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Resource Law Notes Newsletter, no. 6, Sept. 1985

University of Colorado Boulder. Natural Resources Law Center

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Resource Law Notes

The Newsletter of the Natural Resources Law Center
University of Colorado, Boulder • School of Law

Number 6, September 1985

Colorado Water Program Set

The Natural Resources Law Center and the Colorado Water Resources Research Institute are hosting a two-day conference on **Colorado Water Issues and Options: The 90's and Beyond.** The program will be held at the Regency Hotel in Denver on October 8-9, 1985. The conference theme is "Toward Maximum Beneficial Use of Colorado's Water Resources."

PROGRAM

Tuesday, October 8, 1985

9:00 a.m. David H. Getches, *Meeting Colorado's Water Requirements: An Overview of the Issues*

10:15 a.m. Clyde O. Martz, *Administering Colorado's Water: A Critique of Alternatives*

11:00 a.m. Stephen F. Williams, *A Market-Based Approach to Water Rights: Evaluating Colorado's System*

11:45 a.m. Raphael Moses, *The Development of Colorado's Water Law* (luncheon talk)

1:15 p.m. Steven J. Shupe, *The Problems and Promise of Improving Efficiency Under Colorado Water Law*

2:00 p.m. William A. Paddock, *Nontributary Groundwater*

3:00-5:00 p.m. **Concurrent Workshops**

Water Administration (Martz Paper):
John Huyler (Discussion Leader)
Fred Anderson
Judge Robert Behrman
Jeris Danielson
Hester McNulty
George Vranesh
Bart Woodward

Efficiency Disincentives (Shupe and Williams Papers):
George Pring (Discussion Leader)
Tom Glass
Dan Luecke
Don Miles
Manuel Pineda
David Robbins

Nontributary Groundwater (Paddock Paper):
Norman Evans (Discussion Leader)
Mort Bittinger
David Getches
David Harrison
Chris Paulson

Wednesday, October 9, 1985

9:00 a.m. Jeris A. Danielson, *Plans for Augmentation: Are They Really a License to Steal?*

9:45 a.m. Glenn E. Porzak, *Innovative Transfer and Exchange Plans*

10:45 a.m. Neil S. Grigg, *Voluntary Approaches to Basinwide Water Management*

11:30 a.m. Justice George E. Lohr, *The Judicial Role in Colorado Water Law* (luncheon talk)

1:00 p.m. Leonard Rice, *Factual Issues in Water Right Changes and Augmentation Plans*

1:45 p.m. Howard K. Holme and Kenneth R. Wright, *Interstate Transfers of Water*

2:45-4:45 p.m. **Concurrent Workshops**

Plans for Augmentation (Danielson and Rice Papers):
Aaron Clay (Discussion Leader)
Wayne Allard
Felicity Hannay
Jack Oder

Innovative Water Management (Grigg, Porzak, and Rice Papers):
Robert Kerr (Discussion Leader)
William Brown
Tom Cech
Gregory Hobbs
Jim Lochhead
Charles L. Thomson

Interstate Transfers (Holme/Wright Paper):
George Radosevich (Discussion Leader)
Bill Hillhouse
Bill McDonald
John Musick

4:45-5:15 p.m. Conference Summary

Full papers will be prepared by each of the presenters and made available to each registrant. An opportunity for discussion is provided by the afternoon workshops. The registration fee is $125 if received by September 20th and $150 thereafter. For further information, contact the Center at 492-1286.

Center Hosts Natural Gas Workshop

Law **Professor Stephen F. Williams** organized a workshop held for invited participants June 26-28 on *Natural Gas Prorationing and Ratable Take Legislation.* Practitioners, economists and scholars from six major gas-producing states were asked to write papers in advance of the workshop describing regulatory activities within their states.

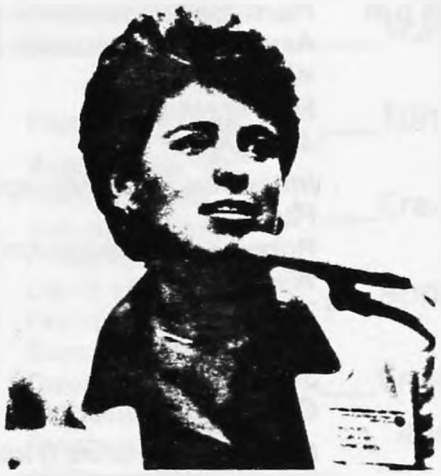
The authors included **Professor Gary Allison** of the National Energy Law and Policy Institute, University of Tulsa; **Scott Anderson** of Texas Independent Producers & Royalty Owners Association; **Professor Joseph R. Geraud,** University of Wyoming College of Law; **Professor John Lungren,** Washburn University School of Law; **Professor Patrick Martin,** Louisiana State University Law Center; **Perry Pearce,** Esq., Montgomery & Andrews, Santa Fe.

