

**Proceedings: Colorado Water Workshop July 22-24, 1990**

**Presented by**

**Western State College Foundation  
Western State College of Colorado**



# **Colorado Water**

*Resources Research Institute*

**Information Series No. 64**

**Colorado  
State**  
University

**PROCEEDINGS:**  
**COLORADO WATER WORKSHOP**  
**JULY 22-24, 1990**

**Presented by**  
**Western State College Foundation**  
**Western State College of Colorado**

**"Colorado Water Institutions, Valuable Traditions - New Frontiers"**

**Colorado Water Resources**  
**Research Institute**

**Information Series No. 64**

**Colorado State University**

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List of Colorado Water Conference Attendees

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## **INTRODUCTION**

The 1990 Colorado Water Workshop was held July 22-24, at Western State College in Gunnison, Colorado. For 15 years, this annual conference has provided a valuable forum for frank discussions of water issues facing Colorado and the arid West. The 1990 Workshop focussed on how Colorado's water institutions can meet the challenge of providing for the needs of traditional water users while considering the public's growing concern for the environmental, recreational, and social values of water.

Thanks to the efforts of the Colorado Water Resources Research Institute, this years a complete printed proceedings of the Colorado Water Workshop is available for the first time in the Workshop's history. Dr. Neil Grigg, Jan Flesher, and Shirley Miller donated many hours of their valuable time to produce this useful volume. The Water Workshop staff is very grateful for their important contribution to the dissemination of the information and viewpoints shared at the 1990 Colorado Water Workshop.

-- Lucy High, 1990 Water Workshop Director

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**REMARKS BY  
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ASSISTANT REGIONAL DIRECTOR  
UPPER COLORADO REGION  
COLORADO WATER WORKSHOP  
WESTERN STATE COLLEGE OF COLORADO  
GUNNISON, COLORADO  
JULY 22, 1990**

I am delighted to be here with you today. It has been a long-time goal of mine to attend a Colorado Water Workshop, but as often happens, other activities have precluded my involvement. It is especially nice to be with you at this time as we open the week's activities, eager to dive into the challenging program awaiting us.

With me tonight is Ron Johnston, Projects Manager of our Grand Junction Office, and Max Stodolski, Projects Manager of our Durango Office. At the conclusion of

my remarks, the three of us will be delighted to field your questions about Reclamation activities in Colorado and elsewhere.

The conference topic...**"Colorado Water Institutions: Valuable Traditions - New Frontiers"**...couldn't be more timely for the Bureau of Reclamation. As an agency, we are on the threshold of new and exciting frontiers. And yet, we enter some of these uncharted waters mindful of our ongoing relationships with our historic constituencies dating back to 1902.

To put my remarks in perspective, let me share with you the mission statement of the Bureau of Reclamation which was formalized in 1988 as part of Reclamation's look to the future:

**The mission of the Bureau of Reclamation is to achieve comprehensive solutions to water and related land resource problems of regional and national significance. To accomplish this mission, Reclamation applies management, engineering, and scientific skills that result in effective and environmentally sensitive solutions.**

Before we explore those "new frontiers" this conference will focus upon, let's take a step back and renew our understanding and appreciation of past Western water development and management.

We can correlate the evolution of water resources development and management to a philosophy developed by Abraham Maslow -- referred to as Maslow's Hierarchy of Needs. Maslow said that people must first meet basic needs, such as those required for

survival. Then, he said, we proceed to fill human needs and desires on a higher level. Maslow presented this philosophy as a pyramid, with basic needs at the bottom, ascending through various levels to higher planes at the top.

But how does this relate to water projects? Looking back, we can see a similar pattern in the progression of human needs and values, especially in the last 25 years.

Early man struggled just to sustain life. Survival was the single most important daily activity. Dams served early man by providing safety from floods, protection from drought, and perhaps more importantly, a reliable water supply to nourish crops. They tended to be looked at in a single purpose view. But as we already know, each filled many, many diverse needs.

Taking this closer to home, western settlement would have been largely impossible without water resources projects. Dams not only sustained and protected early settlers, but also supported livelihoods and stabilized the economy.

President Teddy Roosevelt's mandate in 1902 to Reclamation was: make the land suitable for settlement and develop water to establish a productive economic base, and improve the quality of life. In our 88 years of existence, the Bureau of Reclamation has been very successful in accomplishing that mandate.

Today we see Reclamation projects so numerous and productive that it's difficult to comprehend everyday life without ample supplies of water and power at our fingertips. As a matter of fact, many people take these supplies for granted and expect that they will always

exist. However, we are also a society that is now becoming increasingly aware of environmental problems and needs.

But, I firmly believe we are now more concerned about environmental issues only because we first satisfied our basic human needs, as depicted on Maslow's pyramid. We now have the luxury of greater and more esoteric concerns. This is one factor that separates us from the so-called Third World countries, where destruction of the rain forests and other environmentally damaging practices are occurring. There, today's survival is more critical than tomorrow's long-range planning for the future.

Today we are on the threshold of the next step up Maslow's Hierarchy of Needs. We want more from our "multi-purpose" projects. Reclamation Commissioner

Dennis Underwood calls today the "multi-multi-purpose" era. I think this is the Commissioner's way of emphasizing the ever increasing diversity of demands placed on projects.

This latest evolution was spurred by changing public desires for continued improvement in the quality of life, and by our increased knowledge in technology to make improvements. It's not enough to supply water; we are called on to balance conservation and environmental protection with the basic need for water.

We should note, however, that we can quickly plunge back to the survival level of the pyramid if we do not pay close attention to wise water development and management in the future.



There are some problems ahead of us...problems that can just as easily drive us down the pyramid instead of allowing us to ascend to greater heights.

First, the margin of safety between water needs and supplies no longer exists in much of the West. The annual yield and carryover storage are not adequate to meet needs. The drought of the last three to four years has borne this out. The quantity and quality of ground-water supplies are also in danger. Such water is heavily depended upon and utilized in some areas.

Furthermore, additional water demands are being layered on top of traditional demands, making the situation even more critical. These added demands include water for instream flows for fish, wetlands, other environmental water needs, and Indian water right settlements.

What we have are multi-purpose water projects headed for "multi-use" conflicts. Here in Colorado, we see these issues on the Dolores and Animas - LaPlata Projects. Next door in Utah, the Central Utah Projects faces these same concerns. At Glen Canyon Dam we are engaged in perhaps the most critical Environmental Impact Statement that Reclamation has ever had to produce...that of weighing and assessing historical water and power needs with critical environmental resources and concerns in Grand Canyon National Park.

These are challenges in the 1990's that must be addressed and dealt with. Obviously, the solutions may not be easy to find, nor may they be easy to live with.

Can additional projects to meet future demands be designed to include consideration of wetlands, instream flows, water quality, and other environmental factors? When does environmental mitigation become environmental enhancement? Do we want to simply mitigate, or do we want to enhance the environment? Can funding for environmental enhancement be obtained? Who will pay the higher costs?

Can we fund work on rural water supply systems to comply with the Safe Drinking Water Act? How will we settle and adjust to Indian water right settlements? What will we do to recover ground and surface water now being lost to contamination?

What about the maintenance and development of our infrastructure? You may be surprised to learn the average Bureau of Reclamation project is 45 years old.

While meeting the needs of yesterday and possibly today, how will we maintain and improve existing Reclamation projects to meet tomorrow's needs? What about general operation and maintenance costs and dam safety programs? How much of our attention and scarce dollars get allocated to O & M and dam safety?

I worry that the pressure of meeting basic water supply needs, coupled with demands that projects be, as the Commissioner says, "multi-multi-purpose", may be more that we can handle. I further worry that a backlash that could result from failure to meet basic needs would undo much that has been accomplished in recent years.

To underscore such a concern, the other day I was reading a UPI news report from California. It stated a survey done this past spring revealed that next to the

drug issue, Californians believe the state's water shortage is their most serious problem. 81 percent think more water storage facilities should be built. The surveyors said, "Water today is not an issue where the people want the government to get off their backs. They want the government to do something." How close do you think the survey difference between the nation's drug woes and water problems was? Two percent! Water supply was rated more important than crime, air quality, or traffic congestion.

What are we to do about all this? We in Reclamation, do not have all the answers, and quite frankly, I'm not sure anyone does. But together we can successfully deal with these issues. One thing is for certain, the public and private sectors must join together in partnerships and cost-shared efforts to meet mutual goals.

The 1990's will become the era of effective and efficient use of resources. We will see a re-emergence of scientific and technical solutions to resolve water issues and allow us to meet higher needs.

The Bureau of Reclamation is preparing for such a future.

We are developing a strategic plan to guide us through the 90's and into the next century. In fact, it is appropriate that we will celebrate our agency centennial in the year 2002 by implementing many of the innovations identified in the 90's.

Some examples of our programs and priorities for the 90's will be:

- Water quality;

- Optimization of yield of water on existing projects;
- Joint use and integration of project facilities;
- Ground water management and integration into surface systems;
- Toxic waste clean up, both of Reclamation's and the Department of Interior's sites, and those of other governmental agencies;
- Environmental restoration and enhancement and;
- Dam safety investigations and modifications.

The hallmark for Reclamation today, and into the future, is aggressive problem-solving.

Ralph Waldo Emerson said, "Nothing astonishes men so much as common sense and plain dealing." We will astonish you with our common sense, our capabilities, and our willingness to work openly with you in resolving issues.

Commissioner Underwood recently challenged the water community, as individuals and as a group, to make a commitment. Rise to the challenge of being an active partner in leading. . . .not impeding, not following. . . . but actively leading aggressive efforts to deal with water resource development and management issues.

Thank you and best wishes for a productive and challenging workshop.



Patricia Nelson Limerick  
July 23, 1990  
Gunnison, Colorado

I am very grateful for the invitation to speak to this group. It is altogether a good thing to remove professors from their usual habitat and intellectual ecosystem, to take them out of the so-called People's Republic of Boulder, and send them out into the world to find out what other people are thinking and doing. I never wanted to be an Ivory Tower captive; I never wanted to stay within the walls of the university and speak only to professors; and so, being here with a healthy quota of "real world" people is for me a great pleasure, and a great chance to deepen my education.

I was born and I grew up in Banning, California, on the edge of the desert, eighty miles from Los Angeles, and not far from where the Colorado River Aqueduct runs through the mountain to the Los Angeles Basin. I know the standing of California, and especially of the Los Angeles area, in the other Colorado River states, and I know, too, how California functions as the sort of wicked older sibling of the lot. After California snatched up its Colorado River diversions, it became nearly impossible to persuade the other states to behave with restraint and good sense. The situation is exactly that of a large family, where the oldest sibling borders on juvenile delinquency, and where, any time you ask the younger siblings to behave well, they say, "Why should we? California never did, and California got away with it."

With a birthplace in California, I am very lucky to have the surname Limerick and to have a modest talent for writing limericks, one of which, written at a water conference in Arizona in March, I would like to present now:

When California falls into the sea,  
Its neighbors will shout out with glee,  
"That state was our bane,  
"Causing sorrow and pain,  
"And now that it's sunk, we are free."

Foreign appendage on the West or not, California is arid land, and it was only to be expected, growing up in a place like that, that some of my childhood play would involve the manipulation of water.

One afternoon in Banning, when I was about four or five, my pal Dickie Miles and I concluded that my father's rosebushes could use some irrigation. What the rosebushes needed, we decided, was a kind of network of trenches that would hold the water around the bushes. And so we dug the trenches, and took some pleasure in digging those trenches, until they were about a foot or so deep, and the rosebushes' roots were receiving very direct exposure to the water, which we figured was what rosebushes, living on the edge of the desert, would want. While

my father was and is quite a wonderful, good-humored man, this exercise in water development did not bring out his sense of humor. In fact, this made him pretty mad, and Dickie Miles and I ended up sternly judged and punished for our enterprise and ingenuity.

Who knows, maybe this was the event that formed my attitude toward the manipulation of water in the American West. Maybe this was when I realized that good intentions are simply not enough. Maybe this is when I realized that if your good intentions have unfortunate and unforeseen consequences, then the fact that innocence and hope for improvement motivated you is not sufficient to gain you an exemption from responsibility.

Let us leave that question aside for a moment, and turn to a more definite and demonstrable result of my Banning childhood, a result that has had, in the last few years, a quite interesting and animating effect on the field of Western American history. The changes in that field are quite complex, but I am sure of one thing: if I had grown up in New York or Georgia or Illinois, and not in Banning, California, things would be a lot calmer in the field of Western history today.

When I went to graduate school, most of the Big Thinking in Western history focused on the frontier, and on some variation of the writings of Frederick Jackson Turner, the courageous historian who grew up in Wisconsin and wrote the famous 1893 essay on "The Significance of the Frontier in American History," and thereby set the terms of the whole field of study. Turnerian ideas dominated the ideas and models of Western American history, and yet everything I could remember about my hometown, all of the most vivid characteristics of life there, were completely and utterly absent from the Turner Thesis. Deserts and aridity and dams and reservoirs, for instance--Professor Turner's life in the green Mississippi Valley set the terms of his thinking, and aridity, the essential characteristic of most of American West, just didn't register in his model. The Indian reservation outside Banning, the presence of Spanish-speaking people and the proximity to the Mexican border, the role of the Pacific Ocean in national and international affairs, and, for that matter, the entire twentieth century, fell outside the frontier model.

For years, I thought there must be something wrong with my hometown, since it failed so completely to fit the central model of Western American history. Then, over the years, I gathered the confidence to conclude that the problem wasn't with my hometown; the problem was with the whole eastern-based frontier model of Western expansion. And the result of that restored confidence was my second book, The Legacy of Conquest, which I can summarize in four points:

- 1) The thought of Frederick Jackson Turner, along with the whole eastern-oriented frontier school attached to it, has almost no bearing on the Trans-Mississippi West, and we are much in need of a model of Western American history that has its center of gravity in the West itself.

- 2) There is no watershed, no so-called end of the frontier,

dividing the nineteenth century West from the twentieth century West, and issues and conflicts run continuously from past to the present.

3) We are best served by thinking of the American West as one of the great meeting grounds of the planet, the place where representatives of Indian America, Hispanic America, Anglo America, Afro-America, and Asia all converged, and jockeyed for power and position, and tried to figure each other out.

4) It is time to drop the mushy and impossible-to-define word "frontier," and face up to the fact that Indians occupied the American West before Anglo-Americans came in, and Anglo-Americans did in fact invade and conquer the territory of Indians and Hispanics.

With the publication of The Legacy of Conquest, Western historians who had never felt very comfortable with the frontier stuff had a flagpole to rally around. The last years have been, from my angle, very exciting years, as I have watched this movement for the re-envisioning of Western history expand and, in the most gratifying way, sometimes leave me behind. It has been very satisfying to have played a role in this change, but my greatest satisfaction has come from public audiences, who have, more often than not, found that this approach to Western history makes a better fit with their own lives, that it does a better job of explaining the origins of our present issues and dilemmas and opportunities.

The only conspicuous sounds of whimpering--on behalf of lost myths and lost illusions--have come from a few newspaper columnists. In a column last year, called "Some Old West Advice for New-Wave Historians: Go East," Phil Sunkel from the Arizona Republic paraphrased my thoughts about Western history: "One of the would-be revisionists, University of Colorado historian Patricia Limerick, complains that [Frederick Jackson] Turner was 'ethnocentric and nationalistic,' and that 'English-speaking white men were the stars of his story.'" After a few more summations of our heresy, and a mistaken explanation of all this as a wicked force emanating from Yale University, Mr. Sunkel then pleads: "But why can't the revisionists simply leave our myths alone? Westerners--and most other Americans, for that matter--are quite content with our storied past, even if it tends to fib a bit."

Mr. Sunkel is too busy writing columns, evidently, to answer his mail, but as I wrote Mr. Sunkel in my unanswered letter, I think that he has done contemporary Westerners a considerable disservice. He has, indeed, insulted them, by casting them as cheerful dupes and suckers who willingly let Hollywood and Marlboro advertisements define their sense of reality, dupes and suckers who choose intellectual fluff and cotton candy over more substantial and nourishing fare. That is simply not a fair portrait of the Western public, according to my experience of talking to public audiences around the West in the last few years. As I have said several times, the only people who find what I say disillusioning are people who have come to depend on

illusions, and dangerous illusions at that. You do your region and your nation no injury when you ask people to keep their eyes open, to see the whole picture, to recognize the consequences of their own actions, and of the actions of their ancestors and predecessors. In fact, the injury works in the other direction. It is no kindness to encourage people in their illusions about the region's past. It is no kindness to encourage people, who need to be alert and self-aware, to be complacent and smug.

People living in arid regions place themselves at considerable risk when complacency takes over. In fact, the complacency of most people living in the American West today is fairly astonishing, if you look at it over a couple of centuries of history. The American West has not tried to conceal its dryness; the cards, here, have been on the table for a long time. When Anglo-American explorers and overland travelers in the nineteenth century saw deserts, they saw something they had never seen before, and many of them were perplexed as to why a good God, who had otherwise been so generous with the North American continent, created these water starved lands--wastelands and domains of desolation in the eyes of Anglo-Americans adapted to the presence of green things. What should be astonishing to us is the speed with which denial and evasion and complacency set in.

Nineteenth and twentieth century Western development proceeded at an unusual speed, and that that speed is fast-forward. As a student of mine put it in a final exam answer some years ago, "After 1848 everything became frantic"; and the only thing wrong with that statement is that it ignores several occasions when things became frantic before 1848. The speed is distinctly frantic and fast-forward when it comes to the revolution in attitudes and behavior toward Western American aridity. In the 1840s, most Americans who saw the arid West simply wanted to survive their passage across it, and then, just a few decades later, the places that had once scared travelers to death had turned into profitable real estate. The clean dry air of arid places seemed a wonderful alternative to more dank and humid sites in the eastern United States, and it began to seem as if one could have it all: the amenities of dry air, and sunshine, and open, stunning views, and the amenities of green lawns and gardens and farms, and generous and unstinting kitchen sink and bathtub waterfaucets, and locally grown fruit and vegetables.

In historic time spans, and certainly in geologic time spans, the transition took an instant: from Western arid places as fearful sites where humans felt dwarfed and powerless, to Western arid places as rewarding real estate, where humans felt just the right size, and very powerful indeed, quite capable of improving nature, persuading nature to do it their way.

And yet it remains dry country, and, more than that, efforts to master this dry country have had unfavorable, as well as favorable, effects on the basic fact of scarce water. Water pollution, water over-allocation, water-wasting, groundwater-

depletion, salinity-build-up in irrigated fields, silt accumulation in reservoirs--all these things are so obvious, so widely publicized, so widely recognized, that one feels distinctly silly saying them in a public place, to people who are already quite aware of them.

And yet Western American behavior does not seem exactly transformed by an awareness of these facts. We live as though the desert were mastered, but it is not. We act as if--and this was a proposition for too long seconded and confirmed by Western American historians--we act as if we have also mastered human nature and all the issues raised by the meeting of very diverse people in this region.

Now, to the occasional thin-skinned newspaper columnist, statements like this evoke defensiveness. Limerick is condemning the people of the Western past, they say; she's using unfair, presentist standards to judge them; the developers of the American West did their best they could, and much of what they did added up to a stirring human achievement of dominance over hostile nature, and now she comes along, the quintessential Monday morning quarterback, and picks on them with hindsight.

But I return now to Dickie Miles and me and the rosebushes. I believe that our intentions were not only good, they were of the best. But I do not think that our good intentions required my father to be overly charitable in evaluating what we had done to his rose-bushes.

The designers and builders of the American West's hydraulic empire had nerve and daring and enterprise beyond measure. Just as important, many of them thought they were doing the right thing--valuable and necessary service to the American economy and society. But recognizing the courage and the good intentions of the water developers does not require us to deny the fact that the developers, in various ways, made a mess--a mess, concretely and directly, by ruining wildlife habitats and by creating ideal conditions for the siltation of reservoirs and the salinization of fields, and a mess, more indirectly, by encouraging complacency and smugness and cockiness in the residents of arid America.

These things, however, are subject to change. The most exciting part about life in the American West in the late twentieth century is that the complacency and smugness and cockiness are wearing thin. More and more people are returning to a state of alertness, to an awareness that they live in an arid place, where water is not infinite, and not even abundant. In 1990, the American West is no longer the kid region, no longer the youthful part of the country, no longer the part of the nation that got itself into messes in a kind of "Leave It to Beaver" forgivable sort of way. We now have a dense and complicated history in this region. The West is--in the serious, not the Stephen King sense--haunted by that history, and that is probably a good thing. The 1990s are our time for maturity, for a clearheaded recognition of our long and complicated history, for a recognition of the fact that short-term profit and progress

have often meant longterm costs and consequences.

This, then, was the broad historical pattern. Initially, Anglo-Americans were unsettled and disoriented and anything but smug when they saw the West's arid lands. Then, helped in large part by the water development agencies and institutions, Anglo-Americans turned complacent--confident in their ability to remake an arid land into the familiar patterns of the humid Eastern United States, to turn areas of creosote and cactus and sagebrush into lawns and gardens and farms and golfcourses. And now, in the late twentieth century, the complacency--the spell, the bewitchment that ruled over Western America for almost a century--is wearing off. That is, in the long run, a great event, an occasion for celebration.

Before I find out if Professor Gressley agrees that we are approaching a time for celebration, a time for liberation from smugness, I have one other water-related limerick, one that sums up the state of things when smugness was still in the saddle, and I conclude with that verse now:

The West was meant to be dry-oh,  
But we want it to look like Ohi-oh.  
We are servants of lawns,  
While to farms, we are pawns,  
And the mournful historian asks, "Why-oh?"

## **Water and the Development of the West: Two Historians' Perspectives**

Gene Gressley, Assistant to the President  
University of Wyoming

**Gene Gressley:** Mining engineer, philosopher, Philadelphian, and scientist, D.M. Barringer, writing from his home in Arizona in the spring of 1902, summed up his thoughts on the Newlands legislation in a spirited letter to his friend Gifford Pinchot. "The objections raised by the representatives of the eastern states that the West should take care of itself does not seem to me to be well founded. Especially in the case of territories. For without an enabling act of Congress, they can not raise the sums of money necessary."

D.M. Barringer was not the first nor the last to join in political debate over reclamation policies in the 20th century. In recent years, a plethora of tones and tracks for water resource policy have poured out of publishing houses. Historians and journalists alike. Edward Abbie, Sarah Bates, Philip Fradkin, Paul Gates, Donald Green, Norris Hundley, W. Turrentine Jackson, William Karl, Lawrence Lee, Patricia Limerick, John McPhee, Gerald Nash, Donald J. Pisani, Marc Reisner, Wallace Stegner, William Warne, T.H. Watkins, and Ann Zinger have each engaged our attention. The debate goes on. The crescendo on an environmental theme rising as water becomes viewed increasingly as a natural resource of scarcity, life and death matter for the American West, for the globe. Not just for an afternoon, but for an eternity.

The imaginative, environmental historian, Donald Worster, is one of several contemporary scholars to offer his liquid tribute, Rivers of an Empire. Worster's volume will entrance his readers by the subtlety of his argument. They will be mesmerized by his message and enraptured by the sophistication of his theoretical structure, at least momentarily. Although much of Worster's pulpit will linger on. Conceptually, Worster adopts the hypothesis of one of the most famous theoreticians of the Frankfurt School of the 1920s, Karl Wittfogel.

