in water is a broad and evolving concept that can extend from the preservation of rural jobs to the joy that people get from the passing of waterfowl that feed at critical wetlands.

Does the policy objective of extensive use of water remain a viable tenet as well in our water future? To some extent, yes. However, it is not precisely the same concept that evolved in the 1800s, when extensive use simply meant maximizing the diversions from rivers and streams. The need is now one of *intensive*, not extensive, water use. This modified objective encompasses efficient utilization to minimize diversions and to extend limited supplies to all offstream and instream needs.

Finally, the concept of certainty has also remained an important policy goal behind water resource decision making over the past decades.<sup>40</sup> Even today, it is a banner under which officials make numerous policy decisions. It is why water rights are still being issued in perpetuity rather than for a fixed term of years that could accommodate shifting economic and societal values. It is a primary reason that states are pursuing costly adjudications to quantify Indian water rights and to lock future generations into these numbers. It is what makes it so difficult to invoke anti-waste statutes to compel the conservation of limited water supplies. And in numerous other instances, the perceived need for certainty acts as a powerful impediment against implementing changes for the future.

Yet the concept of certainty in western water resources is simply a fiction. It is a myth, albeit a comforting one to those who think only in the short run. Never have water users had certainty in perpetuity, despite the mandate of the prior appropriation doctrine. Advocates of perpetual certainty must overlook the inevitability of extended droughts and climate changes that occur on this planet.

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<sup>39</sup> A description of the emergence of these four policies is found in the first part of this paper.

<sup>40</sup> See e.g., *Rowland v. Ramelli*, 25 Cal. 3d 339; 559 P.2d 656; 158 Cal. Rptr. 350 (1979).

They lobby for certainty of right, while mining the underlying aquifer to extinction. They argue against policy changes that could influence existing surface diversions, while ignoring the fact that the reservoirs upon which their entire region depends are filling with sediment. Whether the reservoirs clog in 20 years or 200 years, whether the aquifer depletes in 10 or 100 years, or whether the greenhouse effect results in more or less water in the West is incidental to the issue. Change, not certainty, is the hallmark of western water resources. And laws must be adopted that can respond to change.

### CONCLUSION: THE NEED FOR FLEXIBILITY

Perhaps our ancestors will find our acts in the 20th century puzzling but forgivable. If we wanted to dry up rivers to make Phoenix and other desert cities bloom like Kentucky, then so be it. If we chose to subsidize dams so that individuals could flood arid land to grow rice, cotton, and other surplus crops, then that was our choice. And it was okay to irrigate fields of alfalfa in the Sierra Nevadas at the expense of critical wetlands for the Pacific Flyway, if that is what we wanted.

But our descendants will not forgive us if we constrain their ability to respond to new challenges by bequeathing to them inflexible water laws and institutions. New rights issued in perpetuity, quantification of future needs based on inadequate current data, and depleted aquifers that took thousands of years to form are but a few of the legacies that we risk leaving in our wake. But it is not too late for action. By replacing the fictional concept of certainty with flexibility, we can formulate effective water resource policies and create decisional processes that serve the long term needs of the West.