Professor Stephen L. McDonald, an economist from the University of Texas, provided a preliminary economic analysis of the six varied systems. Others experts in the field joined the authors for the workshop. The edited papers and proceedings will be published by the *University of Colorado Law Review.*

Summer Programs Held

The Sixth Annual Summer Program, held at the law school in Boulder, once again featured two conferences. On June 3-5, 190 participants gathered to discuss **Western Water Law in Transition.** Registrants came from 20 states including every western state recognizing the prior appropriation doctrine. The second conference, **Public Lands Mineral Leasing: Issues and Directions,** attracted more than 90 participants. Notebooks containing outlines and associated materials prepared by the speakers are available ($60 for Western Water; $40 for Public Lands). Audiotapes of the presentations also are available in cassette form ($150 for 3-day Western Water program; $100 for 2-day Public Lands program; half-day segments of each available for $35).

Wyoming Governor Ed Herschler at luncheon program



Marilyn Kite discusses coal leases

David Getches and Representative Ruth Wright

Robert Burford

Wilkinson to Be Center Visiting Scholar

Charles F. Wilkinson

Charles F. Wilkinson, Professor of Law at the University of Oregon School of Law, will spend the fall semester, 1985 as a Visiting Scholar at the Natural Resources Law Center. Professor Wilkinson will devote much of his time at the Center working on a book to be called "The Lords of Yesterday—19th Century Resource Rights in the Modern American West." He has written on numerous resource-related issues and is a coauthor of two major legal casebooks—one on Indian law and the other on public land law. Professor Wilkinson spent the '84-'85 academic year as a visiting professor at the University of Colorado School of Law.

Center Hosts Two Visiting Fellows in Fall

Two Visiting Fellows will be in residence at the Natural Resources Law Center during the fall 1985 semester. **Steven J. Shupe** was most recently an Assistant Attorney General for Colorado, representing the state in various areas of water law. He has practiced with the Denver firm of Davis, Graham & Stubbs and worked as an engineer in the Water and Land Resources Division of Battelle Northwest. He holds a B.S. degree in civil engineering from Stanford, an M.S. in environmental engineering from Stanford, and a J.D. from the University of Oregon School of Law. Mr. Shupe's work while at the Center will focus on legal incentives to improve efficient utilization of water and on instream flow rights.

Dr. Earl Spangenberg is an Associate Professor of Water and Forestry in the College of Natural Resources at the University of Wisconsin, Stevens Point. He holds an M.S. and Ph.D. degree in Watershed Management from Colorado State University. Professor Spangenberg is utilizing the sabbatical period at the Center to research and write on the interaction between nonpoint source water pollution controls and forest and agricultural management practices.

The Future of Western Water Law

By David H. Getches

David H. Getches

***David H. Getches** is the Executive Director of the Colorado Department of Natural Resources. He is on leave from the University of Colorado School of Law where he has been on the faculty since 1978. Mr. Getches is a graduate of the University of Southern California School of Law. He has been in private practice in California and Colorado. He was a founding director of the Native American Rights Fund. The following article is based on a luncheon talk by Mr. Getches at the June, 1985 conference on "Western Water Law in Transition."*

New instruments of production, new modes of travel and of dwelling, new credit and ownership devices, new concentrations of capital, new social customs, habits, aims and ideals — all these factors of innovation make vain hope that definitive legal rules can be drafted that will forever after solve all legal problems. When human relationships are transforming daily, legal relationships cannot be expressed in an enduring form. The constant development of unprecedented problems creates a legal system capable of fluidity and pliancy.

Jerome Frank, *Law and the Modern Mind* 12-13 (1930).

The great advantage, indeed the great beauty, of western water law has been its ability to respond to contemporary needs and conditions. The prior appropriation doctrine was created to deal with a situation radically different from that in the eastern United States. Since its adoption just a century ago, the prior appropriation doctrine has proved that it is not dogma. The history of the West has been a history of change and western water law has evolved to meet some of the West's changing needs.

The evolutionary process in western water law must now continue as new types of needs and claims are asserted.

- Recreation, wildlife, and new industrial uses have taken on public importance.
- Population growth and urbanization of the West demand changes in how water is used.
- Agriculture struggles for survival while cities grow on hopes of new water supplies.
- Federal claims and conflicts with traditional state functions are increasing.
- Demands for water are pressing hard against the limits of supply, creating a need to stretch the use of existing water resources through greater efficiency.
- The need for successive reuse of water has deepened concerns about water quality.