Wittfogel's well known dramatization contends that water by definition confers specific social and economic powers on those who control it. Massive water projects require major infusions of labor and capital -- all guided and under the heel of centralized bureaucracy. The result, an omnipotent tyranny created and perpetuated by this hydraulic society. Wittfogel's hypothesis has come under increasing criticism. In fairness to Worster, he does not agree with all of Wittfogel's observations. Worster argues that Wittfogel's critics have misinterpreted his capitalistic ideology and that his bias was not against irrigation per se, only against hydraulic systems that produced tyranny.

What then is the core of Worster's argument. Worster perceives the West's irrigation empire as evolving through three well defined stages: incipience, ranging from Indian tribal efforts at localized irrigation to Mormon settlements; "florescence," inaugurated by the Newlands Act of 1902 when federal technology and

capital spread across the land; to stage three, beginning in the 1940s and continuing on into the unknown future, when big government and big business joined to hold the West captive to the hydraulic empire.

As Worster knows, global and historic mankind have indulged themselves for generations in self-delusion. The challenge -- which all too few realized -- was to rationalize the instrumentalism of bureaucratic irrigation with the goals of the Jeffersonian vision. The history of the agrarianism has been written many times in the context of Jeffersonian tradition. As the hydraulic empire evolved after World War II, the power elites running the empire became increasingly entrenched, because oligopoly dominated expertise and capital.

What of the West's future? Here Worster waivers. At one point as his narrative propels him along, he concludes, "But nothing is more certain to the modern West than that the next adage after empire will be decline." As Worster winds down his impassioned narrative, he becomes more sanguine, more reflective. He asks the rhetorical question, will the West escape the historical judgement of other hydraulic societies? He concludes, "Now confronting that question directly I confess there is no unequivocal answer." Is Worster's sermon delivered with the passion of a worthy divine, a mirage or reality? As Worster swings between scenarios of optimism and pessimism when pondering the West's future, so we would say that Worster's historical panorama possess both qualities.

Worster delights, provokes, and stimulates with the style of such lyricism as to seduce a Thoreau or Walt Whitman. Simply put, he captivates. Our admiration increases page by page as Worster's sophisticated, subtle, and seemingly unanswerable arguments topple on top of each other, the last point more convincing than the previous one. As Lawrence Lee recently noted, Rivers of an Empire is a tour de force. Is Worster's narrative balanced historicism? Perhaps it is the polemic aspect that disturbs. We suspect most historians will applaud, undoubtedly silently, Worster's Manichaeian devils. As one of our friends said, "If nothing else, I was delighted to see him give hell to those agri-businessmen." This identifies one problem that vexes us. Babbitt, like evangelists, may win converts, but will it become the scripture of the future?

Further, we wonder if Worster's West is the American West. Though he certainly treats other geographic sections of the West, Worster's story is essentially the California saga. We come to another view. Worster's account of resource exploitation is an American phenomenon, not just a western tale. The West exploited its western resource base, akin to the South which mined the fertility of its soil to create the cotton kingdom. Many have observed that Americans, regardless of their region, have been profligate with their resources.

Elites in American history have dominated resource and political development. Indeed, one might argue, can we escape elite power in conflict resolution of water policy? One can realistically contend that western water development would never have occurred without this "elite" leadership. Where would capital technology have been derived if not from the input of eastern financial endowments and their expertise? Again, has Worster misread the testimony, a work of uncontested imagination and insight? Rivers of an Empire is essentially a derivative book. No indictment here -- many great works have been. However, had



Worster plowed the files of Floyd Dominy, Sinclair Harper, and John Savage, to name only three, he might have realized that his thesis held less water than he imagined (pardone moi!).

One bureaucrat, Floyd Dominy, I am convinced, could have taken any bureau in the federal government and more than doubled its appropriation in 10 years. Dominy understood Foggy Bottom with a clarity of unusual brilliance. To say he was simply an engineering technocrat, of course, is folly. He slashed the mentality of the engineer in the bureau and elsewhere with a vituperativeness still ringing in the halls of the American Society of Civil Engineers.

Sinclair Harper's dissent with the bureau policies and operative procedures is legendary; his retirement speech echoes in the conversations of those retired bureau employees who had the privilege to hear it. Jack Savage, whose dam designs are the awe of the architectural world, was not happy with the undermining of Paul Taylor's army. One could go on -- the point is elementary, that the bureau was not a monolithic entity as so many would believe. Had it been so, Wittfogel, not Worster might have written Rivers of an Empire.

Wittfogel and Worster aside, where is the West's water policy today? Years ago, Dale Carnegie published a fascinating volume for teenagers entitled, Five Minute Biographies. In the remaining 10 minutes, we will speak with more authority than prophecy for our comments are bedeviled by doubt and haunted by hope. The setting, the problems, and as long as we are rafting the rapids, the solutions of the water dilemma in the West are not written in water.

First, it is obvious that water development in the West has been molded and defined by geography, legal structure, urban need, and agricultural demands. We all know this. The boomer go-go mentality of the 19th century has pervaded the 20th century West. The basic factor in that growth has been water -- regardless of economic pursuits. The past of the West was not all negative as some would have us believe. One still feels the presence that much parodied the Old American West -- the place of great escape and abiding solitude. For that past, among other things means possibility.

Water, as we all know, was essential for the West's survival. Ask any lawyer; it is frequently necessary for his survival, also. More litigation has occurred over water than any other single western resource. Water rights are fighting words in the West.

The boomer mentality has been enhanced by the federal government with its promise of free land, in addition to luring the settler west with further enticement of subsidized water. The federal government was often successful in its imperialistic dreams, but the price was high, whether in actual dollars or nonstructural costs such as the environment. Perhaps it was only a mirage, but the goal was plentiful land and water, with a security of tenure for both.

So for the westerner in the late 20th century, the problems of the present were innate in the inheritance of the past. The westerner was reflecting a mind set of cupidity, the sort of ethic that says a horse thief needs to be hanged and hanged now in the interest of efficiency and emphasis.

What makes the ethic palatable for westerners is the underlying sense that Americans, divinely endorsed, are inherently fair. Did this mentality prevent the westerner from planning for the future, ignoring the very challenges of water development that his forbearers had put off until the morrow? By the 1980s, the entire water-vested complex was in competition -- agriculture, historically consuming 80 to 90 percent of available water resources, urbanism, recreational and scenic demands -- all were demanding the impossible. This then was the challenge of efficiency.

How could the westerner allocate restricted water supply, equitably and efficiently? In essence, what was the most beneficial use? The bait reduced to use the gory aphorism, whose ox was being gored first? Where was water conservation in this intricate puzzle? What about compensation to the basin of origin in water transfers? Other topics that might engage the unwearied westerner included the recognition of water quality versus water quantity. How to rationalize the price with demand. How to reconcile flexibility with rigid institutions. When surveying this long horizon, conflict is not only apparent but seemingly inevitable. The solutions are easily enumerated, and seductively so, but obviously far more difficult to select.

Many have noted that old bromide ultimate law of water is that it always flows uphill toward money. There could be little argument with that judgement; however I would maintain, just as persuasive. A case could be made that water flows up and down hill toward votes. When the foray subsides, the resolution of water policy in the West will be a political solution. Like it or not, politics is numbers, people are numbers, population translates into metropolitanism.

This is not to deny the argument of Reisner and Bates that water policy reform depends on federal legal change first and state legal transformation second. But it is to contend that the Gordian Knot will be sliced by a political knife. Such a solution will not be a work of art, but a work of artifice. For the answer will be in distributive politics, which like water, will seek its own level -- this time of consensus. Mutual accommodation will shun excessive cost for each of the participating entities. Everyone will benefit, so they say.

What will produce such an elegant compromise between competing interests? The free market is the often quoted response. And if that free market is the function, the product, in this case water, has to be a well defined property right. Reisner and Bates, in their very sophisticated examination of western legal and economic institutions, are correct in their assessment that there is going to have to be a wholesale redress and reform. Revolution? Perhaps of a western water institutional structure involving water transfers, groundwater management, conservation, etcetera.

We can no longer afford to reduce every water crisis to an epigram. Just as we cannot ignore the political realities as though they were farm animals in a Chagall landscape. We must cease pointing the finger of

indictment and offer the hand of compromise. In fact, have you ever thought of wandering through American history without sinners, certainly the history of water in the West is populated with transgressors.

We all know, however, that salvation does not originate with eternal damnation. Casting aside good and evil in our design for the future, we do not mean to suggest that the market system should shun social responsibility inherent in the evolution of water usage. The appropriation doctrine, which for many is analogous to the free market ethos, fails in ways, not the least of which is the refusal to recognize conservation as a beneficial use.

Legislation is going to have to reconcile the free market with conservation. The evolutionary nature of the West's water system is self-evident. That does not mean that it is less fluid. The time has passed when the solution of water problems can be solved by throwing more money at capital intensive projects. The American public, through the Bureau of Reclamation, has noticeable delight in leaving behind concrete monuments as proof of their passage, something analogous to the French presidents.

We repeat: western states, in view of the impending and increasing conflicts over water allegations and water degradation, must quickly evaluate their water management policies. For to pass along to the future the water challenges of the past is to deny the West that very future. The leadership in the West must escape the frigidity of a Spenglerian mind, because westerners like to maintain that they have passed the one hundredth meridian in a search for a quality of life. Cliches? Perhaps, but there has been enough evidence in the last couple of decades to suggest that westerners are serious. Whether they have the commitment, imagination, and leadership to evoke their vision is another matter.

**(Question Inaudible)**

**Patricia Limerick:** I think Don Worster did us all a great service by stirring things up. If you have not read Rivers of an Empire, I urge you to look at it because it is simply good mental exercise. And given how whimpy and timid most academic writing is, it is great to see Worster taking his spirited stance. There is no question that he is right. There have been powerful water power elites that work in this story. That is unquestionable. What Don Worster missed in Rivers of an Empire is in what disarray those water elites do not find themselves -- in the weakened state of the Bureau of Reclamation. It is a really rather moving picture of people who are builders, who are clearly meant to be out. And they are building things, these people who do not have much to build.

It is my conviction that if we put one half of the energy into restoration, reclamation, recovery, and the repair of injuries from these projects, and the other half of our energy into building the water systems of our region, we could solve an enormous number of problems. But the problem is that they are not psychologically energizing -- repair, recovery, restoration, reclamation. They just do not have the mystical, magical power, especially I suppose for men, that building does. So what I think Don Worster missed was

the kind of beaten state of the Bureau of Reclamation in our times and also, the point that Gene makes about how much the water elites are now fuming among themselves. A great monolith of united water development interest just is not there. In fact, why would we have so many prospering lawyers in western America if it had been a great monolith?

As to Don Worster's line that after the empire comes decline, well, that has indeed been a pattern on this planet. There are many places where you can see empires that rose to great heights and then came down. We have no guaranteed immunity from that. I would not go so far as to predict decline, but I think it is important for us to recognize that other empires that followed that cycle and manifested a destiny of special relationship as a chosen people, none of that guarantees us an immunity from that fate. Don has done us a great service in reminding us that indeed 100 years of prosperity in a region is a rather short amount of time and that has no guarantee of permanence.

There is an obvious achievement of water development in the West and that achievement is that we are all here today. The obvious achievement of our presence. The density of the population that this region supports. The degree of enjoyment that the capacity to live here has brought to people. That achievement goes without saying.

I guess it is the problem that newspaper people fight -- negativism. It is hard to write happy news stories. How many times can you write a story about the Jones family having a happy family supper? You cannot do that very easily. What really troubles me about that word "negativism" is that it implies a polarity in life that I do not understand and that I do not recognize. To divide the world between the positive and the negative just does not seem to me to describe human life. It seems to be another effort to divide the world between white hats and black hats, good and evil, good guys and bad guys. I just would not see that characterization as making much sense.

We try to find the place where we need to think harder. The places that trouble us. Where it seems to require the attention of leadership. That is the sort of thing called accentuating the negative and I do not think that is quite it. The phrase where we must cease pointing the finger of indictment, to my ears, sounds like we must cease recognizing responsibility when we see it. It seems to be important to look at who did what to whom and what were the consequences. That is the major activity of the story.

**Gene Gressley:** Frederick Jackson Turner has been bashed for some thirty years. He was writing in a period that historians love to refer to now as the nationalistic booming era. Institutions in America were on the rise, people were confident in themselves, there was a great optimism of flow in the land. Today, Americans are questioning their leadership, the world leadership, they are questioning their economy.

There are a lot of doom sayers about and I think this is what has happened with the new history. We are swinging. But things now are negative and people are reacting negatively. So much of what I find in the historical presentation is current, current ideas, current ideology. The thing that you find in journalism so

often, not in history as it has to have a perspective, is that 20 or 30 years from now we can make an assessment of this period more than we can now. This is a problem when you comment on contemporary problems, but I am not arguing that we should not comment on them. So now that I have gone full circle, you try and pick the line that you like.

Ideology. There is no one who is more ideological in many respects than Frederick Jackson Turner. For instance, there was a man by the name of John D. Barnhart, who was one of Turner's prized students. He went to Kansas in the 1920s and for his doctoral dissertation analyzed the amount of rainfall that was found in Kansas in relation to the amount of populace agitation. He made the front page of the *New York Times* for that study.

Turner was very interested, for instance, in ethics in Indian problems. He did not focus primarily on those though. But I think Bill Kroden said it the wisest. He said one of the problems with Turner is that he has never figured out a way to escape him. And I think we are still looking for a way. The fact that we are still talking about Turner in 1990 when he made an address in 1893 is a great tribute. I wonder how many people in 2090 will be talking about us.

**(Question Inaudible)**

**Patricia Limerick:** I had to review the *British Times* literary supplement and it runs a couple of years behind American publications, so I just read a review of it. I had to read it closely again. I did think there were moments where I, and this will be ironic after what I just said, yearned for a little good news. Where I wondered if perhaps some project had worked somewhere and could we hear about that or we could just see a picture of a peach grown at a peach orchid. I just wanted something that suggested that not all the grim things have come out of that. But I think it was a great service. I think Rivers of an Empire did a great job of stirring up issues. I think it is a very valuable book, although I did get a little depressed.

**Gene Gressley:** I have another viewpoint on this. It is a prejudiced viewpoint, so I just want to make sure I am very clear on that. Marc Reisner did a lot of research on our archives. Floyd Dominy's papers are there. Harper's papers are there. But I too became depressed over a lot of negativism. But he was a journalist selling a viewpoint and I have a feeling if you went through the Dominy collection, the Harper collection, the Arthur Paul Davis collection and some of these others, you can come out with a far different viewpoint. It is just how you determine the documents that you read. We all look at documents from a different perspective.

**(Discussion Inaudible)**

**Patricia Limerick:** Well there is a good argument to that. That gets back to my limerick on that subject. I have no idea and this is where I am miles away from the trenches and really should not be permitted near the State Assembly on this one. But the dismantling of Los Angeles does not seem like a terrible idea to me. I have had to fly in there a couple of times in the last year and it was horrible. I took a taxi in Los Angeles, which is a senseless thing to do, but at six o'clock in the evening everything was jammed in the freeways and downtown. People were getting on the freeways and driving two hours or more to get to their homes. And if that is utopia, it is very troubling.

I guess I do not have any problem with it if his conclusion is that something went drastically wrong in the creation of Los Angeles. Who can quarrel with that? Where he is absolutely right is that a physical environment like this, over a couple of centuries, has to have a different kind of society than one in which you would find in a well-watered place. The groundwater depletion is probably the most compelling argument on that side and salinization. I think on those two things, groundwater depletion and salinization, Marc Reisner has a case that you cannot dismiss.

**Question:** This is sort of East versus West or an eastern view of a western phenomenon. And I am hearing a sense that the West is a cohesive whole. That all of the West is one way and so forth. One of the books that was ignored by professional geographers for the longest time was The Nine Nations of North America. But the author is talking about what we call naively given regions. Not that they are naive, but merely that they are regions as they are perceived by those who live in them. And if you accept, as many young geographers have, and teach as they are, from the Rose book, then you have to see that indeed there is a different mind set, a different landscape, a different geography, a different combination for a great number of regions within the West.

I would like you both to address the notion of how this region, for instance, is going to behave the same way as utopia does as Thoreau calls the West approach. He is not a Los Angeles basher; he simply says, well then, this is different than the empty quarter in which we live. It does not seem like the empty quarter, but it is. And if there is a degree of schizophrenia that exists between peoples' attitudes throughout the West, I think Thoreau hits it better than most other people do. I would like to hear your comments on this.

**Patricia Limerick:** The Nine Nations of North America is a fine book and an important book. Anything that reminds us of how unhomogenized this nation is seems to be valuable. I think 15 years ago, at least in graduate school, it seemed to be everyone's notion that with McDonalds everywhere, the parts were interchangeable and you could not tell the regions apart. But it is important to remember the diversity. I think, whether the kinship is known and acknowledged, there are five or six factors that unite a lot of parts of the West, of the hundredth meridian to the Pacific Ocean. There are tendencies toward heredity, public lands, Indian reservations, a greater proximity to the Pacific than to the Atlantic, and a proximity to the Mexican border. Anyway, there are about nine or ten of those things that tend to appear more commonly

in western America than in other places. Whether or not that kinship is acknowledged, it is there and it eventually would be nice if it could be acted on collectively.

I find considerable common ground between, say eastern Washington, eastern Oregon, and this region. Probably less so in Seattle. I give my basic routine on western American issues involving those nine or ten common factors and I seem to be understood and related to whether I am in Phoenix or Seattle. There seems to be enough common ground distance from Washington, D.C., in historical relationship that comes from being settled and developed by Anglo-Americans in the 19th century. All those things add up to enough common ground. I would be thrilled if that common ground became more perceived, acted on, and realized, but in the mean time we know it is there.

I think it is a question of children adopted at birth, or something like that, who are in fact kin -- who in fact share in heritage, but who may not discover that right away. So I do see regional common ground, but I am not sure that many other people see it at this point. I think, however, that it is rising. You can see it. If the novelist means anything, you can see the novelist really going ahead on this. There is really a very strong western region developing now. If the novelists are the bell ringers, then that is the way we are all going. Maybe they are not.

**Gene Gressley:** I agree with you. Thoreau's book is a good one. My objection is more from an ideological perspective, not necessarily from an east-west perspective. I cannot argue with the fact that there is a regionalism in the West, but there is a definite literary print toward regionalism. It is coming much later than regionalism did to the rest of the country. How long have we talked about southern regionalism, literary regionalism? A long time. But western regionalism and western writings is coming to the front now.

**(Question Inaudible)**

**Patricia Limerick:** John Wesley Powell, who had greater courage than many of the bureaucrats in Washington today, wrote an important report on the arid lands and suggested that indeed western America would require a different pattern of development and settlement. And that is true. He won that one in the sense of who got it right and who did not. He was of course overruled by Senators and Congressmen who did not want their regions limited in the development, so it became a tidal wave of development. Powell did seem to go down to a temporary defeat. I would say he is the long range. He will be the long-range winner.

I would go back even further. Stephen Long and Zebulon Pike, who explored the plains in the early 19th century, seemed to go on record as fools because they said that this is a region that simply could not support conventional Anglo-American agricultural development or a dense population. After the great burst of development, everyone thought Pike and Long were the fools for having missed the promise of this

region. I think Pike, Long, and Powell are going to look better and better over this next century. It is just too early to declare that battle over. Even if Powell felt defeated, his recommendations were not taken up particularly in his time.

**Gene Gressley:** I agree totally with Patty on her views here. For years, we have been collecting papers of water people in Wyoming and one of them is Arthur Paul Davis who is the nephew of John Wesley Powell. And Arthur Paul Davis, in the 1920s when he was operating at the bureau as chief engineer and later as commissioner, kept saying, "The fool, my Uncle." And that is the way he looked at him. But I agree totally with what Patty was saying. In another 100 years, he will become one of the patron saints of the environmental look of the United States, but also common sense.

**Patricia Limerick:** By the way, if you are going to get into the history books with me, you have to stay in touch. So if you do engage in acts of courageous and innovative leadership, make sure that I know about them so that I can get them in the books.



## **Debate: The Role of Public Interest In Water Allocation**

**Moderator: Stan Cazier**

**Hurbert A. Farbes:** Stan Cazier (replacing Greg Hobbs) is the attorney for the Middle Park Water Conservation District. He is a graduate of the University of Colorado law school and has practiced for 17 years in the Grandby area as a general practitioner with an emphasis on water law.

**Stan Cazier:** I think Woody Page said it all when he said that scotch was for drinking and water was for fighting. When we talk about public interest in water allocation, it is often difficult to find quotes; one that I like is from Isaac Walton who said, "What's everybody's business, is nobody's business."

The two panelist we have are excellent. I think they are going to have very different views. The first speaker will be Sarah Bates. Sarah graduated from Colorado State University and the University of Colorado. During school she worked for the U.S. Forest Service, Sherman and Howard law firm, National Wildlife Federation, Environmental Law Institute, and as a research assistant for Professor David Getches.

She is currently employed as an associate attorney at the Sierra Club Legal Defense Fund in San Francisco working on litigation involving water resources, land use, and international rain forest protection.

**Sarah Bates:** Here in Colorado water is everything. Water pervades the politics, the regional disputes, and, perhaps most of all, the law. Disputes over water rights have given rise to fights between states, between front rangers and western slopers, and between individual appropriators. Sometimes they face each other with shotguns drawn over disputed diversion ditches. Like the water itself, many of these fights touch everybody and everything in Colorado. The white water rafters, the fishermen, the local grain dealers, all have an interest in how Colorado water disputes are resolved and how the water is managed. But their views are not necessarily considered and their interests are often ignored when the courts make decisions about how Colorado water will be allocated and how the water will be managed. This is wrong. Public interests in water extend far beyond the scope of Colorado's traditional water law. It is time for those laws to be changed to reflect the evolving public values for water and for other natural resources.

Just briefly, here is an example of what happens when public interests are not considered. It is a situation that most people in this room are familiar with: the Gunnison River Basin and the proposed water transfer to the City of Aurora. There are many traditional uses for the water in the Gunnison Basin. Water is used for agriculture, mining, tourism, and the increasing growth in the recreation industry. The proposed diversion project would move a lot of the previously unappropriated water out of the basin and over the mountains to satisfy the needs of the growing cities in the Front Range.

There were many objections to this proposal. Many people were concerned about the serious impacts on the local economy. What happens when the water is not available for future development here? Other people were concerned with the effects on the natural environment and what that would do to the recreational opportunities. Unfortunately, when the court was faced with these arguments it said that it did not have the authority to consider these public values in water. It said consideration of public water values was not included in its jurisdiction.

The litigation continues on other fronts, but for now, some of these local folks are left out of the picture and cannot participate in the decision. As I said before, this is wrong. This points out the need for making some changes in Colorado's water law. Water is, according to the Colorado Constitution, a public resource. It belongs to everyone. Most of the other western states have similar constitutional provisions, but what they have done is they have included in their statutes provisions to consider the public interest and to require this consideration before water decisions are made.