All of these changes demand heavy public involvement and, more than ever, cry out for broader coordination, sound planning, and state-of-the-art water management and administration. Today it appears that the dynamism of society is outstripping the dynamism of water law. Has evolution of the law been stalled? Unless the West responds by adapting water law to new concepts, employing new practices and considering new laws, our western water law system will become an anomaly, courting impatience and rejection by the society that it is to serve.

I believe that the prior appropriation doctrine can and will respond to the challenge of the future. I think that it will change and that it will be able to deal with the West of the twenty-first century. The durability of western water law during its hundred-year history has depended on flexibility. That durability is now meeting its toughest challenges.

Development of the Prior Appropriation Doctrine.

The development of the prior appropriation doctrine is a model of how legal doctrine can stem from customs that developed to meet practical necessities. If the easterners who settled the West thought about water law at all, they thought in terms of the riparian doctrine. Because the east is blessed with heavy rainfall and numerous streams that run the year around, it was sufficient there to allow water rights simply to attach to land that borders streams. But when miners and farmers came to the West, they were often trespassers on federally owned lands—the public domain. If they were to put waters to use on their homesteads and mining claims, and later on their private lands, it was usually necessary for them to divert water out of a stream and carry it through a ditch to their land. Reliance on the riparian doctrine would have relegated most farmers to meager yields, subject to the vicissitudes of the West's stingy precipitation. And without resort to placer and sluice methods, miners in many places, including the bonanza country around Sutter's Mill, would have been severely hampered.

So the early farmers and miners of the arid West quickly and conveniently forgot any riparian notions they might have held. Uncle Sam had lured them west with promises of homesteads, and of the right to extract minerals for those with enough grit and luck to find them. Surely Uncle must have intended to suffer the use of water from the public domain that was needed to give meaning to the homesteads and mining claims.

Water was limited though. Often the trespassing miners and farmers came into conflict with one another. These disputes were settled amidst beer and blood in the saloons around Northern California mining camps. Ultimately they were settled by the simple common sense law that applied to minerals on the public domain: first in time, first in right. This "prior appropriation" law was embraced by the courts of the time (e.g., *Irwin v. Phillips*, 5 Cal. 140 [1855]), and then given recognition in federal statutory law. See 1866 Mining Act and 1870 amendments, 30 U.S.C. § 51 and 43 U.S.C. § 661, and Desert Land Act of 1877, 43 U.S.C. §§ 321-329; *California-Oregon Power Co. v. Beaver Portland Cement Co.*, 295 U.S. 142 (1935). The Colorado Supreme Court simply relied on what it called "the imperative necessity for artificial irrigation of the soil" as the basis for accepting the prior appropriation doctrine in 1882. *Coffin v. Left Hand Ditch Co.*, 6 Colo. 443 (1882).

The prior appropriation doctrine overcame the problems of the federal government's control of virtually all important water sources and of the great distance that separated most productive uses from the streams. It also served a number of other purposes as well. The pioneer society, having little political organization, sparse populations, and very limited technical capacity, could easily understand and administer the law of appropriation. From the beginning, and increasingly as the West filled, water users needed a secure right to put their water to use. Except for those who lived relatively near streams, it was necessary to cooperate with other irrigators to develop systems of ditches and canals that required capital investments. The security of the right to use water by prior appropriation, recognized by court decree or by statute, gave assurance to investors.

Evolution of the Prior Appropriation Doctrine.

Since its inception in the mid-nineteenth century, the prior appropriation doctrine has undergone a variety of changes. The crusty forty-niner and the hardy settlers who struggled to bring irrigation water to their lands across parched expanses of the West, would hardly recognize western water law today. Let's look at some of the ways our water law has changed.

One of the first and most significant changes in western water law was moving away from a laissez-faire approach of merely posting a claim and filing it in the nearest county clerk's office. That system worked for a while, but as the number of prospective water users multiplied, it became necessary to have a central repository for information and better engineering data about the stream and about the proposed water use. Instead of simply being able to divert water from the stream and put it to a beneficial use, appropriators in the West are now typically required to seek a permit of a state agency or official to use water before they have a water right. Colorado clings to the theory that one can perfect a water right just by diverting it, but in fact that right has little meaning until one has gone through a special water court process and obtained a decree. Although more cumbersome and expensive than the administrative systems that apply elsewhere in the West, Colorado's system operates quite similarly to the usual systems in prior appropriation states.

Statutory systems to administer prior appropriation rights followed closely on the heels of statehood. Nearly every western state has a constitutional declaration that water is the property of the public or of the state, subject to the prior appropriation. Thus, states assumed control of water within their boundaries for the broad public good. Authority which the federal government declined to exercise prior to statehood when it was both the proprietor of most of the land and the water, as well as the only sovereign, was exercised by the states. The federal government yielded sovereignty to the states over waters that the government did not need to make its own lands useful. This enabled western water law to mature to meet the varied needs of each state. A few states—such as the west coast states with their mix of arid lands and

rainier areas—tailored their legal systems to maintain vestiges of the riparian doctrine along with prior appropriation. State control of water rights was used to facilitate private [illegible]. Central administration of water rights gave discretion to officials and agencies to choose among prospective competing private water uses. These choices were made in many cases to protect investors by providing some assurance that water was available for development in the quantities needed. Choices between two proposed developments that would use the same water could be made by a state official based on information about which would be the most productive. *E.g., Young & Norton v. Hinderlider*, 15 N.M. 666, 110 P. 1045 (1910). By heading off ill-fated scams, the attractiveness of investments in water development was enhanced. Later, officials exercised discretion in allocating water to achieve a wide variety of public purposes including "public welfare," "health and safety" and, more recently, protection of water quality and the environment. *E.g., Stempel v. Department of Water Resources*, 82 Wn. 2d 109, 508 P.2d 166 (1973).

Another device to permit and encourage investment has been the emergence of conditional rights. One of the essentials of the appropriation doctrine is that one put the water to beneficial use. An early gloss on the doctrine allowed one's priority date to relate back to the time when the first steps were taken to divert water. *Sieber v. Frank*, 7 Colo. 148, 2 P. 901 (1884). Under the statutory systems that developed throughout the West, one may obtain a permit and have a reasonable time to come up with financing and to undertake often lengthy construction. But there are cases where forty or fifty years have been allowed to pass without development of water but with water rights preserved. *E.g., Colorado River Conservation Dist. v. Twin Lakes Reservoir and Canal Co.*, 181 Colo. 53, 506 P.2d 1226 (1973). This is hardly the appropriation doctrine of yesteryear that was based on actual use, where "use it or lose it" described one's rights.

Another basic element of the original prior appropriation doctrine was that water had to be diverted from the stream. Taking water out of the stream was evidence that one had a beneficial use for it. It manifested the commitment of time, labor, and money that was being encouraged by the social policies underlying the doctrine. And it provided notice to other would-be appropriators. But from the beginning, questions of whether one could perfect a water right without removing water from the stream arose. Most state statutes allowed livestock watering directly from the stream to be considered the basis for a water right, although no diversion works were built. But the requirement that water be put to a beneficial use defeated claimed rights in water left in a stream even though it produced income by virtue of its scenic beauty. Early in the century, a federal court in Colorado found that a scenic waterfall that lured many to a resort area did not constitute a beneficial use except to the extent that mist the waterfall created irrigated plant life. *Empire Water & Power Co. v. Cascade Town Co.*, 205 F.2d 123 (1913). Now, notwithstanding the requirement of diversion and the traditional definition of beneficial use, statutes in a number of western states recognize appropriations of instream flows for protection of fish and wildlife and for recreational purposes. *E.g., C.R.S.* § 37-92-103(4).

The Modern Role of Water Law in Western Society.

If we were looking at contract law to see if it fit today's business world, we would find that a tremendous number of changes had been made since those ancient cases like *Hadley v. Baxendale* that entertained us in our first year of law school. The law has been given careful definition and detail to assure predictability. It has been purged of many of its ambiguities so that litigation and legal disputes are minimized. And it reflects notions of consumer protection synchronized with today's social values.

In the realm of property law we know that fee title no longer means that one owns and has the absolute right to exclude the public from a slice of the universe that runs from the core of the earth to the extremes of heaven. "Property" means a little something different each year and in each place. It carries enough value and security to support a robust economy and property development. But it does not allow me to build a gasoline station in a residential home, to put a modern addition on my Victorian house in an historical neighborhood, or to build anything within ten feet of my property line because of a setback requirement. If what you want to do with your property conflicts with social or constitutional values, you may not be able to have your way. So if you want to sell your property "to whomever you choose" and your choice should be made on racial grounds, do not look for the protection of the courts. The nature of the property right is still the right to exclude, but if you want to exclude someone who is distributing religious literature in the parking lot of your shopping center, you are out of luck.

As Benjamin Cardozo wrote: "Property, like liberty, though immune under the Constitution from destruction, is not immune from regulation essential for the common good. What that regulation shall be every generation must work out for itself." B. Cardozo, *The Nature of the Public Good* 87 (1921).