Colorado does not have this kind of requirement. The courts do have the authority to make this consideration, but they do not have a formal requirement to base it on nor do they have good guidelines. It would be very difficult for the courts to make these decisions right now. This points out the need to change the laws, to give the courts some guidance, and to establish some kind of a framework for figuring out what these public interests are and how to take them into account in water decisions.

I will warn you that if the legislature does not act or if this kind of change does not take place, the courts will eventually react. The results could be harsh. You might see the courts taking into account public interest on their own and deciding on their own what public interest is. Just as Colorado's history cannot be separated from its water, likewise, Colorado's future cannot be separated from the changing public values for its water. It is time for the law to catch up with the people.

**Stan Cazler:** Our next speaker is Mark T. Pifher. Mark is an honors graduate from the University of Wisconsin, Madison, with a degree in English education. After teaching at the secondary level for two years, he returned to the University of Wisconsin, Madison, and earned his law degree. Mr. Pifher is currently a partner with the law firm of Anderson, Johnson, Gianunzio. His practice is concentrated in the areas of environmental and water law. He has handled matters under all of the major environmental statutes including RCRA, CERCLA, the Clean Water Act, and the Clean Air Act. He is currently the lead counsel in the litigation involving the Homestake project to be built in Eagle County, Colorado. Mr. Pifher has written extensively in the area of environmental law and water law, including articles on the Clean Water Act, the controversy surrounding quality versus quantity, and the use of biomonitoring as an enforceable tool in the reduction of water effluent toxicity.

**Mark Pifher:** In the June 28 issue of *Rolling Stone*, a magazine that is widely read in the water community, there was an article by P.J. O'Rourke about the dangers he saw in the current environmental

movement that is sweeping America. You can get a pretty good feel for the article from its first sentence when he said, "If the great outdoors is so swell, how come the homeless aren't more fond of it?" In other words, everything must be put in proper perspective. One must sort out the good in our current water allocation principles and maintain it, while carefully considering improvements that are dictated by current economic and social needs.

Is there public interest? Of course there is. The only question is what is that interest and how can it be expressed or preserved. We often forget that public interests are reflected in the placement of water to municipal, agricultural, and industrial needs. Job creation, food production, green back yards, and adequate supply of water to tap are also of public interest. These are all vital public interests that are served by the community. But what are the other public values? What are the other public interests that people usually think of when they see that there is going to be a debate on this topic? Well, one is water quality. We all need good water quality. We need it for municipal purposes, industrial purposes, agricultural purposes, and we need good water quality to serve aquatic life in stream flows and recreational needs.

What other values fall within this category? Aquatic life and fish flows are a couple. Others are preservation and wildlife. Water life is essential in maintaining wildlife habitats. Recreation, boating, and aesthetics are all under the umbrella of public interest values. Many of these are dependent upon instream flows. How do we sort all this out?

One means of accomplishing all of these various requirements is through the public trust doctrine. I have heard this doctrine described by a noted Colorado water attorney as legal fiction created by law professors of the liberal court to take vested property rights without the need for compensation. I find this description fairly close to the mark, but would add that it is also a doctrine developed by those same individuals because they do not trust the public.

Confirmation of this definition was observed through reading law review articles. For example, a 1989 article which appeared in a county law quarterly argued in favor of an expansion of this doctrine of public trust. It stated, "Modern state governments may have the power to regulate private property, but this is quite different from the obligation to do so." The author then continued, "The trust empowers individual citizens to employ the traditional process to enforce what amounts to an affirmative duty upon the government to protect significant interest." In other words, if our duly elected officials do not pass the laws some individuals would like to see, let us just give these individuals the power to supersede the democratic process through forced traditional interpretations.

**(Question Inaudible)**

**Sarah Bates:** The public's needs need to be protected. Their needs remain important, but there are other voices that need to be heard as well. As far as what is public interest, how do you define it? You can list public interests. Many states have done that. In general, it is the wise management of water resources. Bruce Driver wrote that generally, public interest in water is if water is used or left unused in the manner that adds the most dollar and nondollar value to society consistent with principles of fairness. I think that all of those elements are important when you are considering what public interest is.

**Mark Pifher:** I disagree to some extent with Sarah's characterization that everyone cannot get into court. My litigation experience has shown that many groups which extensively represent public interests get into court under some very broad interpretations of a standing doctrine as it has evolved. As long as they can show some use of the public domain land, most courts are inclined to allow them to press their case in water court.

**(Discussion Inaudible)**

**Mark Pifher:** There is a correlation to be made here, because zoning is an exercise of police power and it is not an exercise of a public trust, of which many people of the water community are fearful. And the police power is already being used to limit the ability to construct and operate water projects. Certainly local land use controls apply to the means and manner of diversion. And that is an exercise of police power. Water quality regulations, for example certification of antidegradation, is an exercise of the police power just as zoning is. When you try to get a 404 permit, you have to have minimum bypass flow through the fishery. That is an exercise of the police power and we will see more and more of this in the future. As Sarah pointed out, by 1998 the Bureau's second highest priority will be water quality and the eighth highest priority will be water project construction. We can see that trend developing.

The problem is, how far do we go? If we just apply traditional police power law, we get into the Tanking's case, like the autonomous coal case and other decisions. The state could mandate that half of the coal be left in the ground to serve the public interest and have that investment lost. And does that mean that we have to potentially dedicate under the zoning analogy half of the water in the instream flows? We have some wise legislation and constitutional provisions that would currently prevent that, but we need to prioritize the various interests at stake here before we apply a zoning-type analogy.

**(Question Inaudible)**

**Sarah Bates:** Water rights are property rights, in a sense. And all property rights are subject to public regulation. Private property rights are in fact defined by public bodies so they are subject to public

regulations. Water rights have been unique among property rights, but lack the types of controls that have been placed on other types of property rights. The trend is toward more regulation and the challenge is to regulate them to protect the uses that are already in place. At the same time, however, we need to manage them wisely and impose controls that will conserve the resources for the future.

**(Discussion Inaudible)**

**Sarah Bates:** The public trust doctrine is an effort by the courts to remedy past wrongs. It is an effort to stop what the courts see as a squandering of public resources. It is a very old doctrine dating back before statehood. It is an old Roman doctrine and the theme of the doctrine is that the waters of the states are impressed with the public trust. The state cannot convey interests that are inconsistent with this kind of trust duty that the state has. It is not always inconsistent with the Colorado prior appropriation doctrine. It is not a separate doctrine, but an additional duty or obligation that is imposed upon the existing prior appropriation doctrine.

It does not say that resources cannot be alienated; it says that the right steps need to be taken before those resources can go to private ownership. Basically it is a balancing doctrine, but it is not always applied this way. We are likely to see more applications of it in the future. The public is demanding more recognition of public values in water and other natural resources. The pressures are there, on the courts, to recognize these values. The public trust doctrine is not necessarily the answer that we are looking toward, though. And I do not know if this is the best approach for Colorado. It can be avoided by taking the kind of action that I have been talking about -- considering public interest criteria when making water decisions. In other words, being proactive instead of retroactive.

The public trust doctrine allows the courts to come along later and look back at a water decision, maybe as much as forty years later like in the Mono Lake decision in California. They can then determine that the decision was made incorrectly, without allowing for certain considerations. It is not that the court says that transaction should not have happened, but that before it was made, the correct process needed to be followed. It is a harsh doctrine when it is applied retroactively and can be avoided by making adequate considerations when deciding on public interest criteria.

**(Discussion Inaudible)**

**Mark Pifher:** There are other interests that should be more paramount. They include serving agricultural needs, municipal needs, and public interests that are reflected in those, as well as public interests in the cost of water supply and having an adequate water supply available. The federal government ignores problems that occur when they veto a project. You may have to seek water from an alternative source

such as agricultural lands that would then in turn cease production. These types of issues are not adequately analyzed.

The other major problem with the federal vetoing of projects is that there is no consideration of local determination of project feasibility and project need. In part, these decisions are made in Washington because certain environmental organizations advocate it. These groups appear to be more successful in seeking relief in Washington. Locally, analyses are performed, alternatives are examined, but nevertheless someone in Washington second guesses these determinations. It is not really a question of what interests are paramount, but who should make the balance. The balance needs to be made locally.

**(Question Inaudible)**

**Sarah Bates:** I will defend the federal laws, because they are important. They are important statements of a national consensus on certain issues. Maybe the Endangered Species Act is most in need of defense these days. The Endangered Species Act is a good example of a national statement that sometimes the price of development is too high to bear. Sometimes the balancing has to be in favor of species protection.

When federal and environmental laws are passed with mandates, that is a statement of paramount public interest. Just by definition, when the people speak, it is a wide spread public sentiment behind them and those have to be deferred to in that way. So those are paramount public interests in that sense, but the federal environmental regulation leaves a lot of room for deference to the states. And in this time of budget constraints and determining states' rights, there is a lot of room for states to take the lead in these areas. These decisions should be made at the state level on what is public interest for the people. How are those needs going to be balanced? Interference by the federal government is a lot less likely if the states show that they are taking these needs and these interests into account.

**Mark Pifher:** Some changes are appropriate and necessary. I had the opportunity to read Sarah's book and I found many of her observations quite interesting and to the point. I agree with many of the changes she suggests. We need to look at federal projects and at some federal legislative changes. Perhaps a reclamation act on project authorization for individual projects to promote free transferability of project water is warranted. It is a good idea because, over time, the value that we place on certain interests change and we may no longer be placing some of that water to the best use. We should also allow users, such as the agricultural community, to benefit from efficient use of their water and allow them to transfer that water at a profit. A further change would be to allow litigation credit for off-site improvements in flows and habitats against inevitable negative impacts or degradation at project sites or facilities. Things cannot remain constant.

**Sarah Bates:** Well, I am glad that we agree on some of the recommendations and that there is a need to include the public when allocating water. What changes should be made and what is being done in other places? We can look at many other states.

Within the materials handed out, there is a very good description of a water planning process in Montana. They are using a framework that can be developed and can bring in the public. It can be a mandate by the legislature and then implemented by other agencies or public bodies. Eventually, it will give guidelines to the courts that make the decisions on what public interest criteria for water have to be considered. It should not be an arbitrary decision of what is or is not in the public interest. If Colorado looks at what Montana is doing in water planning, as well as the other states, it could see a framework where public interest considerations can be integrated into the water decision making process. It is a real advance and benefit to the West.

The legislature needs to act and needs to integrate some public interest review requirements into water decision making. And if the legislature does not act, the courts eventually will and that brings the threat of either arbitrary decisions with no guidance or the public trust doctrine. This would be much more harsh than a logical legislative-based approach.

**(Discussion Inaudible)**

**Sarah Bates:** I am definitely an advocate of moving water to efficient uses and putting up water for it. My concern is that it will be done without adequate consideration of others in the area who might be affected.

**Mark Pifher:** The problem is that the federal reserve rights vest on the day of the establishment of the reservation and if the land was set aside for some purpose a hundred years ago or whatever, they are arguably vested on that date. Of course, there is a legal debate as to whether the postponement of this doctrine will apply to the priority date of those rights or not, but that is really the root of the problem. And the courts created this doctrine in applied rights. In other words, the legislation did not say we hereby create the right; the court said Congress intended obviously to satisfy some water when they created this reservation. And now we find ourselves in this terrible dilemma and all I can say is in the future, we have to do what we can to get out of this box by requiring some express congressional direction. Is there or is there not a water right for those federal lands?

**(Discussion Inaudible)**

**Mark Pifher:** First of all, relative to wilderness to just take one type of federal enclave, Congress should disclaim the reserve right, but establish some mechanism such as the utilization of the state instream flow program to ensure that there is some water in that area. Otherwise, even if we are close, if you have a downstream wilderness any upstream water diversion or future development people believe if there is not a federal reserve right that somehow that pristine land is going to be dewatered.

This is far from the truth with the instream flow program, with downstream seniors, with interstate compact delivery obligations, and with 404 permitting. There is a host of protective access restrictions. We do not need any more federal legislative overlays in the water log context.

**Sarah Bates:** Well, the recommendations that we have made on federal law changes have been primarily to streamline them and let the states take the lead in water allocation, efficiency, and reallocation. As far as the reserved rights doctrine, it is a legislative decision in the future of how we designate water rights in wilderness areas. And if we decide to do it by requiring people to obtain the instream flows through the state, then that is a public decision. The difference is that in the past this was not done. There was no requirement that this exclusive distinction be made, so the laws were written with an understanding that water was a part of the reservation. That is the interpretation of reserved water rights and federal reservations. And so I am in favor of the application of the reserved rights doctrine to these reservations that were made in the past, but I do not see any problem with the way new wilderness areas are being designated. It is fine to take into account the need for more clarity in the law. The protracted court battles have pointed out this need.

**(Discussion Inaudible)**

**Mark Pifher:** I think the appropriate place to address this is in a legislature, which is a democratically elected body that is representative of the people. I do not think we can take every diversion and water project, certainly not minor water projects, to some kind of the vote of the people. Contrary to what some people may believe, and this may sound like heresy coming from me, water planning is a necessity. It is a question of who sets up that plan, who has input into that plan, what are the long-term goals of that plan, and how is it going to be operated. But we have to look for some direction from the legislature rather than taking each individual project to the people.

**Sarah Bates:** I agree with Mark on that and I am glad to hear him advocating water planning because I think that is a much better context than either individual courts making these decisions arbitrarily or passing every decision on to the voters.



**(Question Inaudible)**

**Sarah Bates:** I have written a book on this subject and many of my views are not the same as the organizations that I work with. That is made clear by some of the recommendations that I have made and maybe from my views of the public trust doctrine and views that have come up here. My practical participation in this area has been through researching the need for changing the laws in some way to take into account public needs and public interests. But I agree, everybody needs to participate in the practical aspects of this.

**(Discussion Inaudible)**

**Mark Pifher:** A difference needs to be made between zoning and police power implications and water allocation and its police power implications. And I do not think the same boundaries can be used because of the fact that water flows from county to county, and state to state for that matter, and therefore the zoning is not necessarily very local in nature. But whatever that authority is, be it perhaps the entire State of Colorado, it has some police power jurisdiction and cannot pass legislation in that area.

**Sarah Bates:** I think it is a nice way to end a debate by agreeing that we were talking about the zoning as an analogy for exercising police power and that water is a statewide concern. Local interest is important, but ultimately the planning has to be done by all the people.

**(Question Inaudible)**

**Mark Pifher:** It is not necessarily more supportive, because I would hate to think of an individual wielding any sort of police power. I certainly advocate people putting their money where their mouths are and acquiring water and dedicating it like that of the conservancy.

**Sarah Bates:** The point that you are making about local input on those types of decisions or local participation in those programs would also take place in a statewide planning context of some sort, if local areas have voices in that. If local areas can get together first and talk about their priorities. I think there is probably more of an opportunity for those new uses to be recognized.

## **Finding the Creative Balance: A Challenge for Colorado Water Institutions**

Neil Grigg, Director  
Colorado Water Resources Research Institute  
Colorado State University

**Hubert A. Farbes:** Our next speaker is someone who is well known to many of you. Neil Grigg is the director of the Colorado Water Resources Research Institute at Colorado State University. Neil is a graduate of West Point, Auburn University, and he received his Ph.D. in hydraulic engineering from Colorado State University. He has worked as the assistant dean of the engineering school at the University of Denver and founded the engineering firm of Sellards and Grigg. Neil worked as the director of the University of North Carolina's Water Resources Research Institute for a number of years and has been the director of Colorado's Water Resource Research Institute and International School for Water Resources, as well as a professor of civil engineering at CSU since 1987. Neil is a member of the Fort Collins' water board and in 1988, he was appointed by the Supreme Court as the River Master for the Pecos River.

**Neil Grigg:** My topic is finding the creative balance and my overall message is that there is not anything any more important to the West than finding this creative balance. The solution that we are looking for is a balance rather than something like invoking a drastic version of the public trust doctrine. There has been a lot of discussion of the concepts that are related to this. Concepts, such as, do we need a state water plan or do we revoke the appropriation doctrine?

The appropriation doctrine is still a good doctrine. I do not believe in having something magic like a state water plan that would have the government dictate what private individuals can do with their water. I do not think any of those things are appropriate. What we have to do is find some practical incremental ways to balance the interests from the point that we are at right now and to continue to seek improvements toward the goal that we are after, which is a better economy, a better environment, and a higher quality of life for people in Colorado. Not only for the people who happen to be in Denver, but for the people in all parts of the state. There are a number of issues like this that are really important that we have to deal with and they have not been fully dealt with yet.

Basically, I have four points. My first one is that there are too many conflicts in Colorado's water management right now and I want to explain those. The second point is that we need a creative balance and I want to explain to you what I mean about a creative balance. The third point is that I would like to say just a few words about what are the consequences of not finding the creative balance and I think those consequences are very negative to the State of Colorado. And my fourth point is, what do we need to do? How do we get to where we need to go from here?

The conflicts that I see are in three categories. The first type of a conflict that we have, everyone understands. It is a conflict between management agencies. With the proliferation of management agencies in Colorado, particularly in the Denver area, they do not work together in many cases. We do not have enough cooperation. Sometimes the interests of the organizations are not lined up with each other and so they do not automatically cooperate. And so you see something like in the Denver area; the management agencies have said that they need the Two Forks Project to bring them together.

So you have the consequence of this conflict, which is that you need a project. The inference is that if you had the cooperation and that they would work together, you would not need a project. And that has not been proven that you would not need the project if you had the cooperation of all of those entities. It is also a very difficult thing to have all of that cooperation, but that is the first type of conflict.

The second type of conflict is one that we have not understood as well as we need to; it is the conflict between the regions in the State of Colorado. And I am going to show you more about that later. I think that is the most important conflict that we have.

The third conflict is one which has come across us like a new wave and Patty Limerick discussed that very well this morning. That is when the water was originally in the West and in Colorado, the main interest in driving it was an economic interest. But now, the environmental interest has come across it like a wave and we are having to respond to that with a whole mixture of federal laws, law suits, and some state actions. We are not as far ahead in the state actions as the federal government is and that is working to our detriment.

So those are the three categories of conflicts. These conflicts are very serious for Colorado. Something needs to be done about them and I think that now is the time to do the thinking that is needed as to where we are going with it. Just think about what is happening as a result of these conflicts. We have chaotic water planning. You do not know if you undertake a water planning effort, even if you have all of the interest groups that you can find together with you, if you can be sure that you are going to be successful. There is a lot of disunity in the state and within regions on this.

There is disunity. You can see it in the Two Forks Project and you can see it across the state. Some people believe we have a serious impending water crisis. This could have different dimensions to it. We could lose our interstate compact entitlements and just be left with what we have as one element of this crisis. Another element of the crisis is that the environmental agenda might become even stronger and freeze management options with what we have now so that there would be a lot of turmoil in our economic future as a state. The other consequence is that there is an uncoordinated reaching out for water from different parts of the state by all types of groups because of our uncoordinated free enterprise approach to developing this limited resource.

It seems to me that the speakers that we had this morning, regardless of which side of the issue they were on, seem to agree that some kind of a planning and coordination among all of this is necessary, but we

have not found out exactly how to do that yet. I would like to challenge you with this question. If you looked ahead 50 years or 75 years, with the kind of development that we may have in Colorado or they may have in California and Arizona, do you think that we will be able to just keep on with this uncoordinated approach that we have had up to now?

I was just listening on my way over to a speech that was given in 1943 by former Governor Ralph Carr. He was giving a tribute to Delph Carpenter, who was the Colorado commissioner on the Colorado River Compact Commission and some other compact commissions. Delph Carpenter and his contemporaries at that time did some really yeoman service to negotiate those water contracts. When you listen to that speech, which was just 1943, less than fifty years ago, you have a clear sense that it was a different era. He was giving a speech to the National Reclamation Association and everybody was congratulating everybody else on just the economic aspects of this. Project yourself ahead 47 more years, if we change as much in that period of time, you will have a picture of how we have to adapt to that with some future planning.

I believe that dealing with these water conflicts is a key policy issue for Colorado in the 1990s. Okay, what are the issues? This is where I have four of them that I have identified. Four basic issues that we need to deal with and understand.

The first basic issue has to do with the conflict over water use values. It is the conservation ethic versus the economic application of water ethic. I do not need to explain that any more. The second issue is water management integration. A lot of folks talk about integrating water management which means to get the act together. But they do not realize how complex water management integration is. There are three kinds of water management integration and we need studies and research, and working together to figure out how to do it.

The first kind of water management integration is what I like to call the hydrologic and ecologic integration. That means that when you take water for the use of its quantity, you consider the quality, you consider the groundwater. You interact the ecology and hydrology of it in any kind of decision. You do not leave wetlands high and dry; you be really careful on diversions so that you do not leave an area stranded there.

The second type of integration is political integration. That means that agencies work together horizontally within a region and vertically with the federal government, the state government, and the local government. Right now we do not have any vertical integration. The federal government is acting as the referee over the lack of unity that we have. The third type of water management integration is functional. That just means working your groundwater together with your water supply together with your water quality and so on. All of that is badly needed and we do not have enough of it yet.

The third issue, which I am going to come back to in a minute, is the regions versus the states. I have some insight which I would like to bring to you on this issue which I think deserves to be put into the policy agenda hat.

The fourth issue is the planning philosophies and that is to find a way that the state can plan together. A way that the water users and other interest groups can work together to develop planning and we are calling that a process. And those words, process and plan, they kind of go together. Policy goes together. There is going to be more discussion of that tomorrow. But it does not mean develop a state water plan and it does not mean to take someone's private property rights by virtue of a plan that the government comes up with.

So those are the issues that I see and I want to start out with this region issue, which is the one that I consider the most important. Some folks do not understand the pivotal position of Colorado as it relates to the west and to the rest of the country. People who are in the water business, for the most part, understand this and I am sure everyone here understands it. This picture shows it pretty vividly. You can see five major rivers starting in Colorado. Now notice the Colorado River which flows down toward California and eventually flows into the gulf of California. This is an issue for the lower basin states, the upper basin states, and the country of Mexico.

That story that I was listening to about Delph Carpenter's work, which incidently was lent to me by Barbara Preskorn, illustrates the long and difficult history of that Colorado water compact, and it deserves serious study by anyone who has not studied it. But think about what was happening with those issues as they relate to state governments. State governments, under their constitutions, enact the water law. In Colorado, we have the appropriation doctrine which is in the state constitution. Other states have their water laws, too. The state water law gives water users within the state's boundary the right to use their water and to transfer the water around the state, but it does not provide for the right to sell the water downstream. For example, selling water from Colorado to somebody in San Diego. This is an issue that is on the table. A very important issue. So state water law provides protection for people in the boundaries, but it does not give them the right to transfer their water outside of the boundaries. The federal government does get involved in transferring water between states, but only when it is part of a big project. Otherwise they are not involved in that.

Now this is all fine and dandy, but it leaves something out that we really need to be thinking about in Colorado. And that is the difference in our regions. Some of you may remember this little diagram from the *Denver Post* a few years ago which shows the five Colorados. Well there are more than five regions in Colorado, depending on how you cut it. But those five regions of Colorado have distinctive characteristics. This morning we were speaking about regions in sort of a different sense, western regionalism, but we have regionalism within Colorado. And this is the source of some of the conflict that we have over water rights now.