Although changes in contract law, property law, and other areas of the law have created a steady stream of conflicts to keep lawyers and courts busy, they have not stifled business nor have they caused a loud public outcry. Indeed, changes in the law to reflect our modern thinking and needs of society are universally accepted. Water law, too, has moved with social change. There are, however, a number of areas of western water law that cry out for change, where the law lags today's western culture.

Because water law, like any other area of the law, is not an end in itself but rather a means to social goals, let us look at some of the purposes, some of the expectations, we have for water law in the western United States.

Three important goals that are increasingly important for water law in the West are:

- making water transferable to new uses.
- maximizing the use of limited water resources.
- using water to serve increasingly broad purposes.

The most important original purpose for the prior appropriation doctrine has faded. We no longer have a significant problem getting access to water across wide expanses of the public domain. Although about half the land in the West is still owned by the federal government, private water rights that require crossing public lands are already well secured. Federal statutes, federal reserved rights claims and the management required in public lands dictate the terms for access to new uses from waters on federal lands. Having a simple system for a dispersed, loosely organized, and technically unsophisticated society is no longer a reason for the doctrine, either. Both society and the system are far more complex than they originally were. A purpose of the doctrine that is still viable—to sustain investment and allow for development—is served by affording water rights legal protection.

Transferability. The ability to transfer rights is essential if water is to be moved to the most valuable uses for society. Incredibly, some western states still impose a variety of legal restrictions on transfers. The most formidable obstacles today, however, in the West are cumbersome change of use proceedings. While some laws expressly limit transfers, most notably from agricultural to other uses, the free transferability of water is encumbered especially by requirements imposed to protect other users. For instance, most prior appropriation states require that any change in the place or purpose or manner of use be supported by a showing that no other water user, senior or junior, will suffer any harm to their rights. *See, Farmers Highline Canal Co. v. City of Golden,* 129 Colo. 575, 272 P.2d 629 (1959). This often calls for expensive engineering and legal determinations. The added cost can allow relatively unimportant, unproductive uses to stymie transfers that could be more valuable and more beneficial.

Maximizing Benefits. The second major need today is to maximize the benefits of our limited water supplies. It is surprising in an era when we have had resounding success in "discovering" significant supplies of oil through conservation, and when most of us are recycling cans and bottles, that so little attention is given to water conservation. The Soil Conservation Service tells us that a staggering 24,000,000 acre-feet of water a year is wasted in agricultural irrigation alone.

It is not that we lack the ability to conserve agricultural water. New drip irrigation systems are capable of replacing imprecise flood irrigation techniques; gated pipes can reduce seepage, evaporation, and evapotranspiration that is rampant in systems of open ditches; laser leveling of fields can curtail runoff; electronic sensors can indicate with precision how much water is needed in irrigation; computers are capable of scheduling irrigation with great accuracy; and a variety of other approaches exist. The problem is not knowing what to do but how to pay for it. Our water law simply does not adequately reward efficient use, or, conversely, it does reward inefficiency.

I do not suggest that the prior appropriation doctrine is necessarily contrary to conservation. One has never had the right to waste water under western water law; the right is only to put water to a "beneficial use." But the system of individual control of water which exists under the prior appropriation doctrine was not, after all, designed to foster cooperation or to reward basinwide efficiency. And there are few opportunities to ask whether all the water used is necessary for beneficial use or whether the use is relatively less beneficial than other possible uses. Because the prior appropriation doctrine allows senior water users to take water according to their full legal rights, even as junior users get none, seniors may lavish far more water than they need on their land while the lands of juniors remain dry. Some believe that full use of their water rights is necessary to maintain that quantity of their rights. The trend in state laws is to discourage such practices.

Our water resources include underground water, yet the law has been slow to recognize its relationship with use of water from streams. Many wells pump water from wells in the alluvium of streams, directly affecting, and affected by use of water in those streams. Yet some states persist in managing tributary groundwater as if it were from another world. *E.g., Metropolitan Utilities Dist. v. Merritt Beach Co.,* 140 N.W. 2d 626 (Neb. 1966). Colorado has led the way among western states in unifying the management of surface water and tributary groundwater. *See, Safranek v. Limon*, 123 Colo. 330, 228 P.2d 975 (1951); C.R.S. §§ 37-92-101 to 37-92-602. Some groundwater is, of course, essentially separate from surface sources. Its pumping has virtually no near-term effects on streams. "Fossil water" was deposited millions of years ago and thus it is essentially nonrenewable. Other formations can be naturally recharged, but very slowly. How should this "nontributary" groundwater be managed? Certainly it should not be ignored as part of our water estate. It should be considered, and used sparingly, to back up the surface resource. Certainly there are few instances where nontributary aquifers should become the sole source of growing communities and drained with no thought of integrating their use with other water supply sources.

Competing Purposes. We now have a plethora of social goals and policies that are potential competitors with consumptive water use.

A variety of environmental concerns are offended by water development that floods canyons, alters wildlife habitats, and dries up streams at their headwaters.

Land use goals may conflict not only with water projects, but with the urban sprawl which follows uncoordinated water development.

Never before in our nation has water quality been a more important issue; water users demand clean water for municipal development and industrial uses.

Agriculture is now insisting on better water quality, too, as increased salinity and pollutant discharges from point sources interfere with crop yields.

Social and economic considerations arise when water is diverted from the area of origin into another area which is experiencing growth, giving rise to regional equity questions.

Maintaining streamflow is essential to wildlife habitat, to support water-based recreation, and to satisfy aesthetic preferences that may be the basis of local economies and lifestyles.

Rarely is water development, which can dry up a stream or divert most of its flow to another region, adequately balanced against the value to society of instream flows or of an endangered species, or water quality, or needs of the area of origin. The competition for use of the water can lead to emotionally charged discussions. But, like other legal rights, water rights are not immune from manipulation to meet social goals. Ultimately, the question should be what relative value society places on competing uses. This is often best determined in the marketplace. Regulation may be necessary, however, where the market does not adequately reflect society's values or where it is simply more efficient to impose restrictions and regulatory requirements rather than to leave it to the market.

The Need For Change. Some important legal changes are needed in our system of western water rights if we are going to measure up to the challenge of the twenty-first century. The public trust doctrine articulated by the California Supreme Court in 1983 was a creative response to a situation in which venerable water rights, on which a great city had relied for years, came into conflict with environmental concerns or, as the court characterized it, California's natural heritage. *National Audubon Society v. Superior Court,* 33 Cal. Rptr. 346, 658 P.2d 709 (1983), *cert. denied,* 104 S. Ct. 413 (1984). I do not suggest the public trust doctrine is an answer to the issues that I have raised. As applied in the *Audubon Society* case, the doctrine does not necessarily solve future problems, it only addresses past harm. As such it

is a symptom that water law has not kept pace with other needs.

We have to find a substitute for the prior appropriation doctrine. Should we go to the riparian doctrine of the eastern states? Or to an entirely different system? I think not. The prior appropriation doctrine is sound in its conception and, if it can be applied and modified with the flexibility that it has shown in years past, it should remain the framework for western water law.

I do suggest a number of changes to keep up with the changes felt in the society and economy of the American West. I recommend the following measures for consideration by western states:

1. Efficient water use must be encouraged. This can be done through a variety of legal approaches, several of which have been tried in a number of western states.

• *Redefine beneficial use.* Instead of defining "beneficial use" in absolute terms—that is, any use that fits under the rubrics of agriculture, manufacturing, domestic use, etc.—decisionmakers should be empowered to determine whether water is necessary for the purposes for which it is applied. Excess rights—those beyond water required to fulfill the purposes of appropriation—simply should not be considered beneficial uses and should be forfeited. In deciding how much water is necessary, efficiency should be required. Legislative standards need to be set to determine what is meant by efficiency. Those standards should be based on modern technology.

While an old earth and brush wing dam might have been the state of the art in the mid-1800's, we now have facilities that will divert water much more efficiently and we should insist that they be used. Those that do not use water efficiently by modern standards should be required to sacrifice their rights. In change of use proceedings an inefficient use should not be able to defeat a change that results in greater efficiency. A dynamic concept of beneficial use is compatible with the prior appropriation doctrine. The Colorado Supreme Court has said:

> It is implicit in these constitutional provisions [concerning the appropriation doctrine] that along with *vested rights*, there shall be *maximum utilization* of the water of this state. As administration of water approaches its second century the curtain is opening upon the new drama of *maximum utilization* and how constitutionally that doctrine can be integrated into the law of *vested rights*.

Fellhauer v. People, 447 P.2d 986, 994 (Colo. 1968) (emphasis in original).

• *Salvagers' rights.* Another important measure would allow use or sale of water saved through efficiency. Those who invest time and money necessary to conserve water often just make a contribution to the stream, and hence to junior appropriators, because the law prohibits their using it. *E.g., Salt River Valley Water Users Ass'n v. Kovacovich*, 3 Ariz. App. 28, 411 P.2d 201 (1966). As an incentive for investments in conservation, and as a way of mitigating the harshness of my first suggestion (that the concept of beneficial use consider only efficiently used water to be beneficially used), the water salvager ought to be able to put water to use on other land or to sell it to those who would use it elsewhere. California enacted its Katz-Bates bill in 1983, addressing essentially this issue. Calif. Water C. §§ 380-86, 1009-11. In Colorado the same result can be accomplished, but only through expensive change of use proceedings.