Now looking at this map you can see that the source of the difficulty in interbasin transfer of water is the metro area of Denver which has been growing so fast. Also, the rest of the Front Range is needing water, Colorado Springs and up in Northern Colorado, and the Pueblo area, too. We have all had some interbasin transfer of water, but what does that do? It moves water from one region of the state to the metro area, or to the Front Range. And it does so under the appropriation doctrine which allows that transfer of water

provided the economic potential is there to do it and provided the other water right owners are not injured under the water appropriation doctrine. All this is decided in the water court.

Some of the debate this morning was, how do you get into the water court, this public interest review of that? Well that opens up a can of worms. Who decides what is in the public interest? Because you have these different publics and we have been debating that for a number of years in Colorado, I do not predict that we are about to come up with an overall solution. I am sure the legislature will have to duck a lot of those issues because it is not possible for them to have so much wisdom to know what all of those public interests are. So meanwhile, and this is the bottom line of this, the regions of Colorado do not have protection against diversions to other regions that the State of Colorado has against diversions outside of the state.

So we could have five states instead of one state and then they would have that protection. Or we could have two states instead of one state, but we do not. We have one State of Colorado and so it is the public interest and the state interest in Colorado to do something about that. And I think that this is where a state role comes in.

The other point that I want to make is just a little bit more about planning and planning philosophies and the fact that we have conflicts over these. There has been a lot of debate over water resources planning in Colorado. Colorado started, under the Water Conservation Board, an effort to develop a state water plan in the 1970s, but they stopped calling it a plan and started calling it a policy. Then that process was pretty much played down and terminated.

We do not have a Colorado state water plan. I do not know of any state that has a state water plan that is anything more than an informational document, unless the state itself is in the water development business as some states, such as New Jersey and California, who were at one time developing a project. So when we are talking today about planning, we are not talking about developing a state water plan. We are also not talking about central planning, like the Soviet Union tried to do and failed.

There is a lot of debate within the public administration community about whether you can centralize planning for things that private individuals should do. You know, it has to do with should the government be involved in private enterprise. As far as I am concerned, the answer for the most part is no because private enterprise has done so much for us. But as far as water resources are concerned there is a public interest in water. Water is more than just its value that is quantified by an economist. I have had some arguments recently with some economist about this.

Water is at the middle of everything in Colorado. It is about the power, it is about economic future, it is about values. There is just more to it, but we have not figured all of that out yet. And so what we need in the way of a planning effort is a process that will allow the different public interest view points to be entered into the decisions that are made, hopefully voluntary decisions, by water users, water organizations and the like. Tomorrow there will be some discussions about what that process ought to be and how we

can get to that process. But there is even more to it than that. The process is one thing, that is getting people to agree within their comfort zones. And this is an important point so I want to go over this in a little bit more detail.

In my business, which is water resources planning, in a kind of an academic sense but also the way as practiced out in the world, it is one thing to talk about water resources planning in coordination where nobody has to give anything up outside of their comfort zones. You know you are just making a trade off. The fisheries interest instead of getting 200 cfs, they get 100 cfs. The water user, instead of diverting water on August 15, they divert it the first of August or release it, you know, within the comfort zone. And it is hard enough getting a process to do that.

But here is the bottom line of what is missing there. In Colorado you have property rights that are vested in individual water right owners and organizations which have a tremendous value. If you ask somebody to do something outside of their comfort zone, we are going to have to pay for it. There is no mechanism to pay for that. This is what the argument over the public trust doctrine, the public interest review, is all about. Because if government comes in and, by a public interest review, it takes away somebody's right to sell, rent, or lease their water right, they have actually taken a financial benefit value away from them. That is where the revolution would come. The revolution would not come, the fighting would not come, over this process where everybody is working in their comfort zone. What has got to be dealt with is when you get outside of the comfort zone and we want to take a value away from somebody who has got a value. And that deserves some really serious attention.

So my regional argument relates to that. And it is that if you live in western Colorado and you own water rights, you are entitled to sell those to Denver, but you are not entitled to sell those to San Diego. So you never had a vested right to sell it to San Diego, but you had the vested right to sell it to Denver. So if the public interest review takes that away then that has got to be dealt with.

Where do we need to go? The first thing that is needed is regional water management. Right now we have some regional water management, but the regions are not unified to speak as one voice about water management. The Denver metro region is not speaking as one voice so you have this reaching out. Northern Colorado, where I am from, is not speaking as one voice. We are going to work on that. The Western slope, the same. It is all the same there. We need to arrive at a point where that occurs or we are going to have this uncoordinated reaching out on a continuing basis.

The second thing that we need is a statewide process that will broker between these regions and maybe provide the economic transfers that are needed in order to solve that more difficult problem that I was talking about just a minute ago. In order to find out how to do that, it is my thinking that we do not have the knowledge that we need, right now, to do that. I advocate a study commission that would be organized to figure out how to develop the regional water management and how to develop the state water process.

Now, what would this study commission do? One thing that it would do, is that it would provide some of that leadership that Patty Limerick was talking about. And the study commission could be recommended by Patty to be written up in her books. So this could be a positive benefit of that. But stage one is that they would have to figure out what those comfort zones are and then develop a process that would allow us to develop the best water management scheme within those zones.

But the second part is more difficult. What about preventing the sale of water and these transfers? How are we going to deal with that? That is the fundamental issue that is involved here. Well, the only solution that I see is some kind of a statewide public funding that deals with buying water out when that water is needed for public interest purposes. It would have to be decided by a board or commission or some statewide group.

There is going to have to be some money involved here and as I see it, it could be like a state water bank; it could be like a development bank, a regional development bank. It could be some kind of a combination of an instream flow program, such as the one that Senator Harold McCormick talked about which is working well and has been put into place. Maybe with some money into it to buy up some more, the combination of the instream flow program and a basin-of-origin type approach. Now I do not know how to put that together. That would be part of the study commission to deal with that. But as I see it, this part of the work of the study commission would be the critical work.

Let me summarize then all of the things that I have said because there would be a lot of things that would be needed in order to find this creative balance. The first is just an answer. What is the role of the appropriation doctrine? We are going to keep the appropriation doctrine. There is no doubt about that. There is no possibility to take people's water rights away from them, the value away from them.

The second question: what is the role of water resources planning? Well, it is essential in Colorado. The water resources planning has got to become a process if we are to solve these problems that we are talking about. What is the role of public interest? How are we going to get that in there? There is a lot of it in there, but we need to take it into account more through the process that has to be developed. The process allowing everybody working within their comfort zone. And some kind of a financial provision to take care of when we move out of the comfort zone.

How important are all of these things? Well as far as I am concerned, this could very well be the number one public policy issue for Colorado in the 1990s. It goes beyond education and prisons and things like that because we are talking about the economic future of the state. But not only the state, the regions of the state. Otherwise we might end up with everyone in Denver and the rest of the state out there.

Who should do what? Well, the legislature could appoint the study commission. They could study these. The knowledge is not on the table at this moment for legislation to settle all of this. I think we need more knowledge and wisdom about that. The Governor's Office could be involved. The study commission could be an executive legislative study commission. The Governor could have his own study commission and



studies on that. He could certainly advocate where to go with this. The private sector could have a role, too. I think the private business groups could study these same things because what we are dealing with is the economic future of the state.

Hubert introduced me as being with the Colorado Water Resource Research Institute. I invite any of you to contact me there if you would like any of our publications that relate to issues like this, to receive our newsletter, or to hear more about it. I invite you to contact me.

BREAKING THE CIRCLE - A CHALLENGE TO COLORADO'S WATER LEADERS

Presented to the Colorado Water Workshop  
Gunnison, Colorado  
July 23, 1990

I'm pleased:

- for the opportunity to speak to this audience, which includes so many of those who manage, lead, and affect the policy of Colorado water institutions;

- for the chance to explain some details of the recent Corrective Action proposal filed by the Metropolitan Water Providers and the Denver Water Board for the 1.1 million acre foot Two Forks Project;

- for the preparatory process this presentation has required, prompting me to sort my own perceptions and emotions in this tumultuous period of water policy events and consequences.

I thank you.

All of you are witness to the mounting tensions within major water institutions - in our state and this region - as we struggle to adjust traditional practices to new issues and demands. The timbers of established institutional process in Colorado creak and groan from the weight of pressures to accommodate priorities for non-traditional, sometimes unperfected water "rights," such as in-stream flows for environmental, aesthetic and recreational purposes.

And many of us, water managers and policy-makers as well as elected officials, are increasingly uncomfortable with the

limited options available to deal with the conflicts we face. Our dilemma has prompted this simple framework to explain my own views.

In my office hangs a reprint of one of Frederic Remington's famous paintings. It's titled "The Watering Hole." Out on an arid plain, five cavalry soldiers are positioned in a protective circle around a small pool of water, rifles at the ready. Warriors of a Plains Indian tribe ride in a circle of siege around them.

The images in that scene display an unmistakable desperation among all the participants:

- the cavalry defends vigilantly, but the soldiers cannot attend their horses, or properly manage (to conserve) the water source, or even supply themselves with a drink of the water because of their commitment to the vigil of defense.

- the tribal members attack relentlessly. Even though the warriors grow ever more thirsty, and have no access to water while the defenders remain, the attackers persists in hope of a single defensive lapse that will deliver control of the water supply.

Thus, the circle of conflict threatens to defeat both attacker and defender, and the tension is captured in the brush strokes of this master. The observer is left to wonder, upon reflection, whether the water hole has adequate reserves to shake the thirsts, and sustain the lives of cavalry and tribesmen alike if they shared, however cautiously, access to and care of the precious prize.

In ways that many of you understand, Colorado's water institutions are reflected in the images portrayed by Remington.

I hang the print on my wall to remind me of the dilemma of five Denver Water Board members, defending the precious and valuable system and rights developed by their predecessors - ever vigilant against the encircling suburban interests who are thirsty for dwindling supplies, relentlessly seeking control over the essential commodity for their future viability.

But equally vigilant and protective are Colorado's Western Slope headwaters regions, closing their defenses, readying their weapons against the forays of marauding Eastern Slope interests, those urban and industrial and (relatively) populous tribes seeking control of native Western Slope stream flows to supplement supplies in crowded Eastern Slope watersheds.

Equally militant and unyielding are the farmers - circling their rural-agricultural "wagons," on which our State's economy was built, against the threats of municipal - industrial developers who charge headlong to the economic forefront with conversion of waters from "uneconomic" farmland as their battle cry.

And there are many other such circles I could name - where many, nay each of you has staked out a fighting position.

Colorado's constitutional framers foresaw, and ordained this combative process for pursuit, perfection, and defense of a right to divert and use "waters of the state" - vigilant defense of, and persistent attacks upon the perfected rights were expected and required. But the State's founders could never have anticipated that one day there would be millions of dollars in

value from the recreational use of waters flowing in, not diverted from streams and rivers; or that pre-emptive federal water quality requirements might compel substantial in-stream flows; or that wildlife protections or federal agency land use conditions could require that waters not be diverted for beneficial use - all in direct or potential conflict with perfected rights under the state's water appropriation system.

Today, traditional water institutions still pursue the traditional circles of conflict - but with the glint of desperation captured by Remington. For demands not to divert waters now threaten the entire infrastructure of traditional water rights management, threatens to obliterate valuable perfected rights. In many instances, traditional institutions have responded to this challenge only with dutiful defenses and attacks upon each other, while the water hole disappears forever.

With the metropolitan area mired in such a time of desperation, I salute the Metropolitan Water Providers, with whom the Denver Water Board reached an edgy truce for development of water supply, for the courage to break this circle of conflict.

Last Friday's submittal by Denver and the Providers is titled "Corrective Actions for the Development of the Denver Area's Storage Proposal." And it is literally that: correction of agency objections to the Two Forks proposal by design of a water storage project "from the tail end forward." Mitigation of specified environmental objections is the primary purpose of this proposal, and water supply development follows only after that objective is secured. This proposal exists today primarily

because the Providers voted to request that it be developed, thereby waiving their long-standing requirement that no storage project smaller than 880,000 acre feet be applied for or pursued in the basin, as expressly provided by the (South Platte Project) Agreement between the parties. By their action, the Providers abandoned one of their valuable weapons in prospective battles with Denver for control of water supply - but they have also enabled a unified and dramatic demonstration by the metro area of our commitment to comply, in every respect, with EPA objections in order that some component of long-term water supply will be available to the citizens who authorized \$40 million for study of this proposal.

Whether EPA will respond to this overture remains debatable; but any EPA action must now confront the good faith sacrifice of metro area water supply to provide corrective responses to the Agency's veto rationale. In summary, the elements of this new proposal are:

(a) The Corrective Action replaces the original 1.1 million acre feet proposal, if accepted, and the new environmental protection provisions therein reduce project yield to the metro area by one-third (98 to 62 KAK). The reduced water supply has a substantial price tag, \$426 million (including additional finance costs) versus \$467 million construction costs for the original proposal. There will also be a substantial portion of the \$90 million in mitigation cost paid for the Corrective Action proposal, 80% of which will be borne by the Providers.

(b) The Corrective Action reduces the size of the original Two Forks' project to prevent inundation of or impacts upon the features or ecology of Cheesman Canyon.

(c) The Corrective Action reduces the size of any project reservoir and reservoir levels to prevent inundation of the entire Gold Metal Stream segment within Cheesman Dam (three miles) and an additional 1.6 miles of Gold Metal fishery above the Deckers area. This 3.6 mile segment presently contains more than 50% of the aquatic bio-mass of the entire river segment affected by the original project proposal.

(d) The Corrective Action assures, by a staged or phased filling of the smaller reservoir, that no anticipated environmental impact as a result of the project will take place until all approved mitigation measures (for example, development of in-kind stream fishery segments at least equal to the impacts of each phase of reservoir filling) are constructed and demonstrated to be effective. As a result, the Corrective Action assures "no net loss" of any aquatic, recreation, wetlands or other impact of the proposed project.

(e) The Corrective Action develops a 450,000 acre foot storage project with 50,000 acre feet of water permanently committed as a mitigation flow management pool for the upper South Platte Basin.

(f) One hundred percent in-kind mitigation of all stream-related environmental impacts, including fishery and recreation impacts, will be demonstrated. Wetlands impacted by

the project will be replaced or rehabilitated at a ratio of three acres for each one acre impacted.

(g) All of the original commitments and requirements for a comprehensive water supply and development program, as described in the original project proposal and including aggressive conservation measures, are continued and expanded as part of the Corrective Action.

On behalf of the Denver Water Board, I thank the Providers for their decision to proceed with the Corrective Action Proposal - and I vow my own efforts to build upon the foundation for new and more progressive compromises with suburban water providers, as outlined in the Board's April 1989 Policy Statement.

I challenge each of you to a similar vow - in your Workshop discussions and your policies and practices throughout the coming years, to break from the roles and postures vested in traditional conflicts between your institutions. I'll offer some "modest proposals":

(a) The Western Slope's "compensatory storage" requirements, of themselves, do nothing to address burgeoning recreational values or water quality or wildlife benefits from in-stream flows. Eastern Slope project developers seeking trans-mountain diversions can advance these important goals effectively and efficiently through operation/project management commitments; and such agreements may be more palatable to Eastern Slope interests because any loss in net project yields from such agreements can be foreseen and planned for. But someone from the Western Slope must have the courage to break the circle of political



"roles" that has given compensatory storage proposals a virtual life of their own in the State legislature.

(b) Colorado agriculture cannot (and should never) submit to wholesale "raids" on and "drying up" of productive farmland by municipal/industrial interests; but agricultural interests must acknowledge that some farming activities have marginal economic viability, and that some farming operations will have more valuable water rights than any other aspect of their facility. Given an acknowledgment of these facts, both municipal/industrial interests and agricultural interests can benefit by voluntary agreements which allow for a system of planned access to agricultural water rights. "Zoning" or some other system for planning or projection of agricultural lands likely of conversion might be instituted by ditch companies or conservancy Districts; or perhaps a defined set of geographic or total acreage limits on authorized conversion of irrigated land could be developed by districts or other agricultural water managers; or any number of other concepts which will accommodate the concerns and needs of both farmers and municipalities can be established. But some farmers and municipal officials must have the courage and foresight to advocate and pursue these compromises, to break the circle of conflict so that both combatants may survive and prosper.

I charge all of you to shoulder this responsibility, our greatest challenge of the next decade. I pray that each of us will find the opportunity and the courage to act.

**Users' Forum**  
**How Can Colorado's Water Institutions**  
**Best Serve Your Needs?**  
**Part 1**

Moderator: Uli Kappus

**Uli Kappus:** The first speaker, Connie King, represents the industrial users. Connie has been a Colorado Water Quality Control Commissioner since December 1988. She is an associate attorney with Holland & Hart. She received her law degree from the University of Denver, her master's from Texas A&M, and a civil engineering degree from Texas Tech.

**Connie King:** I worked for various industries for 13 years as an environmental engineer. I was with Exxon for six years and with the Eastman Kodak Company for seven years. One of my underlying themes today is, in the 1990s, the decade of the environment, change is a given. First I would like to comment on the two water quality institutions: the Water Quality Control Commission, which I serve on, and the Water Quality Control Division.

From the point of view of an industrial user, the commission should continue to be open to input from all interests. This appears to be facilitated the best way through commission created task forces. These task forces allow industrial users and others to participate in developing new standards and regulations. The industrial users' knowledge of particular industrial processes and also the treatment of industrial wastewater can be valuable to the process of developing regulations in water quality standards. Also, the technical talent and resources that industrial users may have on hand can be very useful in developing these regulations. And finally, the industrial users' knowledge of how to get things done in industry can be very useful in developing regulations that can actually be implemented.

I am sure that many of you have come across government regulations that just are not workable because they were developed by people that did not understand the entity that they were regulating. That is why task force efforts, where everyone gets involved, can be very useful and can result in more reasonable and better regulations. These task forces also provide some advantage to the commissioners because through the task force efforts, conflicts are reduced between the parties because they are able to work out their differences during the task force meetings. This can result in shorter, more harmonious hearings and can also reduce the legal fees that some parties have to pay to participate in these hearings. All in all the task force endeavors are useful to everyone.

The second water quality institution I would like to comment on is the Water Quality Control Division. I think most industrial users believe that the division needs to provide a clear road map for regulated entities that show where we are and where we are going. For example, division guidance documents ideally

should guide entities in the efforts to develop water quality data bases for setting stream standards and to support stream designations and classifications. In turn, these water quality standards are used to determine water quality-based permit limits that the industrial users and any permitted discharge must comply with.

This division road map needs to also show the shortest distance from point A to point B. It can take as long as six months to two years to negotiate a discharge permit. The division can optimize time and resources by holding preapplication and negotiating meetings to allow for a constructive exchange of ideas between the division and the industrial user, or whatever regulatory entity is involved in the permit.

Another time saver might be for the division to identify tasks that a permanent applicant can perform more effectively. This could streamline the process and cut down on costs. For example, these may sound like small things, but they can result in long delays in permit issuances -- the shortage of clerical help in the division. If by providing clerical help a permittee would expedite the issuance of a permit, I am sure he would agree to do that.

I would like to address the subject of yet another institution, the Water Rights Institution. It is my perception that industrial users desire certainty. The prior appropriation system offers us certainty because the rules are clear. Industrial users view backdoor attempts to obtain water rights with great alarm. Industrial users base multimillion dollar decisions on having a secure water supply. If they know they need a certain amount of water, they go out and buy the equivalent amount of water rights. Then they are very upset when government entities force them to give up a portion of those water rights in order to get the required permit. This could be viewed as government taking without compensation.

Industrial users believe that a permit issuing agency should rely on the prior appropriation system and free market economy to allocate water rights. In other words, if water rights are needed for an environmental purpose, they should be purchased by the government. Industrial users are not comfortable with the current practice of government entities forcing them to give up a portion of their water rights in order to obtain the necessary permit.

The 1990s will be a decade of change for Colorado Water Institutions. Whether industrial users accept these changes freely, or only after some kicking and screaming, they know they will be affected and will therefore remain involved in the process.

**Ull Kappus:** Our next speaker is Rich Ferdinandsen. He is one of the Front Range community leaders in the perennial water discussions. Rich has been a county commissioner for over eight years. He is an economist, a University of Colorado graduate, and a Colorado native.

**Rich Ferdinandsen:** Let me explain what I have to do with water. Perhaps I can better explain it by what I do not have to do with water. First of all, I am a Jefferson County Commissioner. Jefferson County is comprised of 450,000 people and is not a direct water provider. We are a county governmental body. We do not provide water. All of the water in Jefferson County is provided either through the municipal structure, special districts, or the Denver Water Board. In fact, about 60 to 70 percent of the water provided to Jefferson County is provided through contract arrangements through the municipalities of the special districts in conjunction with the Denver Water Board. Thus, Jefferson County is extremely dependent upon the policies, programs, and projects of the Denver Water Board.

There are those, that at one time, felt that Jefferson County was perhaps penalized for being a part of that system. The fact is that we are not direct water providers and are dependent on the Denver system. Recognizing that peculiar relationship a few years ago, several people began to question the fundamental hypothesis of how we govern ourselves in the metropolitan area. And from that was formed an informal discussion group called the Metropolitan Cooperation Group which included the mayor of Denver and myself, commissioners from Arapahoe and Adams counties, and representatives from the cities of Aurora, Thornton, Westminster, Arvada, Lakewood, and Littleton. We have been discussing how we could better govern ourselves in the metropolitan area.

Every one of the discussions has revolved around water policy, because the entire metropolitan area has to come to grips with our relationships with water policy. Jefferson County has proposed, and I have been an advocate for, the creation of a metropolitan water authority because clearly our destiny is linked to the availability of water. And because there are fundamental conflicts between Jefferson County and Denver, both in terms of water availability and water rates, we have to resolve these conflicts. The only way to do that is to seek institutional change in how we deliver water in the metropolitan area.

I came into this business as a commissioner in the midst of a major legal challenge with the Denver Water Board. It is referred to as the TriCounty Water Suit. This suit challenged or sued the Denver Water Board and said that because of the Board's role as a water provider for the metropolitan area, it is in fact a water utility. We argued this successfully in the lower courts, through the Court of Appeals, and finally in the State Supreme Court. All three levels agreed that the Denver Water Board was acting in the capacity of a water utility. But, because the legislature or the constitution never provided for a regulatory mechanism of a water utility, the Board was exempt and this put the question back to us.

The major concerns in Jefferson County are rates, rate differentials, and water availability. The Denver Water Board in the last several years has demonstrated remarkable courage in trying to reach out across the traditional boundaries of conflict between Denver and the suburbs and, to a certain extent, to the western slope. But we have only just begun. If you look at our relationship in the metropolitan area, you have to understand that water districts and water municipalities or water entities act very differently than do general purpose governments, such as counties. Although sometimes the distinction gets very, very fuzzy.

My concerns as a county commissioner are things like future land use, growth, transportation, and air quality. My concerns go way beyond just the water quality question, but because the water conflict is so predominant, we have to solve that conflict before we can solve many of the other problems. You only have to look at the debate over the transportation package in the last two to three years to realize that the fundamental institutional relationships that exist in Colorado lack the ability to find the political will to solve problems. The underlying cause goes straight to relationships over water.

Hubert referred to the circling wagons. We in the suburbs are indeed encircled by the city and county of Denver. But things have changed. Denver has announced clearly that it is no longer the lead planning agency for water. That role changed with the Two Forks agreement. Further developments on the Two Forks agreement have advanced the notion of metropolitan cooperation and should point toward a brighter future in terms of relationships. But the problems are not solved.