One of the most promising attributes of enabling salvagers the right to water saved is that it can allow the preservation of agriculture while permitting urban growth to take place. For example, a city in need of water for a growing population can pay a farmer for employing water conservation measures such as a drip irrigation system, ditch lining, or laser leveling of fields. If, through such methods, water could be saved, the city would have the available water to put to urban uses and the farmer would be able to continue farming at the same level using considerably less water as a result of the conservation measures. The efficient farmer survives and the city grows.

• *Basinwide management.* Another step that needs to be taken to encourage efficient water use is the more cooperative utilization of water resources. The dog-eat-dog competition that has characterized the operation of the prior appropriation doctrine has to be put behind us. We need to move toward basewide management of all water resources. This means using reservoirs jointly; it means exchanges for use and reuse of water; and it means a variety of measures that will achieve maximum use of water as it passes through the system.

The prior appropriation doctrine as it operates throughout most of the West has been built on successive use of the same water. We now need to perfect that system so that we are getting even more, and more efficient, uses from the water that we have available. In the drought of 1977 we saw the beginnings of cooperation and basinwide management and, although no one shames the senior who is insensitive to the junior who must bear the brunt of droughts, there was greater cooperation that year than ever before, an important development. But that is not enough. The prior appropriation system lauds independence, yet it should tolerate changes that facilitate basinwide management. At the most basic level, technology can play an important role. We can use computers, satellites, such as Colorado's streamflow satellite monitoring system which was recently installed, and information dissemination. If necessary, seniors who expect protection of their rights, should be required to cooperate in systems that will benefit other water users without detracting from the seniors' ability to use water productively, although it might impinge on the seniors' application of water not absolutely necessary for the purposes for which it was appropriated.

2. Conditional rights should be limited in time. If they are not developed within a fixed period of years, they should be forfeited and available to junior users or to the state itself. This would force prompt transfers to economic uses if there are any, or it would free rights up for use elsewhere. Most states have such laws, but some, such as Colorado, allow water rights to persist undeveloped for many years. This can distort the pattern of water development and frustrate protection of nonconsumptive uses. Recent Colorado decisions have limited relatively open-ended conditional rights (e.g., *Bunger v., Uncompahgre Valley Water Users Assn.*, 557 P.2d 389 [Colo. 1976]), and pro forma demonstrations of "due diligence" in perfecting one's water rights (*e.g., Colorado River Water Conservation Dist. v. City and County of Denver*, 640 P.2d 1139 (Colo. 1982) (litigation and political activities are not due diligence).

3. Groundwater must no longer be considered a distinct resource. Where groundwater is tributary to a stream, it can be an important alternative means of diversion. Storage in alluvial aquifers can eliminate the need for expensive and wasteful reservoir projects that lose water to evaporation and seepage.

Where water is not tributary, it generally should be conserved. Saving it for a backup supply to cushion against

droughts and to make the transition to surface water sources is a wise use of the resource. This approach protects long-term supplies, minimizing the need to build storage and delivery projects large enough to meet heavy demands during droughts and peak periods.

Many states need to recognize that some groundwater resources are tributary, and to manage them as part of the same system. Groundwater that is not tributary should be under a special management regime that allows it to be used conjunctively with surface water in a way that will recognize the unique aspects of each.

4. Instream flows must be protected. Western states have been moving rapidly to protect instream flows as water rights under the prior appropriation system. Those that have not ignore a powerful economic reality: recreation and tourism, built on water sports and fish and wildlife that demand instream flows are a burgeoning part of western states' economies. Furthermore, the scenic beauty and psychic rewards of free-flowing rivers are often high on the list of intangibles that attract and bind westerners to the West. Instream flows can be protected by appropriations allowed under statutory modifications of prior appropriation law, as Colorado has done, or by reservation of flows as in Montana.

5. Markets in water rights should be facilitated. Where transfer restrictions exist they should be eliminated. Less visible barriers like large transaction costs to hire engineers and lawyers in the pursuit of judicial decrees should be minimized. For instance, the adversarial process for adjudicating water rights which prevails in Colorado creates high costs and restricts transfers in the operation of the free market in water rights. Similarly, permit systems that require complicated technical demonstrations by those who would transfer water rights lead to inefficiency. Legislative standards, well-established procedures and administrative rule-making can significantly streamline changes of use and curtail transaction cost.

6. Water quality and water quantity have artificially been segregated. Quality concerns should be considered in the administration of surface and groundwater. Likewise, the water rights system and water allocation laws should be considered in making rules and regulations concerning water quality. As much as possible the two systems should be integrated through statutory and administrative changes.

7. Sound planning is essential to the water security of the future American West. We can no longer afford to build expensive dams and reservoirs that are not cost effective and that lack significant other redeeming features. While water projects have contributed magnificently to the well-being of the West in the past, most watersheds are approaching their maximum development from the physical and economic standpoints. A severe cutback in federal assistance for water

(continued back page)

Publications and Materials of the Natural Resources Law Center

Books

- *Special Water Districts: Challenge for the Future*
  James N. Corbridge, ed. Book containing edited papers from the workshop on Special Water Districts, Sept. 11-13, 1983. $15.

Conference Materials

- *Western Water Law in Transition*, 415-page notebook of outlines and materials from 3-day, June 1985 conference. $60.
- *Public Lands Mineral Leasing: Issues and Directions*, 472-page notebook of outlines and materials from 2-day, June 1985 conference. $40.
- *Management of National Forests in the Rocky Mountains*, 130-page notebook of outlines and materials from 1-day, March 1985 forum. $15.
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project development also coincides with environmental realities. The world of western water is far more complex than in the days when the prior appropriation doctrine was developed. No longer will suffice to pretend that water can be allocated wisely and a state's goals that are significantly affected by water use and development carried out without careful forethought and broad public involvement. This does not mean that decisions must be made by some distant and overbearing governmental authority. It does mean that thought should be given to comprehensive statewide goals. Just as comprehensive plans guide land use and development without destroying operation of the free enterprise system in real property, so should there be comprehensive planning in the use of water resources.

Some western states have begun the planning process in earnest. Others have done nothing. In Colorado we were upbraided by the Supreme Court last year for lack of planning. The Court held that "Colorado has not committed itself to any long-term use for which future benefits can be studied and predicted." *New Mexico v. Colorado*, 104 S. Ct. 2433 (1984). Colorado's failure to project future water demands and to anticipate sources of supply led to a decision in favor of New Mexico in the equitable apportionment of the Vermejo River. States must rise to the challenge, and make the tough decisions connected with water planning, in order to protect rights and interstate allocations, as well as to make the wisest use of water for the greatest number of people. Failure to do so may attract the federal government into the planning vacuum to assure that several national and interstate goals are satisfied.

The future of western water law can be a continued future of successful operation of the prior appropriation doctrine. But the time for making some important changes is upon us. The prior appropriation doctrine has had a history of change and it must remain dynamic to survive. If it is not flexible, if it does not adapt to the changing needs of the West, calls will abound for its replacement with another system. The federal government may step in to preempt traditional state prerogatives.

One of the best known and respected leaders in western water law was Wayne Aspinall, Colorado's late 12-term congressman. He wrote a guest editorial for the Colorado Water Congress newsletter shortly before his death last year. He stated:

> It is timely and proper for our knowledgeable water people to begin thinking about constructive changes in the administration of water rights that might result in broader benefits to the people of the State for more efficient water resource management . . . notwithstanding all of its virtues the system of prior appropriation of water rights should not be regarded in a changing world as perfect in all situations, nor as being forever exempt from modification that could result in an improved system of natural resources management.

The single-minded determination of the early settlers to carve a civilization out of the wilderness and to tame wild rivers is behind us. Pioneer individualism survives, but is tempered with cooperation demanded by a complex, urbanizing society. Today's West is a diverse and cosmopolitan culture. It is bound together by an appreciation and pride in its natural resource wealth—a wealth that counts as assets wilderness and wild rivers, as well as its minerals, forests, farms, and factories. This is the West that our water law must serve.

The current issue of the *University of Colorado Law Review* (Vol. 56, No. 3) is devoted to natural resources, and features articles by Richard B. Collins, Eugene R. Gaetke, David H. Getches, Richard C. Maxwell, Joseph L. Sax, A. Dan Tarlock, Frank J. Trelease, Charles F. Wilkinson, and Stephen F. Williams. To order, call 303-492-6145, or write the *Law Review*, University of Colorado School of Law, Boulder, Colorado 80309-0401.

The Natural Resources Law Center

The Natural Resources Law Center was established at the University of Colorado School of Law in the fall of 1981. Building on the strong academic base in natural resources already existing in the Law School and the University, the Center's purpose is to facilitate research, publication, and education related to natural resources law.

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