Part of the conflict is the suburban municipalities, because of the tax structure of the State of Colorado, they have been required to become almost totally dependent on sales tax. Sales tax is driven by the commercial retail base. Commercial retail base is a net gain from municipal structures. In order to gain net commercial retail space you have to annex. The tool of annexation is water policy. Therefore, suburban municipal water interest is infinitely tied to land use and land use is infinitely tied to water policy with the relationship to the Denver Water Board.

Sales tax, land use, and water policies are the topics that are on the table in terms of metropolitan cooperation and they are going to have to be resolved. Right now, I would say that there has been some progress, although it is very limited. It is very difficult to measure because it is a process that we are involved in, not so much as final results. I am convinced that we will create a metropolitan water authority. With that will come: joint land use agreements from the suburban municipalities in Denver; revenue sharing proposals for a shared tax base for the benefit of the city and the suburbs; a fair and more equitable taxation policy within the metropolitan area; a resolution of the rate differentials on water over the years to come; and at least some assurance of a future water supply on an equitable basis.

From the discussions, two groups have emerged. One is referred to as the Water Independent Group, which is basically the cities of Aurora, Thornton, Westminster, and Arvada, which have an independent water supply apart from the Denver system. Everybody else is dependent on the Denver system.

We have a division, if you will, among independent and dependent water interests. These four cities have created what is now called the Front Range Water Authority. It is a beginning for them to do long-range planning in the absence of a cohesive centralized water planning authority for the metropolitan area. Whether this becomes the final solution for these cities remains to be seen. I am convinced that in the long run, these cities will join together with the water dependent cities and form a comprehensive metro-wide water authority to ensure a mutually beneficial water supply.

A water authority would be, in essence, a two tier system. One in which the predominant role of the authority would be to plan, develop, acquire, store, and deliver wholesale water to the metropolitan area. It would leave, at least in part, intact those water providers that are already in place that have water systems and the water lines already providing water, but simply contract to them on a two tier basis. That requires probably some further refinement.

We have agreed to certain principles. One is that the water rights would be acquired by a single entity to eliminate competition and to enjoin certain economies of scale. Another is to try to incorporate all of the resources, expertise, and whatever water rights may be available through the Denver system in order to continue the distribution through local energies. We are also looking at some sort of asset transfer with a fair compensation package to the suburbs, the city, and the county of Denver.

That perhaps is the one big question. We are talking real money. As Senator Dirksen said, a million here and a million there and pretty soon you are talking about real money. But the fact is that it is going to have to be done because we cannot continue to plan for our future as a metropolitan entity while in competition with each other and without an ensured available water supply for the benefit of the metropolitan area. I have argued in favor of this as part of an over all package that should be addressed, because, sooner or later, the metropolitan area and the West Slope are going to have to come to an agreement. Right now, the Western Slope suffers from the limitation of not knowing who to deal with in terms of water policy for eastern slope interest. Traditionally, it has been the Denver Water Board, but that has changed dramatically in the last few years.

Now the question is, who do you deal with? In trying to resolve the fundamental conflicts with the Western Slope, I am convinced that until the metropolitan area decides its own course, there will be no capacity for the State of Colorado to solve fundamental water policy directions. So ultimately a metro-wide solution would be part of a statewide system.

**Uli Kappus:** Next on our program is Ken Spann representing the Western Slope ranchers. Ken and his wife, Mary, live at the Y-Bar Ranch above Almont, Colorado. In fact there is a rumor that Almont could ultimately become a suburb of Aurora -- one of those communities of the Front Range, although perhaps not. They are the fifth generation of the Western Slope ranching family. Ken attended Colorado State University and earned a degree in animal sciences. He also attended the University of Colorado's School of Law. Ken has served as vice chairman of the Public Land Committee of the National Cattleman's Association and has also served two years as the NCA's representative to the Board of Directors of the National Public Land Council. Ken currently serves on the Gunnison County Planning Commission and the Board of Directors of the Gunnison County Stock Growers Association.

**Ken Spann:** I am a rancher that went to a good law school and not a lawyer that owns a ranch. There is a great deal of difference between the two. One of them is that my remarks this afternoon come with no disclaimer. They are the remarks of my outfit and our people and I will stand by them.

Ranching these days is a complex and very demanding business. The easiest thing I do on a given day is work with the livestock. Those of us still in the business today, and there are fewer of us, survived an economic challenge in the mid-1980s that was more difficult than the Great Depression of the 1930s. Many of my colleagues are college educated. They are professional resource managers of the highest caliber in their own rights. They had to be to stay in this business.

Together, we have tremendous responsibilities, managing a great many elements. We manage people, funds, livestock, land, wildlife, increasing recreation opportunities, and yes, we manage a great deal of water. Each of these elements is critical to success in our business where the opportunity for mistakes are plentiful and the consequences of an error in judgement are very personal, very lasting, and usually very painful. On our arid land, none of these elements is as critical as our water resources.

Ranchers on the West Slope own and care for hundreds of ditches and canals, thousands of small springs, miles of some of the most critical habitat on private land and on public land, and we control and own significant wetlands. These water resources are critical to our operations and to our livelihoods. It provides us, as livestock operators, with the feed and forage necessary for our livestock. It also provides the domestic water that we use on isolated ranches where there are no domestic water supply entities. Additionally and increasingly important, these same resources, which are held today largely in private hands, have significant values to nearby local communities and to the greater public at large.

As you look out the window today, as you enjoy your stay in the Gunnison country, those water rights and the people who care for them are the key to the green corridor that has been carved out of the sagebrush hills here in the Gunnison Valley and in other valleys throughout the West. That green corridor is central in this valley to the recreation and real estate development industry for the aesthetics that they provide. Increasingly, my water rights and those of my neighbors have real value to a totally separate economy than that which gave them the rights and has nurtured them for over a century.

Those water resources applied on the meadows here in Gunnison country, alone in production agriculture, are part of our open space planning in this county. They are providing the basis for critical wildlife habitats, both aquatic and terrestrial. These are new values outside the stream, from which the water has been diverted, that are increasingly being recognized as inherent in the water rights of many Western Slope ranchers. They are not presently, technically beneficial uses under the statutes. And I would not be surprised in the near future if someone offered some legislation to try and address that very thing.

I have some concerns about Sarah Bates' simplified analogy that the public trust doctrine should apply in its present form to address these new values. The public trust doctrine is presently being litigated in division, because in the water court, the issue is just on hold while the case is finished. It has already been

appealed once to the supreme court and I think that issue is upon us quicker than perhaps it might have been laid out this morning. How can these water institutions best serve these new values that are inherent in my water rights and the water rights of my neighbors, while at the same time enhance the original purposes for which the water was put to use?

I am going to speak more philosophically this afternoon. There are some real technical experts in the audience and I want to recognize that they are probably better versed. But I want to give you my philosophical thoughts on this. First, we need to get closer to the ground on water issues. We need to stop, whenever possible, decision making from afar. My grandfather told me years ago that the best fertilizer a man could put on his own ground was his own two feet. Some of us need to get wet in the creek a little more often. Be it wilderness, wetlands, wild trout, or well water, I am afraid that in many instances we have become too institutionalized in our well intentioned efforts to manage Colorado's water resources. The institutions are just conglomerations of people. People just like you and I.

Think for a moment of the myriad of interest groups, lawyers, lobbyists, consultants, authorities, boards, regulatory entities that have some say, or think they have some say, on water issues. Think for a minute, as an example, about the recent effort in meeting times, staff energy, and focus expended by the Colorado Water Conservation Board to reach a preliminary determination as to whether inundation constituted injury. Venture, if you will, into the world of negotiation, controversy, politics, and litigation in the federal courts that has been mulligan stew on the wilderness question since 1980.

However you come out on those questions, to the average Joe in the country on the end of the irrigating shovel on the last ditch just before dark trying to raise an A-crop in Gunnison, on an alfalfa crop in Montrose or Delta, this myriad of institutional concerns is an example of us getting too complicated and too far removed from the actual water use. The institution's collective credibility is starting to erode in the country. I do not have a lot of confidence that they can solve all the problems in the metro area so that I can deal with some unified entity. I do not have a lot of confidence that the wilderness issue is going to get resolved in a manner that is going to make a real difference to a certain creek up on the Fossil Ridge.

We have become too far removed from the actual resources to make good decisions about the them in a time frame that has any real relationship to the real business world a lot of us operate in. How many in this gathering today have had a hold of an irrigating shovel in the past month? How many of you have chopped ice for thirsty livestock in January? How many of you have turned on a faucet and have had no water come out and actually had to go see what was the matter and perhaps go even farther to find out where the water actually came from? Recently, I was deposing a reputable consulting engineer about a proposed reservoir site. He had, no kidding, two boxes, deposition boxes, of data about the proposed facility. On the third question into the deposition I asked him if he knew if the dam site itself was on public or private land. He did not know. He did not have a clue. He had not been there. He was preparing to be the expert to testify in a major water court case from afar. In your own experience, each of you in this room can think of a similar situation that has happened sometime. I think we can all do better and that is why I say we need to manage a little closer to the ground.



Second, we need to help the people who actually care for and use the water resources. Those meadows here in Gunnison, at Meeker, at Steamboat, wherever, they are not green just because somebody owns the water rights. They are green because somebody has paid the dues and maintained an irrigation system down through the years and somebody has changed that water and moved it every day. Ranchers need and want more efficient water management systems. Ranchers are interested in new designs and new technology. They want better monitoring equipment, both for their irrigation systems and on the river systems as a whole. I think we will support more research at the state-supported universities on water systems, new technologies, and water conservation. In the audience today, are you satisfied with the amount of new information that we are able to provide to the average water user, be she a metropolitan housewife or one of my sisters handling several hundred cfs of irrigation water every day? Are we developing small hydropower technology so it can have wide use in our state, which should be ideal for such facilities?

These are things we need to do to help the people. We need to find a mechanism to pay for some of the trade-offs that are suggested by the discussion today. Nobody has come down the river yet to visit with us or any of my neighbors for that matter. No one has said, "Hey, we want to buy a first righter refusal so if you have to go out of the business because the cattle market goes all to pieces and your ranch goes up for sale, we want to be able to play at that point." Nobody has come down the road and put the chips up on the table for the Western Slope agricultural community to see that there is something in return.

Western Slope ranchers would appreciate a shift in thinking toward one net permit, that is to look at the bigger picture. Too often we in the water community, myself included, are guilty of being focused in on that project, or that issue, or that piece of legislation, or that EIS. Permit me to share a little bit bigger picture as I see it. Land around here is very, very expensive. We have turned down well over \$20,000 an acre for unirrigated cow pasture. Frankly, there are few of us left in this part of the world who have the professional skills, and more importantly, the long-term commitment to make a living off a piece of land without subjecting it to the subdivider's stakes or the contractor's caterpillar to tear it up for condominiums or second homes on 35-acre tracks.

The bigger picture to me means understanding that we need careful stewardship of our water resources through the years, sound livestock management practices, and a continuing opportunity to graze part of the livestock part of the year on public land. Few errors in judgement and lots of luck have allowed the valley floors of western Colorado to turn into the dark green corridors that have these old and new values. Last year the meadows here in Gunnison County alone were the feed base for the production of 17 million pounds of beef at a value in excess of \$15 million in outside money to this community. I do not know if it is real money in Denver, but that is real money in Gunnison.

The big green corridor here provided the basis for over half the critical big game winter range in the area. Since 52 percent of the critical winter range comes from private land in this area, the agricultural use of the water here provides the open space between the clusters of development. My father, my family, and myself, we operate our own operation immediately adjacent to Crested Butte, south to the Skyline Country

Club and Golf Course, to the town of Crested Butte, to the Dos Rios Development and Country Club immediately west of town, and to the City of Dillon, Colorado.

Many of the lots in the area adjacent to us sold, at least partially, because the purchaser likes the potential of a stable neighboring ownership with no plans of his own to develop. Those same agricultural uses of water are the basis for a complex water storage and filtration system in the fields and meadows that fill every spring and drain every fall without the construction of this highly expensive, very controversial reservoir storage. The volumes that are stored in that manner during the peak runoff season are staggering. What would that storage have cost in a new Two Forks, a muddy creek, a pipe plant for a union park reservoir?

Finally the bigger picture also means, as members of the water community, we all need to be conscious that changes in areas unrelated to water may ultimately be decisive in the disposition of water resources, particularly those resources on the Western Slope held by private hands. We need to be conscious of issues like workmen's compensation, unemployment taxation, the price of fuel, public land planning and administration, consumer preferences for red meat, available credit at fair rates, and uncontrolled urban growth. Those and other issues may ultimately dictate whether the Western Slope ranching community can stay put and whether the valleys will stay green.

I have cared for cattle when it was -35 F and the snow was six feet deep. I have protected a baby calf from a hungry coyote at one o'clock in the morning on an April night and had it be in the *Denver Post*. We can and do hire the best financial and legal advise that we can afford to protect us from the occasional bum in the business world. I cannot protect my business, my family, my water resources, or my small part of the appearance of this area from an institutional decision on the big issue or the small one that makes no sense.

To me, the most dangerous institution is the high placed decision maker who does not have the whole picture because he has lost touch with conditions on the ground or he never bothered to look. He may have a picture, but it might not be the bigger picture that I have touched on today. Please seize the moment, if you have an opportunity, to encourage water decisions and all research decisions to be made at the local level by people who will be vesting for and who ultimately are the most affected by the outcome. We need to help each other on that. And ultimately that is how you can serve the best interest of West Slope ranchers and ultimately your best interest.

**Uli Kappus:** Our clean up hitter for part one is going to be Keith Propst, representing the Front Range agricultural community's perspective. Keith is a rancher on the other side of the hill in Merino, Colorado, where he runs 850 acres of irrigated ground and 250 head of cattle. He has served as president of the Colorado Farm Bureau, the state's largest form of ranch organization for the last 14 years. He also serves as president of the South Platte Ditch Company which serves 28 farming operations of northeastern Colorado. He was very active in formulating the Groundwater Appropriators of the South Platte, GASP,

which is not a forum for instream flow or minimum stream flows. He was appointed by Senator Armstrong to represent water users as part of a negotiating team that attempted to resolve differences with environmental groups over water language for wilderness legislation.

**Kelth Propst:** I live out on the eastern plains and it is a treat to get up here in the cool mountains whenever I have a chance. And I am billed as a Front Range natural culturist and that is a little bit of a misnomer because, in fact, I am a farmer and I am president of the Ditch Company. We operate 120 miles east of Denver, in the South Platte Valley around Sterling. We are just about 50 or 60 miles from the Nebraska line, so maybe I bring just a little different perspective. I believe that the views that I express will not only be my own, but will reflect the views of most ranchers and farmers no matter where they live in the State of Colorado. And that view is that since farmers and ranchers hold a tremendous amount of water rights in this state, we are extremely interested in preserving the system that backs up those rights.

That is the basic law that has been established for over 150 years. We say 100, but I think the early rights go back to the 1850s or earlier. Over that period of time, we have established water rights which are our greatest assets. And as we, as farmers and ranchers, become decreasing in numbers, we see our political clout diminishing both at the state and federal levels.

We see our abilities diminishing to match dollars in court, or not be able to match dollars with huge industries, cities, and others when we get into contests for water rights issues. The fear that we have is that our water rights will not be purchased or bought from us, but will be stolen from us through raw political power expressed at the state and federal levels. This would be a travesty if it happened because it would be an overpowering of the private property rights system that we have established in this country. That has made this country great and distinguishes us from some of the countries that we see in eastern Europe that are now trying to go back to that system.

To be more specific, what are some of the problems that we think really scare farmers and ranchers wherever they live? It has come up two or three times today. When I am reading the paper about somebody saying that the old laws are bad and that we have to come up with a new comprehensive water plan, this translated to farmers and ranchers means that somebody wants water, they are unwilling to pay for it, so the solution is to change the system. And through political power they gain the water. And that really scares farmers and ranchers.

This came home to me when I attended a state session where they discussed the water for Colorado deal that they had in Denver a few years back. It seemed to me that a lot of the discussion that took place there was by people that had not been in the state for more than 5 or 10 years or represented municipalities that had not been in existence for more than 10 to 15 years. These people were talking about water and water law, and they had not gone back and received the historical perspective upon which Colorado water law rests. And if we throw that basic law out the window, we would go forward. But that would be a tremendous mistake because we would throw the whole system into chaos. Every game needs

a set of rules. That is our set of rules. We need umpires and referees; the water engineer and the water courts are our referees.

I think farmers and ranchers around this state are becoming increasingly concerned about both interbasin transfers and intrabasin transfers. How these transfers take place not only affects the water rights being transferred, they affect those remaining water rights. If we go back to the old law, you can protect the water right and sell it. You can do anything that you want to as long as you do not destroy somebody else's water rights. That is a good plan now -- just as good as it was when it was started.

Let me show you a few of them that we might be concerned about. The Two Forks reservoir was vetoed. As a result of that, we have more and more people out in the South Platte Basin hunting water. It is estimated that over 40,000 acres in the Greeley area will be dried up, sold, and going to Denver somewhere. I do not have any problem with that. I view those as private property rights that we can sell, but I do not think we should be able to sell something that we do not have. And if those rights are changed to a different point of aversion upstream, that affects how the water is delivered downstream where I live. We have to be concerned with that intrabasin, within the basin, transfer to see how it affects the other water rights. As a result of the Two Forks veto, all of a sudden we have people going to the San Luis Valley betting to pump the underground aquifer out from underneath it. And of course, what are the farmers and ranchers there concerned about, are the aquifers really separated?

What will happen to the surface water, to the shallow irrigation that they are now pumping? We believe and I think most farmers and ranchers believe, certainly the Farm Bureau would believe, if that happens and the rights that are there are destroyed, those making the transfers should make those rights hold and those farmers and ranchers should not sacrifice their rights to this group. They are going to make millions, or whatever, off of this transfer. East Slope/West Slope transfers, certainly West Slope farmers and ranchers have to be concerned about what a transfer from the West Slope to the East Slope does to their water right. What does it do to their ability to divert that right, the quality of the right? And they have every right to expect either compensation or that right made whole in some way if the transfer takes place.

Zoning was brought up. We should consider zoning as a way to decide which water rights should move to the cities. I would be unequivocally opposed to that concept. What is wrong with the system we have now, the market system? I do not know of a better system in the world. Determine who wants to sell a right, who should sell a right, and what the value of that right should be. I would rather have it done that way than some bunch of bureaucrats sitting in a room and zoning me into some value, either making me poor or rich depending on how they decide to zone me. But even with all these problems in the state, I am confident that if we decide to cooperate, to work together, that we can solve these problems. We always have in the past. Some of them have been very tumultuous, but we have managed to solve them.

The greatest concern I have is the policies that are being laid on us from up above, from Washington. People who do not live in Colorado but who raise large sums of money and are very talented come to Colorado and tell us what kind of a water system we should have, how the water should be allocated, and

where the water should go. No matter which side of the Two Forks issue you are on, all of us should be very concerned about how the decision was made. As I understand it, the people there finally got approval from the Corps of Engineers and were about to get approval from the district EPA administrator, when one bureaucrat who had been in office less than a month vetoed the whole thing. That kind of a system should scare not only us, it should scare all Americans.

When we talk about superimposing Federal Reserve Water Rights, whether they are for wilderness areas, we should be concerned because what we are doing is putting the Federal Government at the head of the list in our priority system. I think it is too much when we see something like the endangered species act carried to the ridiculous point that it has, where it will stop the Animas-La Plata project. They were going to be breaking ground over there. A species that the state spent thousands of dollars trying to get rid of just a few years ago and they are going to stop a badly needed project that would help resolve the conflicts we have with the indian tribes over water rights. I think when we put these kind of restraints on our system, by people outside the state, it makes many of the solutions that could go forward in a harmonious way almost impossible.

In closing, I would like to talk a little bit about where I live and some of the things that have happened there. You know the fight for water is not new in this state. It has been going on ever since the beginning. Over 125 years ago, my grandfather came to the area where I live, homesteaded, and helped build one of the original ditches there in the South Platte Valley. One of my earliest memories when I was a little kid was Grandpa going with the river commissioner, heading upstream to find out who was taking water out of priority on those hot days in July and August. The river used to go dry below Sterling in the olden days and in July and August, there was not any water. It was flat dry dead.

The farmers and ranchers bonded their land and they started building irrigation reservoirs along each side of the river. As a result of those reservoirs, we have return flow to the river. The river now flows year around, summer and winter. The reservoirs have provided stopping places for ducks and geese as they fly south. We have fishing and recreation that was never there before. But the reservoirs filled up the basin and in the 1950s, we got into a tremendous drought. There was not any snowpack. We did not have any direct flow.

The reservoirs were dry so we started pumping the underground aquifer. The supreme court ruled that those 5,000 pumps that had been drilled between Denver and the Nebraska state line should be put into the priority system. And if you think we have a conflict now, you should have lived through that because that was real conflict. People were ringing their hands that the old law was not any good, that we should throw it out, that we should move forward. They thought we should pump the aquifer and come up with a new law that would be meant for modern times. But the legislature held their ground and so did the supreme court. They passed a new law and brought the pumps under.

The pump owners and the ditch companies spent two years cussing each other out over who was right and who was wrong. And finally some of us decided that there was a better way. Through cooperation, we

could solve the problem and we did. We formed a nonprofit cooperation that pumpers can join to buy water to supply the old rights and we are a better valley than we have ever been before.

Those are some of the keys of how we can move into the future. If we do not have any more water, we are not going to create any. We can stretch our supplies under the basic law by cooperating and through management systems. That is the key to our future. And the old law can move into the future and service us just as well as it has in the past.

**Question:** I would like to ask either Ken or Keith, how would you see a state buyout plan working or could it? And how would the value of that water be appraised?

**Keith Propst:** Well, if we are going to need water for minimal stream flows or whatever, it is a lot better and a lot more fair to raise some money and go buy it than it is to go out and just take it. I think the price would be determined just like it is now. If they want minimum stream flows for example, if that is what we are dealing with, they go out and bid until they get the water rights under the market system. That would be the way I would envision it.

**Ken Spann:** I had some real concerns about the use of eminent domains and zoning to acquire water rights. I will put that out on the table. I have no objection at all to you or any water user putting his water rights on the table for purchase by whomever, be it Jefferson County or Arapahoe County. I do think there are some additional values in those water rights besides just the part that is wet and moves and can be drank or used for irrigation. And that some of the entities that are involved in the process and concerned about the process frankly need to come to the table with the bucks.

I am not speaking so much about of the urban water providers as the fellow that comes down the road and tells the rancher, "Why did you sell your water rights? They mean a whole lot to the community here." He did not come to the table with the bucks. And frankly some of these entities, these outside interest groups that are very involved in the process and legitimately concerned about some of these other values, have the dollars at hand to be a player in that if they would just put their money up on the table.

It may be in a market situation, that the value of a water right down the Gunnison River has more value to stay here in the basin. But we should not keep the guy that owns the water right from getting that. But the other players, the other people that are interested and concerned about it, whether it is local government or an environmental group or in the myriad of other players, need to come to the table with the dollars, because ultimately, that is what you get down to.

**Question:** Mr. Propst, you mentioned that you agree with the water statutes as they exist today, prior appropriation, etc. I assume that you agree with the setup of the State Engineer's office. Do you think at the state and time of our existence, it is necessary to put the State Engineer's office under a seven man commission or any other commission as was proposed in the State Legislature by Senate Bill 158?

**Kelth Propst:** No, I would be opposed to that. I think the state engineer should be independent of political pressure. I think the appointed board and commission is a way to bring political pressure on the state engineer. The state engineer takes a lot of heat because he is there to protect water rights. And I think if you do not like what he is doing, you can take him to court. But I think if he has to answer to some appointed board, you are bringing politics into the State Engineer's office and I think that is wrong.

The salvation of many small farmers and ranchers is a strong state engineer that protects the system as written by the Colorado Legislature. The Colorado Legislature is the advisor to the state engineer. They are the ones who write the law and he should answer to them and to others to see that he is carrying out the law as prescribed by legislation. If we put him under some kind of a politically appointed board, you can bring all kinds of pressure on him through political appointments.

**Question:** This is addressed to Mr. Spann. The notion of who should pay for or if there should be a state buyout system for water transfers bothers me. I tried to follow, with some difficulty, the transfers of water in the Colorado Canal System sale and there were so many detailed contractual requirements that were associated with that. The ditches had to be kept wet for example to ensure downstream users and other ditch companies that there would not be transmission loses as a result of having to turn water into the ditches. There seemed to be so many contractual requirements that ultimately both buyer and seller lost money in the process because it was such a dirty deal. When I use the word dirty deal, I mean it simply was not a clean and neat, pure economic transfer of value for value received. To those of you who look for state buyouts, consider all of these secondary costs and how you perceive that they would be paid for. This business of transfer and water is about the most complicated process I have ever seen -- for something that on the surface looks so simple.

**Ken Spann:** I do not support a state buyout. I do not support a state water plan. Yes, the transfer of water is very complicated and it is unfortunate in the instances that you brought up here, that the contractual provisions were either too complicated or were not enforced. I am aware of one instance where a certain entity was brought in contempt of court in the Arkansas River Valley because they did not follow through on some of their obligations as a purchaser of water rights to the land. But those are simply, in large measure, bumps in the business world and they have to be addressed by good people drawing the agreement and good people making the basic agreements when they start out.

If the water is actually going to be changing hands, it is going to be very complicated. If a local conservancy district wants to acquire water rights on behalf of the local area, for instance, both parties probably need to be aware of what those costs are. Both parties can make their own risk assessment of what those costs are going to be. And once in awhile, good business judgments or bad business judgments are made, but that is inherent within the market system, which I support.



**Users' Forum**  
**How Can Colorado's Water Institutions Best Serve Your Needs**  
**Part 2**

Moderator: Uli Kappus

**Uli Kappus:** We are going to have a slight rearrangement of presenters. Kevin Coyle will be next. He is the president of American Rivers and I think many of us have read about them recently in the Two Forks' controversy. Kevin is an attorney and is cofounder and the first president of the American Land Resources Association, publisher of the award winning journal American Land Forum. Prior to that, Kevin worked for the U.S. Department of Interior for 10 years, where he was the assistant regional director for the northeast office of the National Park Service. He was responsible for directing the administration of the land of water conservation fund and Wild and Scenic River studies in that region.

**Kevin Coyle:** American Rivers is a non-profit organization, based in Washington, D.C., that has 14,000 members across the country. They are different types of organizations ranging from outfitter members to individuals to cooperations and so forth. Our emphasis, what we do, is we have a very basic goal. Our goal is to protect the outstanding rivers in the United States and their landscapes. More specifically, what that means is that we want to try to keep in protective status in some form, either under state or federal law, anywhere from 5 to 10 percent of the free flowing river segments in the United States. And we specifically focus on the best rivers, the rivers that have the most outstanding natural values or recreation values. So in our view we do not say that we want to protect every river, but we do have this particular focus. We try to work to the extent that we can offer inventories prepared by state fish and game departments or by different government agencies.

I am very sensitive to comments that I have heard from a number of the previous panelist about being from outside of Colorado and coming in and saying here is what you should do, moreover being distant from the land and you know we do a good deal of traveling American rivers. We cover somewhere between half a million and a million miles a year, but it is a big country and we are indeed, in many cases, far from the lands. We are far from the specifics and so we try to the extent we can, but when we do engage in a battle, we try to learn as much as we can about the area.

I would like to discuss some trends that may be helpful to some of you in understanding where various environmental groups, particularly national environmental groups, come from in thinking about the preservation of rivers. Moreover, think about how recreation and other values are reflected in the over all allocation of water rights and the use of water throughout the United States.

Basically, there is survey after survey after survey in the United States that indicates that the environment in the larger context has become and is becoming more of an issue. And we heard Connie King say earlier

that this is a time of change. If you are at her pace representing industrial interests, it is certainly a time of change. It is a time of great political change and what I would like to do is talk about that political change a little bit.

What are some of the factors that specifically affect the allocation of water in the West and the allocation of water in Denver? People have two primary concerns when they think about the environment. The first of these is disappearing resources, which if you draw a river down and you draw it all the way down, that whole river environment begins to dry up and become desiccated and disappear. Moreover, people are particularly concerned about poisoned resources -- toxic waste, the build up of salt in the environment, a variety of these kinds of things. And this public response, this overwhelming public response, which in many cases is an urban response, is something to really be reckoned with.

But there are some very specific things that are going on with rivers and it may be helpful to review those quickly. The first is that our understanding of how rivers function and how agricultural systems function and how irrigation systems function is much more sophisticated than it was 10 years ago. There are ecological studies going on at the University of Montana, the University of Arizona, and other places, showing very specifically that rivers are more complex as ecosystems than anybody knew. Studies are showing that there are gravels underlying rivers that in essence support the beginning of a food chain, that rivers connect different climate zones, that they act as biological corridors, as routes for a variety of different plant and animal species.

This awareness of the ecosystem of free flowing rivers and how these system function is in many ways driving a lot of the concern for the environment and the preservation of rivers. A second factor is that we are more aware of how certain types of irrigation systems, certain types of water systems, can create other environmental problems such as salinization of land. And understanding these systems is a real factor that needs to be reckoned with as people begin to move forward into the next decade, the environmental decade, and begin to think about the protection and use of rivers for recreation and other means.

There is something very interesting going on, a political factor, but I think it is overlooked. I certainly have not heard it discussed in any detail here. It is that the federal land managing agencies, including the federal land managing agencies of Colorado and throughout the West, have undergone in the last few years a tremendous shift in policy. Specifically, the chief of the Forest Service and the director of the Bureau of Land Management have come to realize that if they rely just on the political strength of the commodity interest in the national forest and the public lands, mining, timber, water, they are not going to be able to get their budgets approved.

On the other hand, there are millions of people a year who use the national forests for recreation and these federal agencies are now in the process of implementing what they call their recreation initiative. They are becoming a very powerful political force. It is helping them get a lot more money than they ever got before through the federal appropriation process and they are driving in a good deal of emphasis on preservation

of instream flow, new policies such as the development of irrigation projects and hydropower, new policies dealing with ranching, and so forth. And this recreation initiative is not to be ignored.

There is something else that is going on. State and local organizations, chambers of commerce and so forth, truly do recognize the need for balance in an economy. One of the great examples of this is years ago, the State of West Virginia had an incredible unemployment rate and they developed a system of what they called tourist parks throughout the state. These are actually state parks and the idea was to balance out the coal and chemical interests, which are the two main stays of the state's economy, with this tourism. And they really began to promote it. Well that is happening certainly throughout the country and it is happening in the State of Colorado. The term that I have heard discussed, and there are a number of articles that have been written on it, is "eco-tourism." And what we are experiencing now is an opportunity and an effort to balance out the economy of the state by having greater emphasis on tourism and greater effort on outdoor recreation. And certainly Colorado is ideally positioned to do that.

The recreation industry, the outfitters, the western river guides, the eastern professional river outfitters, fishing organizations, are much better organized than they have ever been in the past. They are working on organizational issues. They are developing public relation programs. They are developing political programs and this is again a driving force in how rivers are being used and reviewed, as well as how streams are being reviewed in the overall political arena. And it is one of the reasons why you are hearing so much more about instream flow, the preservation of instream flow, use of streams for floating and cooking, or whatever it might be.

One very interesting example is when we saw the river rights established for the Wind Rivers in the State of Wyoming. And if you kept track of that, you realized that what the tribes did there essentially was to say we have this right based on potential future agriculture, but what we really want to use it for is to develop the tourist industry. We really want to use this to develop a fishery in the Wind Rivers. We want to promote that and promote tourism on the reservation. It is a very different shift than what you might have seen five or six years ago.

There are 60 million fisherman in the United States. Forty-three percent of them at some point during the year fish on streams, so it is not just fast boating on the lakes. The fastest growing sector in recreation in the United States is not recreational boating. It is rafting, cooking, canoeing. These are the fastest emerging sectors. The State of Montana, which has a population roughly of a half a million people, issues one million fishing licenses a year. That gives you a sense that there is something going on here and it is a political force to be reckoned with.

The third item is factors that are ongoing. I think the people are just more physically conservative these days. Certainly it is hard to tell from some of the things that we have seen with military spending and the deficit, the federal deficit, and so forth. But I think that more and more people are being conservative about spending and they want to see more efficiency. They want to see existing projects and existing irrigational systems managed more efficiently rather than building whole new set of things. We have heard a lot of

discussion about balance and we really need to have balance. We need to balance preservation with use or development. And I think that there is a third peg to that stool and that is recreation. And recreation use is a very significant factor in what the definition of balance is going to be, henceforth, with water policy in the West.

There are a number of predictions that I would make. I think we are going to see more aggressive instream flow protection programs by the federal government, by the Bureau of Land Management, and by the Forest Service in particular. I also think we are going to see more use of laws like the Clean Water Act and the Endangered Species Act as a way of keeping water in streams. We are going to see greater recognition of boating as a legitimate instream use, not just fish and wildlife. I think we are also going to see improved public funding for state fish and game agencies.

I believe that in many ways, the state fish and game departments become the leading advocates for the preservation and protection of instream flow. We are going to see a lot more flexibility in state laws. With some of the issues I have heard talked about here -- putting conditions on permits, environmental conditions on permits, private acquisition of instream flow with actual money put up rather than just appropriation of those -- I think we are going to see more partnership.

The Nature Conservancy has been active in this state by trying to have instream flow allocated through the state program. I think conditional water rights may, in some cases, be converted to instream flow and those issues will be resolved. I think there will be an expansion of the public trust doctrine. I can see that coming. It is happening in a lot of states. Certainly it is a controversial issue here, but it is one that is being addressed and it is one that needs to be addressed more. And we will see many more conservation requirements for receiving basins where transfers are about to take place.

I heard Neil Grigg say there should not be a master planning, a top down planning exercise, for water planning in Colorado and I think that is probably very wise. But I do believe that as we look at who is at the table, we will see that there is a constant challenge for these people to put their money on the table. But I think the recreation interest, the environment interest, in river conservation and protection and use will be more at the table. I noted that Patricia Limerick offered anyone who achieved something heroic in the reform of western water policy a place in history. We do not have the ability to do that in American Rivers.

**Uli Kappus:** Our next speaker is Lee Merkel representing the headwaters community perspective. Lee is the town manager of Granby. He has held that position since 1985. He formally worked in the oil shell country for Garfield County and the City of Rifle.

I want to point out that when the basin-wide study of the Fraser Basin was done, that was the first time that I had ever seen why some of you folks are really concerned. You can stand on many of the trout streams where there is a road going over the stream and on the right-hand side you have trout sitting in a little pool,

under the roads you have a diversion structure and a pipeline, and on the left-hand side the stream is going dry. Of course these were developed many, many years ago by the Denver Water Board before we had the benefit of instream flows.

**Lee Merkel:** He has already shown my hand. It is not going to be very impressive when I tell you about all the diversion structures there are in Grand County now, but that is basically the situation. I have been the manager for five years in a headwater community. The issues are very different between headwater communities and almost any other community when it comes to water. That has become painfully apparent to me and most of the people that go there to visit. But one of the things that I wanted to emphasize is that I am optimistic about the future. Many of the things that I have heard today indicate that there is a change beginning to come about that will get people to work together rather than working in opposite directions. I think that is very important to the entire state.

My message is one of working together because I think we can do a lot more working together than we can going different directions. Some of the things I may say here will sound a little bit confrontational. I do not mean them to be that way. The history of water in Colorado makes me, when I talk about the past, talk about some of the divergent points of views. All the other speakers that are speaking on this particular panel speak about things which benefit Granby and Granby is not unique when it comes to headwater communities. Whether it is ranching, recreation, municipal uses, home building, you name it, it really benefits the upstream counties and upstream municipalities because they are all interested in building more homes and then coming up to Grand County or Summit County or Eagle County to recreate. It is obvious that we are all intertwined.

How many of you have ever been to Grand County? Most of you, that's good. How many of you have worked on a ranch in Grand County? Not too many. Oh, good, it is not a shutout. How many of you have rafted or done any whitewater canoeing or anything like that in Grand County? We have the second largest put-in point in the state as I understand it. The Arkansas River, which will be a source of discussion here in a few minutes, is obviously number one. How many of you have fished in Grand County? Quite a few. How many of you have just stopped in Granby or Winter Park or Kremmling to wash your car or get gas, stopped at a restaurant for a drink of water? Well, obviously we are all talking from the same corner of the world. I like that; that is great.

All of these things obviously require water. Most people think about municipal uses of water being diverted out of a source or perhaps getting it from a well. Whatever it is, it is putting it to the normal municipal uses so that it can be put into people's homes, into restaurants, into gas stations for use. And that is obviously very important to Granby for a variety of reasons. That is something that can be handled with some money and some management. It is kind of a small part of the big picture. Aurora, Lakewood, and Westminster have the same concerns and they are working on their own big picture. But what is really important in a community like Granby is what brings people there and that is agriculture, recreation, and perhaps industry. It might be working in a mine or a mill and every one of those demands water. It is a larger picture.

Something such as a diversion that is caused by Two Forks, whether it is the large one or the small one, is something that is going to affect how much water is in the stream in Grand County. And that is very different than something that is down by Grand Junction where there are a lot more tributaries.

Most of you think of the Colorado River and think of it as looking like this. These posters are out there in the back. And this is what it looks like out in western Colorado, really far western Colorado, or Utah. As those of you who raised your hands know, it does not look like that in Grand County. It kind of looks more like a creek. And when you think about diverting 50 percent of the water, which is what happens in Grand County, it becomes an even smaller creek. And if any of you remember it looking more like a creek, then you are older than you probably want to admit, because a lot of this took place in the late 1800s, early 1900s.

The first major diversion in Grand County was the Grand Ditch in the late 1880s. In about two weeks it is going to celebrate its one hundredth birthday. It is a pretty unique structure, especially when you consider the fact that it was built at that time and was done mostly by hand labor. It reversed the trend of going to the Pacific with that water and sent it to the Atlantic by the making the number of summer rain flows flow north into the Long Draw Reservoir. It is still doing that and it does a good job of it. It is only about 10 or 12 thousand acre-feet a year. It sounds like a lot, but not when you consider what the other diversions are in Grand County.

The next largest diverter is the Denver Water Department. They now divert a little over 70,000 acre-feet in an average year which is about enough to fill Ruedi Reservoir. By far the largest diverter, over 200,000 acre-feet each year, is the Northern Colorado Conservancy District which of course manages, operates, and owns the water in the Colorado Big Thompson Project.

Now when you put all of that together, well over half of the water that originates in Grand County is all of a sudden going to the east slope. This means that it is 100 percent consumptive. It is not there for Grand County's use, but anyone's use downstream. In Granby's particular situation, we are actually just above where the Fraser River flows into the Colorado, about two miles above it. We are on the Fraser, which does not look like a river most of the year either. It looks more like a small creek. And during the late part of the summer, early fall, we have about, in a bad year I would say, 12 to 15 cfs at our washed water diversion structure.

Is there anybody here from the Corps of Engineers? Okay, good. Please, do not report me. We get out in the river all the time to change our diversion. We have a number of rocks and things that we have to stack up because we do not get enough water in there unless there is a lot of water in the river. We have to get out there and stack it up some so we can get a diversion. We have a nice little structure there. It goes into a million gallon per day treatment plant which costs us about a million dollars. I guess it costs probably a dollar a day per gallon. It is a very expensive structure, but if it does not get water, it is not worth anything.

So we get out there and we do all kinds of stuff and it is based on how much water is flowing in the Fraser creek or river. And it would help us a lot if we knew how the water was going to be, what the level was. For instance, if the Denver Water Department were to call us the day they started diverting in the summer for their uses, it would help us to know in about 12 hours, when the water got down or the change got down to us, that we had to get out there to build that dam up a little bit higher so we do not get in trouble with the Corps of Engineers. Or better yet, so we could do it under cover of darkness so that if anyone is driving by, they would not see it.

I was very heartened by what Hubert was saying at lunch about some management integrations, some discussion of ways we could work together to not have to do some of the traditional water retention acts that we have to do. It may be a pain, but it is a lot less expensive to integrate systems and manage them for everyone's benefit. I think we can look toward that in the future.

First, what is the system of water allocation in Colorado? I will put it simply. It flows toward power and money. And, basically, if you have either one or both of those, then you have water. Needless to say Granby does not have either, so we do not have much more water than we could just afford a few years back when it was a little cheaper. And we may be able to get a little bit more when we get a subdivision that will annex the town and dedicates their water rights to us. But in general, the guy that has the money has the water and the money, and he still has more of it than we do in his war chest.

Granby's annual budget is about \$500,000 leaving out the special funds. It would obviously take several years to buy any major ranch which would have water with it in the Fraser Valley because the prices are so high. It would take us probably 4 to 10 years of saving our money to get that. It makes much more sense for us to figure out how to use what we have more efficiently. And many, many people in Granby are drying up their lawns and putting in gravel just because our water rates have gone so high. They have to. Either that or they do not eat or they do not take a vacation.

I basically subscribe to the idea that all of Colorado's varied industries are in the same economic boat. It is obvious that the home builders are dependent upon the economies, say tourism. People do not move to Denver for Denver's sake for the most part. If you dry up the Front Range, West Slope counties and towns, they are not going to have a place that is nearly as close to go to for their recreational uses. And we, of course, do much better when the home builders and the municipalities in Denver are growing and having more people move in. Those people are going to come up to Granby, Summit County, and Eagle County to recreate. I mean that puts money in our pockets. And so it is obvious that we are inexplicably intertwined.

Now, how are decisions made to give us major water projects? Generally what happens is the general purpose government, the city, decides that they need water. They dispatch their engineers and attorneys to get them more water and they do a darn good job. The problem is the economic development council may not have been consulted and it may be awhile before the effects are obvious. For instance, if you dry up a lot more of Grand, Summit, and Eagle counties in the next 5 or 10 years, the effects are not going

to be seen right away. But in about the year 2010, all of a sudden all of these economic development council-types are going to be wondering why people are not moving here anymore. Why is everybody moving away? Why are salaries going down? What is happening with our supply and demand? They begin to look at the fact that they dried up some of those upstream areas. And I believe this is a dramatic haze because this is something that will happen if the trend that has been established is continued.

I do not want to belabor it, but I really do feel that we can all work together toward a different type of goal. I think if one of us is going to be a prosperous unit, a prosperous industry, we are going to have to work together.

**Ull Kappus:** Our last speaker for this session is Carmine Iadarola. He is going to provide us with the Colorado Homebuilders' perspective. In 1976, he was hired by the Colorado Legislative Council where he was on the Senate Health, Environment, Welfare Institutions Committee and the House Local Government Committee. After learning all about politics, he joined the Denver Water Department where he was the assistant water sales administrator. While at the Denver Water Department, he was responsible for developing policies, rules and regulations, and negotiations with private and public entities requiring service from the Denver Water Board. In July 1983, he founded Aquasan Network, Inc.. Aquasan specializes in all phases of water resources management and development.

**Carmine Iadarola:** How many of you have had the opportunity to build your own home? You know from that experience how important the extrinsic and intrinsic value that water is to you. Many Coloradans do not have that opportunity. Many Coloradans depend on our industry to develop their homes for them.

The Homebuilders Association has one of the best and well rounded perspectives on water issues and I will tell you why. It is because they are directly affected and impacted by financial decisions that are made pertaining to water projects, to the availability of water, and to the quality of life issues. In regard to the financial aspects, the Denver metropolitan homebuilders pay the highest tap fees in the nation. They pay approximately \$7,000 per tap for the right to hook on. That is before we even break ground.

The homebuilders also are asked to shoulder a larger and larger burden of financing water projects. Most water communities are adopting the policy of growth pays its own way. Thirty years ago, 80 percent of all municipal infrastructure bonds were from general obligation bonds. In 1990, that number has almost flip-flopped; they are only approximately 30 percent now. Most of the money now being raised for water projects is being raised through the impact fees from homebuilders. That would not be too bad, I mean we could live with that. We certainly agree that growth has to shoulder part of the burden; however, we get to pay the highest tap fees in the nation and we do not even get a water supply with it. We get the opportunity to pay and there is no plan for how the water is going to be provided.



We just finished doing a survey of 20 metropolitan Denver communities and we found out that 17 said they could not guarantee a water supply for five years. Now the average project subdivision takes about five years in metropolitan Denver. Imagine what that does to our community and our planning as homebuilders. We put in the ground infrastructure for 500 homes and we find out halfway through the project we do not have a water supply. It is kind of difficult to call your banker, your financial institution, and tell them that you are only kidding. You have to tell them that you do not have the water to complete the project. And because of that, you have a very difficult time as a private industry in providing the kind of homes that some of you have been able to build.

Now why aren't we able to have a predictable water supply? Well, there is a number of reasons and I think they were well covered by a number of the speakers. But basically you have the federal government developing laws and policies which they are having a very difficult time themselves interpreting. And since they are having a difficult time interpreting them, it is very difficult for metropolitan communities to plan. For example, we have the Denver Water Board who will often try to develop water. On the one hand, they may tell us, for example a couple of years ago, that we will hopefully have a water supply through the year 2000. Two years later we find out maybe we will not have a water supply. Now, maybe we will again. It is very difficult as a community to plan.

Finally, the quality of life issues are very important to the Homebuilders Association. As was correctly pointed out by Lee Merkel, we are not a coastal city. We are not an economic mecca. People live here because of the quality of life it provides. People move and buy our homes because of clean water, clean air, and because of the opportunities to recreate within a one hour drive of Denver. We are very committed as an industry to continue to protect that quality of life, because without it, we will not have the opportunity to sell homes. And you know, as so many people have told us before, all lives are intertwined in that fashion.

I had the opportunity over the last week to do one of my favorite things which is to hike around Colorado and explore historical areas. I went to one of the national parks, Mesa Verde. And it was the Anasazi Indian which taught us so much, right? They finally left Colorado because: (1) they did not conserve their water supply; (2) they deforested their land; (3) they killed off their wildlife; and (4) they polluted their rivers. I think there is a lot to be learned from the Anasazi.

I hope as an industry we will be able to survive and as a state we will be able to survive, because I believe that California is looking this way. California, which has the seventh largest gross national product of any nation in the world, who is now experiencing a drought according to the latest polls, tells us their second biggest concern in their entire world before death is water. Now where do you think that water is going to come from? Well I hope as a state we will be ready to address that issue.

**Uli Kappus:** I wanted to make a comment on your observation that we have clean air in Denver, because before I became a bureaucrat, I used to live and work in the suburbs and never got downtown very often.

I can tell you that in November and December, we get those inversions and it is not clean. In fact, when I was in graduate school, I used to teach fluid mechanics and I learned that air is also a fluid just like water. I have learned after working downtown that the limiting fluid to growth in the Denver metro area is not water, but air. Any questions for any of our speakers?

**Question:** I have a couple of questions on different subjects to ask Mr. Kevin Coyle only because my organization has come under his scrutiny for one reason or another. Maybe you might not even been involved, but as long as you are representing the recreational industry, I would like to say that I believe there are some parts of the recreational industry that are not paying their way in the use of our natural resources. Every year for the past 37 to 40 years, I buy a small game combination fishing and hunting license. I buy an elk license, a deer license, and now I have to buy a second rod stamp. I do have my Colorado water fowl stamp and my federal water fowl stamp. This total comes to right around 50 dollars just so I can step out there and hunt with either a shotgun or a rifle. Sometimes I do not get anything. I just like to go hunting. I do not have to shoot a thing.

In looking at certain parts of the recreational industry, bicyclists do not pay a permit, do not buy a license, do not have anything on their bike, at least not in our area. The other thing that I have noticed is that up in the Poudre River, where I am from, we have kayakers, tubers, and rafters. I know they do not pay anything like \$5 or \$15 to use that natural resource. Maybe the organization that takes them out, the outfitter, maybe they pay a permit, maybe they pay a fee. I am not aware of that. Maybe they are licensed, I do not know, but it seems to me like the State of Colorado is missing one heck of an economic opportunity by not making every user, such as a kayaker, a tuber, or boater/rafter, to pay at least a \$5 fee for using that natural resource like I do for what I use it for.

Do you have, intend to have, the water users of rivers for recreational purposes help in acquiring maybe a stream flow that would stay sufficiently high enough to raft clear into August or September? I noticed that yesterday I had to get off the raft to help the navigator push through the rocks because we got stuck. I had to get out a couple times to push the raft through the rocks. The last time I went rafting we did not have that problem. Anyway, what is your opinion.

**Kevin Coyle:** Well, I believe it makes good sense to have anyone who makes use of a public resource pay something. Pay as you go. It is pretty conventional to have fishing and hunting licenses. It is not conventional at this point to have boating licenses, although it is done in some states. There are some states where you have to get a license to put a boat in a river of any sort. I believe if people are going to take advantage of outdoor resources that are publicly held, there ought to be some payment for that.

**Uli Kappus:** From personal observation, that is something that is going to come down the road. As our levels of comfort are exceeded in terms of some of these negotiations we heard of earlier, the recreational

community will also have to get in line to buy water rights that they will control. They will have to provide for that high class experience that we all enjoy so much in our state.

**Question:** To Carmine. I think the comments that you made related to the water going to California raises a certain amount of hackles, at least for those of us on the Western Slope. As Ken indicated, water used on his ranch returns to the stream eventually. It goes through another ditch and into the stream again; it goes through municipal uses; it is used many times before it leaves the state. We feel that is a legitimate use and when it goes to the State of California after that use, there is some benefit to that. Perhaps California gets more than the compact entitles them to. But when you say that in order to make sure that it is a Colorado use, you have to take it to the Eastern Slope, then there is an implication in there that those of us on the Western Slope are not citizens of the State of Colorado. I think that is one of the very bases of for the conflict between the two states.

**Carmine Iadarola:** I hope my comments were not misconstrued. I think what I said, and if I did not I apologize, was that as a state, we need to be able to respond. I fully realize the need for water on the Western Slope because it is a quality of life issue. My point is that as a state, we need to respond to California. I want to make clear that the Homebuilders Association is Colorado homebuilders. We represent people on the Western Slope, also. Obviously we need water for those homes to develop. The state, however, is going to be addressing this issue. How are we going to let California take this water, at what price, what are going to be the rules and regulations? Hopefully the Eastern Slope will be part of that because the Western Slope probably has more involvement than we do. So let us take care of the Eastern Slope, as well as the Western Slope. I think it is very important that as a community, as a state, that we address this concern we have as homebuilders. When I said the state, I did not mean the state as being the Eastern Slope. I was talking about the State of Colorado.

**Case Study:**  
**Managing Arkansas River Flows for Instream Uses**

Moderator: Jim Lochhead

**Hubert Farbes:** Your moderator needs little introduction. Jim Lochhead is a member of the Colorado Water Conservation Board and is Colorado's Commissioner for the Upper Colorado River. As many of you know, Jim is a practicing water attorney and partner in the firm of Leavenworth & Lochhead.

**Jim Lochhead:** Well, I think this is going to be interesting because we have an opportunity now to leave the realm of the theoretical and return to the real world. I hope Ken Spann is still around to get us down. We can all put on our irrigation boots and walk around in the creek and see how the system works on a real river.

This is a case study. We are going to look at the Arkansas River and how the various competing interests on the Arkansas River have been able to utilize the system that we have in place right now and make it work for their particular interests. It gives us all an opportunity to take a look at the Arkansas and decide some issues that may be closer to home for each of us and decide what is the public interest in our rivers. Is that interest being served by our existing system? Is our existing system working?

It will also be interesting to look at the different perspectives of different instream uses. We tend to generalize instream as one category of use, but one thing I think you will see in the Arkansas, one thing we are certainly seeing in the Glen Canyon and with Environmental Impact Statements for uses in the Grand Canyon, are that there are different uses of water instream and a lot of times those uses are in conflict with each other. To help with the discussion I put up a map of the reach of the river we are going to be talking about and hopefully those of you in the back can see it. Some of the speakers will have their own overheads and so we may be switching the overheads a little bit. But I wanted to orient you with the facilities that we are going to be talking about. I am going to walk away from the microphone. (Discussion Inaudible.)

So that is kind of a general orientation. I think some of the speakers are going to talk more specifically about some of the problems and opportunities that exist in the Arkansas in terms of managing water for the different uses.

During the 1980s there was an increased interest in recreational benefits in the Arkansas River, in particular recreational and commercial rafting has been on the upswing. In 1988, the Bureau of Reclamation completed an Arkansas River Recreation Management Plan which quantified public land uses and opportunities in the corridor and identified land management goals and strategies. The plan did not specifically deal with management of flows of water through various water diversion facilities, however.

In 1989, the Bureau of Land Management (BLM) and the State of Colorado executed a historic agreement which coordinated the management of public lands in the upper Arkansas River Valley, which established the Arkansas River Headwaters Recreation Area. It also provided for the Colorado Department of Outdoor Recreation, a parks and outdoor recreation group with management responsibility of those lands in compliance with BLM recreation policies and regulations. We have an act within the state legislature which recognizes the Arkansas River as a recreational corridor.

Through that process, commercial recreation interests have remained interested in the possibilities of flow management of the Arkansas River. In 1989, releases of water were made to increase July and August flows. The commercial rafting and boating industry feels that those flows directly resulted in increased economic benefits in the Arkansas River Valley. And in 1990, the various interests have been working again to establish the minimum levels of flow in the upper Arkansas River for rafting, fishing, and water management for agriculture and municipal use.

We have an opportunity to have a panel that represents the broad cross section of the various uses in the upper Arkansas River. We have a local panel, as you can see on your program, that represents a number of the local interests. Each of these speakers is going to talk to us for 10 minutes as to their particular interest. Then we are going to have a 10 minute question and answer period. Next, we are going to have the government agency panel talk about some of the opportunities and the ways the government has been responding to the needs of those interests, and then we are going to open up the entire panel for questions.

I am told that the small discussion groups that were scheduled for today because of the lateness of the hour are not going to be held and what I would like you to do is to look at your program and you will see that those small discussion groups have some broad areas for discussion, the role of public interest, balancing competing interests, instream flows for environmental protection, and instream flows for recreation. And I think that this panel should touch on each of those broad issues. I would like you to look at those issues when you formulate questions for this group. And when we have some discussion, think about how the existing system is working to address these various concerns and these various topics. With that I would like to launch right in with the local panel. The first speaker is representing the commercial rafting interests. Bill Dvorak is the Vice President of the Western River Guides.

**Bill Dvorak:** I grew up on a small ranch near Sheridan, Wyoming, and there was probably more Indian battles within 100 miles of that ranch than anywhere else in the West. I guess I sort of feel a little bit like Custer up here right now, because I think I am slightly outgunned. Any other outfitters out there? Any other people who have been on commercial river trips out there? I see one or two. Not as bad as I thought.

One of the things that I am here to talk about is just how recreation fits into this whole water scenario. The first thing is that commercial outfitters are not out to try to steal anybody's water. What we are trying to

do is catch up with where the water projects are. When the water projects were initiated, we were not really viable, we were not really an entity. This was because they all got initiated, most of them, back in the 1960s and early 1970s, and commercial river running was just in its infancy then. What has happened is that we have seen a pretty astronomical increase in our numbers in the last decade. I think in the Arkansas River we have seen a 256 percent increase in growth from 1980 to 1989. And what that means is that we have become a definite economic entity in the Arkansas Valley.

It could be argued that we are probably the largest economic base in the whole valley. There is nothing else that generates as much economy to that valley as the river industry does. We bring into that valley approximately \$16 million. What you have to do is, you have to take the amount of money that comes in to the outfitters and use it as a multiplier. That is approximately 2.56, which I think is a very low multiplier, because what most of us do is we have guides. There are approximately 400 to 500 guides that live in that valley. Most of the time when you have something like a manufacturer who employs people, they increase the multiplier. So it is more like 7.00 rather than 2.56. So I think our multiplier is lower than it should be.

All I am trying to say is that recreation is the basis of the economy in Colorado anymore. It is a \$5 billion industry in this state. It has surpassed mining. It has surpassed agriculture. It has surpassed everything else that the state has to offer and we are real; we are out there. And I think we need to be taken into consideration. So I am here to say is that perhaps we need to rethink how some of these projects were authorized in the beginning, when the only recreation interests they took into consideration were the flat water recreation interests on the reservoirs they were creating.

Just to give you an idea of just what 256 percent growth since 1980 means, I think in 1979 we had approximately 22,000 people who went down the Arkansas River. Last year we had approximately 150,000 people. That is a lot of folks going down one stretch of river. Then you think about how the river is broken out and we have over 125 cfs of boatable water on that river.

One of the things that the Arkansas Recreation Area has done is that it has opened up more access and egress points along that river. So even though it is a lot of people, there is not really crowding going on because those people are disbursed over 100 miles, all the way from up by Granite to down by Canon City. The busiest place is still Brown's Canyon and probably one half of those people go through Brown's Canyon. Of the 150,000, probably some 70,000 will go through Brown's Canyon and even that has been alleviated. Any congestion we have had there has been alleviated because more points are being opened so that we have more places to get on the river and more places to get off the river. What that does is that it kind of streamlines everything as it goes downstream.

So one of the problems that a lot of people have envisioned in their mind when they have heard the numbers we talk about is, "Jeez, it must be bumper to bumper boats." And granted, maybe on one or two Saturdays a season it gets that way, but with a little more timing, finesse, and managing, I think even that could be alleviated. And one of the projections we have is that by 1992, we could be taking over 285,000

people down that river if we get some cooperation with what is going to happen with recreational releases on the instream flows.

And that is all we are after, really, is cooperation. We are seeing that for the first time this year in that the Bureau of Reclamation has gone a little bit out on a limb and said, "Yeah, we can manage the process. We can manage the system so that we can enhance recreational boating on the Arkansas." And they basically have said that we are going to have a minimum of 700 cfs in the river through August.

What that means to us is that typically we will have pretty good Junes and really good Julys. Then the amount of people we take down the river falls off dramatically in August and it falls off in direct proportion to the volume of water in the river. And if we could keep the volume of water in the river at a certain level that still provides enjoyable and entertaining whitewater recreation, we could have as many people or more down the river in July as we do in August.

But it falls off because so much of our Front Range business knows the water is low so they quit coming. A lot of our out-of-state visitors continue to come because they do not know the difference between 300 and 800 cfs. A river is a river to them. But a lot of our local traffic disappears. And if we could get that kind of water in August, it would mean direct revenue to the outfitter, approximately \$900,000 in direct income. You plug that multiplier on it and that is millions of dollars in direct revenue to the surrounding communities, from Granite down to Canon City.

There is nothing else in the valley that can compare with that. And with very little effort and very little expense on anyone's part other than some cooperation from the water owners and the water managers, we can have that sort of a recreational-based economy. And the nice thing about a recreational-based economy is that it does not consume anything. It is totally non-consumptive. People come, they go down the river, they enjoy it, they spend a couple nights in a motel, they buy gas, they buy groceries, they buy meals, they buy souvenirs, and then they leave. There is nothing that has been consumed. And so basically everyone benefits.

One of the issues that was brought up earlier is why don't the users pay. There are two theses here that have been given to me either by graduate or doctoral students who have looked into what it would cost to have that kind of cooperation through the Bureau of Reclamation to get anything from 1,000 to 1,400 cfs in the river for the whole season. And it would definitely take some evaporative loss because you lose water faster going down the river than you would up in high reservoirs. An approximation on what that would cost is approximately \$42,000 to pay for evaporative loss and I think that would be very easy to pay for. You are not losing the water because it is going from upstream reservoirs to downstream reservoirs, i.e., Twin Lakes to Pueblo. So you are not losing the water. All you are losing is a certain number of acre-feet because it has gone down the river rather than having been stored.

The obvious way to pay for that is with this new recreation that is managed by the Division of Parks. We pay a fee to them, which comes back and lets them manage, and that fee is 3 percent. It would be really

easy for them to increase that fee a percent and say that this money is specifically earmarked to either pay for evaporative loss or to actually buy water rights. Maybe they raise it 2 percent and they could start building up a war chest. Then they could buy water rights.

There is a way for them to do that. That way all users would be treated equally. They would get the commercial outfitters and maybe they would have a certain percentage of the fee that private boaters, rafters, and kayakers pay. Maybe a certain percentage of the fee could come from the Division of Wildlife for people who fish the river or people who just picnic could also pay a fee. And I think one of the things that attracts people to Colorado is moving water. Almost 90 percent of the people who come to Colorado want to see free flowing rivers. They want to see mountains, they want to see snow, but almost everyone of them wants to see free flowing rivers. So there are lots of ways to get to a point where we could actually pay for the evaporative loss or maybe even acquire some water rights.

I guess the other thing I would like to bring up here is that this is not costing anyone anything other than some cooperation. And one of the things it seems that most of our water rights any more are being bought up by municipalities. I would like to ask the municipalities, primarily Colorado Springs and Aurora, to think about what they are going to do in the future if they need new projects. It would seem to me to make a lot more sense to build projects by enhancing the ones that are already there, i.e. enlarging Pueblo or enlarging Twin Lakes or enlarging the existing reservoirs, so that the water can continue to go down the river, because that is going to directly benefit them.

Over 50 percent of the people who come down the river fly into Aurora at Stapleton or to Colorado Springs at their airport. They spend time there the night before their trip, and they spend time there the night after their trip. The cities make a lot of money off this industry because they are the gateway. It would behoove them to really concentrate on trying to not dewater the river, but to figure out a way to go ahead and augment water flowing down the river in the future.

Another thing is that it is not just people who come to the Arkansas Valley in and of itself that enjoy it. If you look at what is going on there in the river, if you spend any sort of time there at all, you will see that there are vans and buses that come from Aspen, Vail, Crested Butte, Winter Park, Summit County, Denver, Colorado Springs, Pueblo, and Steamboat Springs. We probably have in this state the number one recreational river in the country. If we can just get water in it, it can probably be one of the biggest attractions we have in this state. It would rival our national parks, rival the Rocky Mountains, and rival some of our well known skiing that is world renown. This river is a world class river if we treat it as such.

I think there are some competing uses here. I think a lot more has been made of that controversy than needs to be made. I think that we can live very easily with the private boaters and the fishermen and one user and another. It just takes a little bit of fine tuning and the whole thing will work out.



**Jim Lochhead:** The next speaker representing the water users and in particular the Southeastern Colorado Water Conservancy District is David Sarton. David is the director of the Southeastern Board.

**David Sarton:** You indicated that maybe we have a little more cooperation on some of these issues than we actually have. The recreational benefits on the Arkansas River as a result of the Frying Pan-Arkansas project probably outweigh the benefits that were anticipated at the time the project was conceived. There are literally tens of thousands of recreation days on Pueblo Reservoir and Reudi Reservoir, including sailing, boating, fishing, water skiing, and many bank activities. The Frying Pan River, which is below the dam at Reudi, has a gold medal trout water now and is probably regarded as one of the finest in the world. The rafting industry, as Mr. Dvorak indicated, was really in its infancy and did not exist to any extent at the time the project was conceived. The industry has actually had their season enhanced and extended as a result of the imported waters that have been flowing down the Arkansas River. There are some conflicts in the dollars that Mr. Dvorak indicated.

Discussions with a number of people in the upper valley indicate that a good number of the people who go rafting there, while the rafting is an additional attraction on the river, are there for other activities, fishing, camping, etc. A certain number of the rafters are day-trippers from the major metro areas on the East Slope.

Probably the big rub about this whole situation with the rafters is the fact that the Bureau is committed to provide the increase flows during the months of July and August. This does extend the rafting flows, but it also has a significant impact on the yield of the project due to the evaporative losses at the lower level storage. The increased flows also create some conflict with fishermen on the river and they actually diminish recreational opportunities at Turquoise and Twin Lakes. Supposedly this is a one time manipulation and will only be done in the future on an ad hoc basis, but the Board of the Southeast District feels that a really dangerous precedent is possibly being set here.

The Southeast District is the agency responsible for the repayment. The Southeast District is the legal owner of the water rights of the project and we were shut out of the discussion process by the Bureau. They essentially came to our board and told us this is what they thought they were going to do, ignored a unanimous resolution and opposition to these increased flows that would cut the project yield, and basically said, "We're going to do it." They did have some excuses that there would be an economic benefit to the upper valley and possibly some benefit to Pueblo Reservoir.

We also questioned the intelligence of this decision since we are in a short water year. The potential long-term impact of this type of policy, if it continues, could be very disastrous, particularly in the short water years if the drought continues in the future. As a matter of fact, this year we were only able to fulfill 50 percent of the requests for allocations of project water. The operating principles of the Fry-Ark project specifically state that the project contemplates maximum conservation and use of water and that the project is to be operated in such a manner as to secure the greatest benefit from the use and reuse of imported

project waters within the project boundaries of the State of Colorado. A large portion of the benefit does accrue to people outside the project boundaries.

A number of the rafting companies who have been pushing this thing are in the upper valley and are completely outside the repayment area for the project. It is also my understanding that the original request for increased flows came through the Colorado Department of Parks and Recreation to the Bureau. This would appear to be in conflict with the negotiations prior to the legislation that authorized the Arkansas headwaters recreation area and would appear to be in direct opposition to the legislation that set up that recreation area. The language in that legislation was very specific; the department was prohibited from any action which would diminish or injure the holders of water rights in the Arkansas River.

Recreation was determined to be an essential part of the Fry-Ark project. As I said before, I think recreation has been well served by the project and in fact, many recreational activities exist today that would not exist but for the project was initiated. We are very concerned that those responsible for repayment must not lose any repayment opportunities to recreational uses. If the practice persists it would appear that our remedies are either to sue the Bureau to get a change in the way they are operating the project or as a suggestion for Mr. Dvorak, to give major concessions in the repayment schedule to get participation from recreational interests.

Another highlight of our board meeting -- it was announced that there were additional high water releases being requested for September. Evidently the Motion Picture Board of the State of Colorado wants high water for some kind of a movie that they want to film in September. We feel that this is fairly cavalier the way people are kind of throwing our water around and we are a little upset about it. We still do not know what the impacts of that proposal will be, but we do intend to monitor it. Frankly, our concern is balance. We were comfortable with the balance that we had in the old method of operating the river and it is really our hope that we can return to the old operation.

**Jim Lochhead:** Next, to talk about some of the fishing interests in the upper Arkansas is Vern Rutherford. Vern is with the Collegiate Peaks English Chapter of Trout Unlimited.

**Vern Rutherford:** When a commercial rafter from the upper Arkansas began lobbying for what we call artificial water releases in late summer, there was little quantitative data available on the effect of those releases on the Arkansas fishery, both in the river itself and in the upper reservoirs. There were plenty of opinions on what those flows might do and what constituted good flows for August fishing, but those opinions were like belly buttons, everybody had one. It was difficult to separate fact from fiction.

Many fishermen intuitively felt that high water such as a continuation of the annual runoff inhibited good fishing. The high water in late summer, although clear, makes fishing difficult. Trout habitat and fishing water are reduced. The Colorado Division of Wildlife (DOW) has a statement in its excellent article on

fishing the upper Arkansas in the May/June issue of *Colorado Outdoors*. I hope everyone of you can get a copy of this, it really does justice to the upper Arkansas fishing. I would like to quote from what they said. "Fly and lure anglers generally find their style of fishing difficult until the flow falls below 600 cubic feet per second."

You heard Bill talk about flows of 1,000 or 1,400 cfs. The DOW personnel in Salida recognize the need for relatively low, that is 200 to 400 cfs, flows from October through April and that is for the spawning, incubation, and hatching stages of the new crop of brown trout. However, they volunteered no data as of early this spring on the effect of higher water flows on adult brown trout. They did say that the Arkansas stream channel fills up at somewhere between 450 and 600 cfs. And that depends on the gradient, the location, and so forth. But this full river concept brings a danger factor to fishermen. It is dangerous to wade that river when it gets in the 600 to 700 range and fishermen have to be careful. We emphasize safety in a recently published fishing guide for Chaffee County, warning fishermen to be careful particularly at this time when the river is running about 1,000 cfs.

Now fortunately, as the DOW got more involved in the issue, quantitative data became available. These data were developed by DOW researcher Barry Neary, you may have heard of him, and local Salida biologist Rick Anderson. These data strongly, strongly suggest that the optimum flows for adult brown habitat and the fishability for those trout are well below the flows requested by the commercial rafters. Barry and Rick studied the Arkansas below Salida, below the Wellsville gauge using techniques that were developed by the U.S. Fish and Wildlife Services and National Ecology Center in Fort Collins.

The system is called Instream Flow Incremental Methodology, IFIM. Do not let that slay you now. This technique uses water depth, water velocity, as well as substrate and cover measurements to predict changes in the factors over a range of stream flows. These data are then fed to a physical habitat simulation program on a computer which transfers the hydraulic data into units of physical habitat called Weighted Useable Area, WUA. I do not know the nuts and bolts of this program as to how it works, but I think I can demonstrate to you with the charts the results of Barry's and Rick's work. They can also use these data to predict the area at these measurement sites that fishermen can use to wade and that is important.

We are talking two things now -- fish habitat and availability of the stream to fishermen. Barry and Rick took the physical data at about a dozen separate stations near Wellsville at three different flow rates: 350, 750, and 1,800 cfs. This section of the river is also electroshocked annually to make a stream census of the fish. Using the simulation program I mentioned, they came up with a range of weighted useable averages. The measurement of habit and weight areas and the area of stream available to fishermen.

This graph (Figure 1) shows the IFIM station at Wellsville, habitat area versus stream flow. Now let us look at the nuts and bolts of this. We are plotting WUA in thousands of square feet per thousand linear feet of stream. And I have marked the 400, 700, and 1,000 points. The 400 cfs mark is close to what Barry and Rick and the DOW considers optimum for adult trout habitat. The 700 cfs mark was a compromise that

# ARKANSAS RIVER

IFIM STATION AT WELLSVILLE

HABITAT AREA VS STREAM FLOW

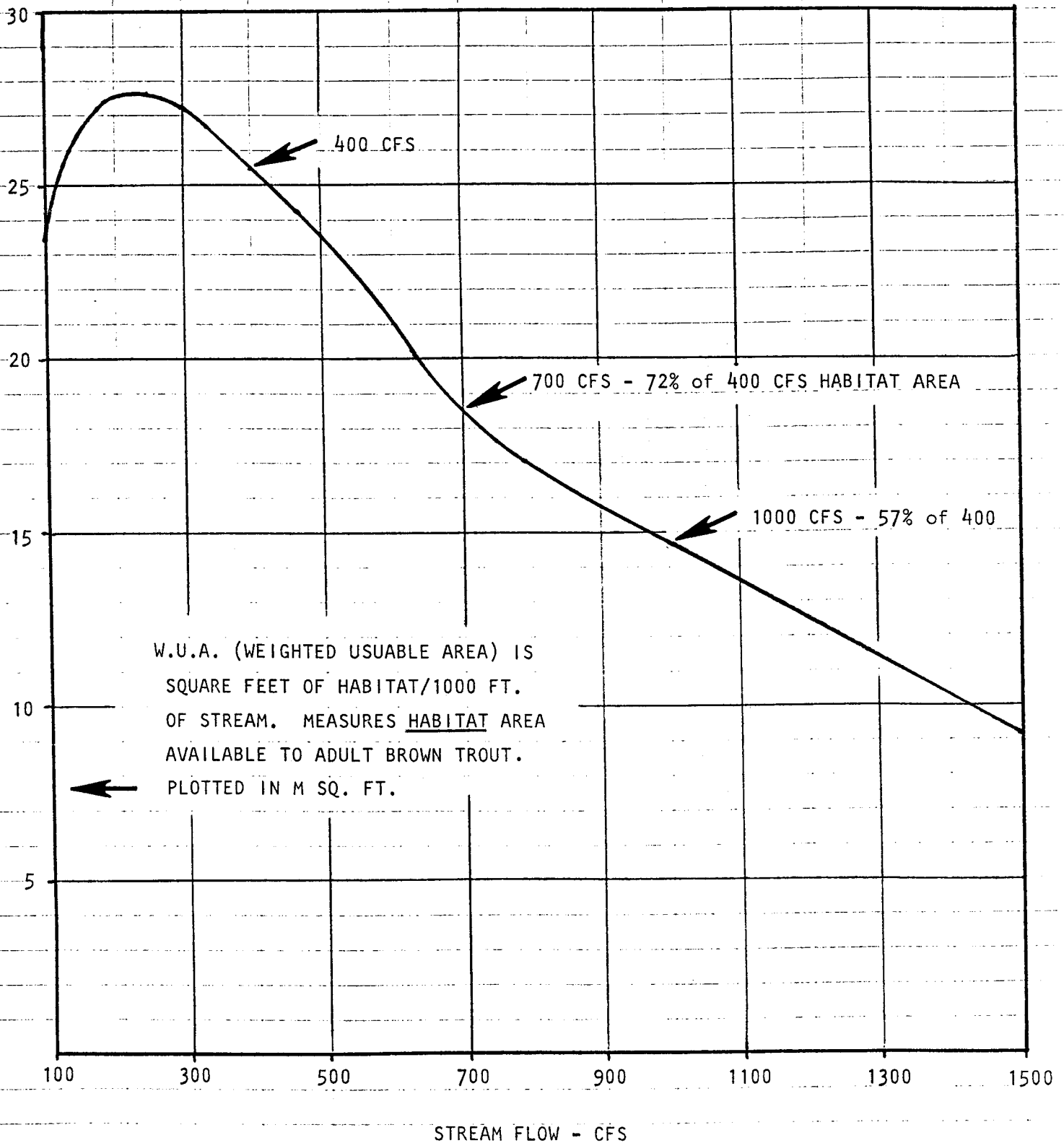


FIGURE 1

was developed for 1990, as Mr. Sarton said, on a short-term basis. The 1,000 cfs mark represented what the commercial rafters asked for in April. Note the significant drop-off in habitat from 400 to 700 cfs and the further loss at 1,000 cfs. Habitat is being reduced with obviously some adverse impact on growth and survival of the adult trout as these flows increase.

The second graph (Figure 2) shows the loss of wade area, again in thousands of square feet per thousand linear feet of stream. The loss of wade area here is even more dramatic than the loss of habitat. At a 1,000 cfs the wading fisherman has only a little more than one third of the area and even bank fishermen are at a disadvantage as the flows increase.

You have heard Bill say that commercial rafting wants to have average flows for the season and he is actually talking about above average flows. I want to ask the question, why didn't the commercial rafters use the existing mechanism to resolve this issue, the formation of the Arkansas Headwaters Recreation Area? The mechanism exists where this can be resolved. Instead, the rafters went public and held hearings with county commissioners and other politicians. This was not helpful to the overall situation.

There is a system existing. The management plan in its final form was amended by the BLM when they took it over. This provided for the Bureau of Reclamation to make a determination if the manipulation of flows had an adverse impact on the fishery. That needs to be done for the long term. We have come up with a temporary solution. Most of us that attended the citizen's advisory committee meeting were pressured, because of lack of time, into a compromise for this year. And this has to be utilized now. The system has to be used to sit down and figure out what is going to happen. Half of the time there is going to be enough water for August rafting. Half of the time there will not be and the fishermen object to losing that half of the year's time for fishing. The rafters will take it over.

I just heard something from Mr. Sarton that outrages me. He said that the Colorado Tourist Board wants high flows in September. They are going to jack the flows up to make a movie or something. What does that do to the fishery? People come up to the Upper Arkansas Valley to fish in August and September and the proposals that are coming forth are going to take that away from us.

**Jim Lochhead:** Let us see what the ranchers have to say. The next speaker is Denzel Goodwin. Denzel is the Chairman of the Upper Arkansas Water Conservancy District.

**Denzel Goodwin:** I was on this 22 member study committee, and really it was probably the toughest committee I have seen. I have served on school boards and I served eight years on the Board of County Commissioners, and it seems like I have had boarditis all my life. But with 22 members on the board, it is just about as unworkable as you can get. I think Ron Holliday and his bunch did a pretty good job of holding us together and keeping us from killing each other.

# ARKANSAS RIVER

IFIM STATION AT WELLSVILLE

WADE AREA VS STREAM FLOW

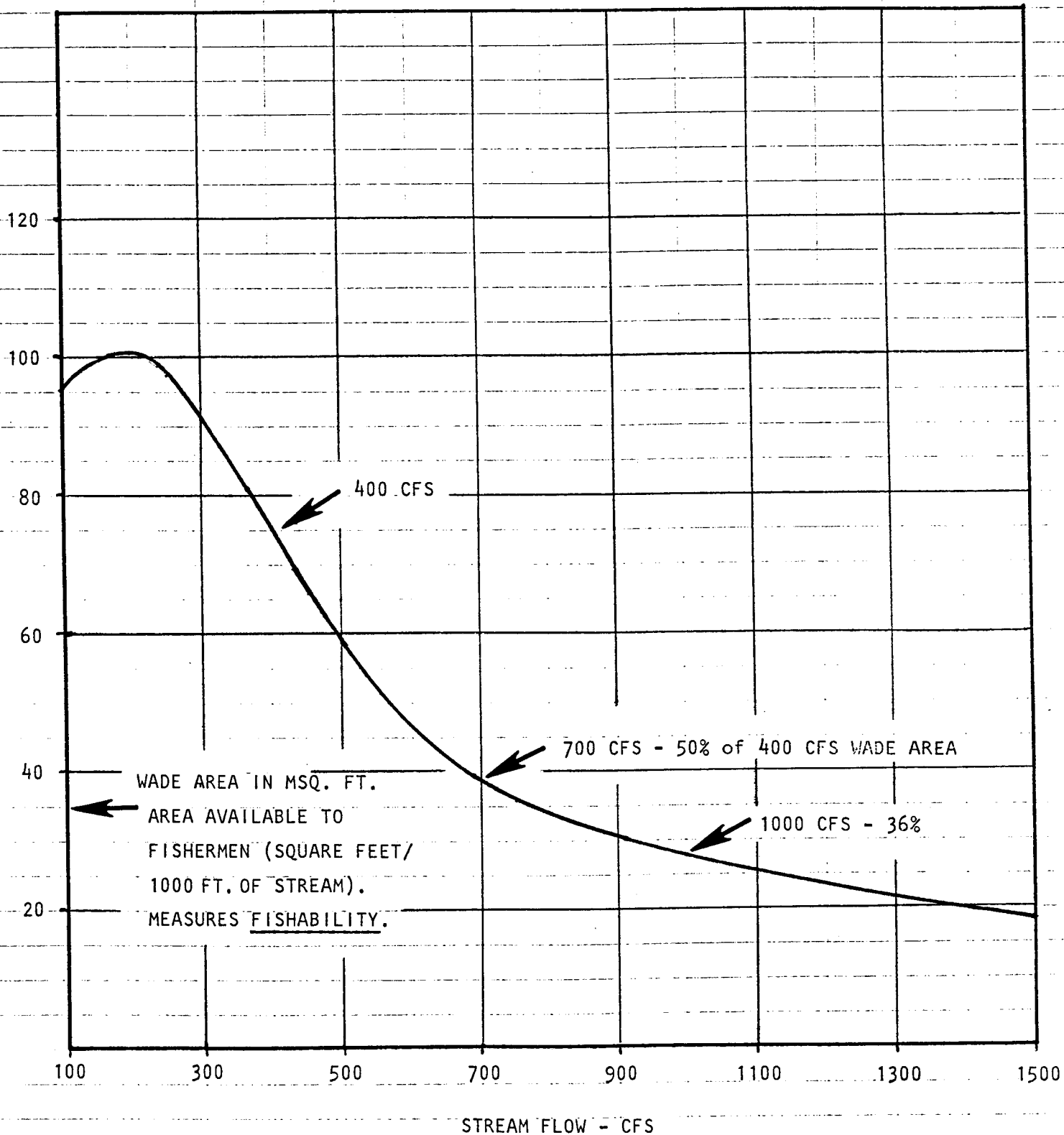


FIGURE 2

VAR 7/90

One thing we agreed on was that we were going to let the water flows sit like they are. Then when they came up with this Senate Bill 1253, which is enabling legislation for this park, Senator McCormak said, "Let's protect the water users." It was very specifically written in here that they were not going to bother the water users.

Before the dedication of the park, everybody had their noses in this water thing and the Southeastern nor the upper Arkansas was brought into it for the decision making of the project. And we were two water users in the area. As far as I know, Steve Park has never said a word to us about whether we were interested or not. And we are the water conservancy district of this area.

I will say some things about the rafters. Good things. Evidently everybody is supposed to pick on them. I am one of those boys that has spent their life irrigating and I have only been there 44 years. I am practically a new comer. But when the rafters first started coming through by my ranch, they were as rank a bunch of people as you have run in to. They would park out in your meadow and there would be toilet paper all over. They would chase my bunch of thoroughbred mares and colts around. They have flat cleaned up their act. I am telling you they have and I am thanking them for it.

One of the things we did not get in this plan that we badly wanted was the fact of having identification numbers on all boats. We did not get that, but we wanted it. The commercial rafters have to have an ID, but the kayakers and the others boaters, the private rafters, there is no way to identify them. Now, you have heard the comment that, "Oh it seems like all white people look alike or something like that." Well all these kayakers look alike. To give you an example, they all have a wet suit on and they all have either a blue or a pink boat. If one of them does something to you, you have no way of telling the sheriff or the law firm down the road. You have no way of identifying them. We have tried it. We go to the Sheriff and he goes down the road and the guy says, "I wasn't the one that did that." Man, they all look alike.

In the next 10 years, what we are looking at is a natural flow of water decreasing about 150 cfs on the Arkansas River. Everybody has a question now I can see. But it is true. I will try to explain it. This is partly due to the fact that Colorado Springs, Aurora, and Pueblo are taking their water out in a different place. Now Colorado Springs has got a exchange of use thing going. I called it a trade to start with and the chairman of the Southeastern said, "Hey, it's not a trade. It's an exchange." I went home and looked in the dictionary and it is the same thing. But, what I am trying to say is that they are not hurting the lower river. I am not sure they are hurting the upper river either. We have not decided, but there will be less water in this stretch that they are going to be boating on in the next few years.

And Pueblo has made a trade, as you heard earlier in the day, with Aurora and they are going to get the Rocky Ford ditch water. It is a case that everybody is talking about that knows anything about water and it seems like that is the biggest lawsuit in the world. It lasted 8 or 10 years and it was a good one. But Pueblo is going to get that water, now that the people of Aurora are going take the Twin Lakes' water which is really Lincoln Creek water. The water they are taking out of the valley was not in the valley to start with. It is transmountain water, but that water had been going down the stream that boaters have been using

all this time. That is going to be gone. The trade was 10,000 acre-feet and that is understandable. Now the question comes back, is the Frying Pan or anything else going to make up for this for these rafters? I believe that they take it like it is and I have been feeling that way for a long, long time.

**Jim Lochhead:** In and among all of this is the environment, the riparian environment of the upper Arkansas River. To talk about that before we have a short question session for the local interests is Mark Emmer, the Conservation Chairman of the Heart of the Rockies Audubon Society.

**Mark Emmer:** The last few years for me, learning about water issues surrounding the Arkansas, have been a real education. Like most of the public, I believe the label on the map, you know where it says Arkansas River. I thought it was a river, a free flowing body of water that boats floated on, a natural ecosystem with insects and birds and fish. But little by little I came to realize that some of the Arkansas is a ditch, a pipe, a piece of plumbing to move water from here to there like I might find in my house.

Until very recently the manipulations of the Arkansas plumbing system have been solely at the behest and benefit of the water owners. Non-owner considerations were simply not factored into the operation equation. There was no concept of the river and the ecosystem as a commons for the public good. But now we are seeing some tentative first steps toward opening up the system. Opening it up to those who see the Arkansas as a river and I find that very encouraging. That is the good news. The bad news, of course, is there are powerful forces stirring that want to change allocations, flow patterns, even the very pipes and plumbing itself. I will not get into the bigger issue of how environmentalists feel water should be used in the arid West or what new protection for basins of origin should be put in place. I just want to talk about how we might manage flows in the system as it exists today.

Manipulating flows to benefit non-water owners has been bandied about for some time. It took on some concrete significance back in August 1987 when a weekend release was made to accommodate the Colorado Tourism Board which wanted to make a promotional film about rafting and needed more exciting water. That release, coupled with weekend thunderstorms, left the Arkansas muddy and unfishable for a week. After the outrage over that, I believe the Bureau of Reclamation agreed to consult with the Division of Wildlife in the future. Yet just yesterday, we heard that a movie company was looking at filming in Chaffee County this September and wanted water released to accommodate their shooting. I since heard this morning that they are going to Durango instead, so we will not know how that water issue would have played out. So with this background I was very pleased when the decision record for the Arkansas Recreation Management Plan added the Bureau of Reclamation as a cooperating agency and stated, "Where flexibility and manipulating flows does exist, recognize biological requirements as a primary consideration, i.e. maintained requirements for fisheries and natural ecosystems first." That is a powerful statement and one we hope will be the guiding principle in flow negotiations.



What are the issues? Most of what I am going to relay was presented to the Bureau of Reclamation by the Division of Parks back in April. The first priority is a year-round minimum stream flow. Something in the range of 250 to 400 cfs below Salida would be desirable. The Division of Parks has requested 250 cfs which we can certainly live with. These flows should be codified and protected by the Water Conservation Board when it is possible for them to make filings. Second, dramatic fluctuations, so-called yo-yoing of the river should be avoided. This means no sudden weekend releases to accommodate a movie shoot or to promote weekend boating. Third, when releases are necessary, ramp them up and down as slowly as possible. Encourage farmers to give as much advance notice of water needs as possible. The Department of Parks suggested limiting the alteration of flows to no more than 10 to 15 percent per day. Fourth, work with irrigators to stop the blowing out of their ditches. The practice of running maximum flows in ditches to blow out silt is archaic.

We had a wonderful example of this during the opening ceremonies for the park in June. After an invigorating ride down the blue water through Brown's Canyon, the governor and BLM head, Cy Jamison, were speaking at ceremonies at Heckler Junction. Behind them, the Arkansas was divided right down the middle. It was blue on the east and brown on the west as a ditch dumped its muddy load into the river. For the rest of the day's ceremonies, the river was brown, almost to Canon City. All the side creeks were running clear so it was a graphic example of how just one irrigator can ruin the resource for the public.

What are we trying to do? We are trying to keep the river clear as much as possible after runoff. Dirty water puts the fish down and interferes with their feeding. We are trying to make the river predictable. If people drive 100 miles to enjoy our resource and never know if it is going to be high or low, brown or clear, they will stop coming. We are trying to keep from damaging the fishery. We do not want flows that injure the Fry Pan or wide fluctuations that flood and then expose fish habitat. We want to reduce bank scour and actions that damage the riparian habitat.

Let me say a few words here about the riparian zones along the Arkansas. The riparian areas are not in good shape. There is a severe shortage of trees along the banks. Most are old and I am told by biologists that the lack of young replacement trees is probably due to the managed flow regimes. There are some in the audience who are more knowledgeable about this, if there are questions. The Arkansas is an allochthonous river. That is a \$50 word and it means that its primary source of energy, the energy that drives the river ecosystem, comes from outside the stream. Leaf litter, debris, insect fall and, unlike some rivers, there is not much photosynthesis in the river itself. The whole river biota is dependent on having lots of plants adjacent to it. There have been and will continue to be plantings by interested groups, tree plantings. A good healthy riparian zone provides shade, bank stability, and energy for the river. So all parties need to consider the riparian areas when designing management and operating principles.

The last instream flow issue was the July and August releases to augment and extend the rafting season. At this point we do not know some of impacts of recreation on the ecosystem. Concerns have been expressed that boats may interfere with feeding fish and prevent the build-up of winter reserves or that boats and tourists may stress the Big Horn sheep along the Arkansas. There is a study due out in

December 1991 that will try to answer this question of the sheep and the Division of Wildlife will be designing a fish study this fall.

If there are negative impacts, the conservation community will probably oppose water releases that extend the recreation season and increase those impacts. In the event that there are no environmental issues regarding an extended season, I will probably step back and let the fishermen and the boaters argue the point on economic or fairness grounds. But until more facts are known, I will oppose releases that extend the season beyond the middle of August or releases that bring the water up above historic averages in July and August.

When I am in an optimistic mood, I feel that discussions like these are positive signs that the system can evolve. When I am being pessimistic, I feel like we are just rearranging the deck chairs on the Titanic as big money and big growth are going to suck the Arkansas dry making all of these discussions moot. Mostly I am optimistic, though, because in the post-Two Forks era, strict legal rights to impound or divert water may be secondary to environmental concerns such as the permitting process. Environmentally insensitive projects or operating plans can face significant opposition, not just from hard core environmentalists, but from the majority of Americans who increasingly express grave concerns about what is happening to the natural world. These first steps toward accommodating the ecosystem and those river users who are not water owners are encouraging.

**Jim Lochhead:** Now we are going to open it up a little bit to some questions before the government speakers talk about how the various agencies are responding to these local concerns.

**Question:** (Initial part of question inaudible) . . . I had to accept a sunset date that was put in the act. It is tough to get 33 votes in the House and 18 votes in the Senate to pass a bill. That was also the reason, Denzel, for putting in the protection of water rights in the legislation that I added in the Senate. That sunset date means that the general assembly will again have to pass an affirmative legislation to continue this. Otherwise, the legislation ceases on the sunset date and Colorado's authority to participate legally will conclude.

I believe that is correct, Ron, is that not? What this means is there better be no dissention, you better get along, if you love this you better love each other or this whole thing is going down the tube. Hard words, true facts. Get together and maybe we can pass the bill to continue this fine piece of legislation. I regard it as one of the most exciting pieces of legislation I have ever carried in the General Assembly. I find myself torn asunder, I also carried the legislation for the motion picture and television commission, as well as the legislation for the instream flows.

**Question:** Who is paying or has paid for the Arkansas the Frying Pan project?

**David Sarton:** The Frying Pan-Arkansas project is being paid for by property tax mill levies in the conservancy district boundaries, as well as with revenues from sales of project water. The servicing area is basically the Arkansas drainage, Salida to Lamar and El Paso County, Colorado Springs area.

**Question:** The one question was how many acres of irrigated land are served by the Arkansas and are those releases being made for irrigation the ones that were addressed Mr. Mark Emmer? And before you answer that question, is it only irrigation or agriculture that calls for that water or have you got a municipality or someone down below that calls for that water?

Now, let me give you an instance of what happens with the irrigation company that I represent in the Cache La Poudre. Two years ago, because of a low river flow, we had a high demand from our irrigators. We have a right to a certain amount of water in the Poudre River. We diverted the water because we have a diversion on the Poudre River. We diverted the water and in the process, we dried up about two miles of main stem of the Poudre River, between it and where the North Fork of the Poudre comes in. Unknown to our manager, we dried up so much of the water in the river that the fish started to die. We were notified by some fishermen who also notified the Division of Wildlife.

We tried to calm the concerns of everyone by releasing some water through our diversion to keep that portion of about two miles of river alive. Well, we released about 2.5 cfs, just enough to keep water flowing and keep the fish alive. But a farmer on the tail end of our system, and we serve about 30,000 acres of irrigated land, lost his barley crop on the lower end.

So maybe at some point along the line this concern of the loss of agricultural land because municipalities are buying our water rights should not be such a concern if we are such a big impact on river flows and releases. We cannot plan ahead enough to have controlled releases. It does not work that way in agriculture. We had a three inch rain Friday when I left my farm and that meant that today I did not get any water because why irrigate my land when it is soaking wet. So instead of making the release down to the canals, it probably stayed in the river and raised the river up three or four feet. Well, it would be something like 500 cfs.

This is not conservancy district water, these are private water rights. So there is something there that has to be addressed and our company, my company, has tried to work with the Division of Wildlife. We have a special agreement with the Nature Conservancy below one of our major dams to release the minimum stream flow through the fall and winter months. They in turn, because of our unique situation, pay us back in water that is exchanged or traded. A very complex agreement, and I cannot explain it to you. I think there are some of you here that are aware of it. But some of us in agriculture do try to have concern for the river, especially in our area.

**Denzel Goodwin:** I understand that the Frying Pan water is supplemental water, irrigation water, and the total amount of acres for the Frying Pan is 280,000. That is the amount of supplemental water it provides.

**Jim Lochhead:** Part of the question, there was some discussion of operations by Colorado Springs and Aurora and other diversions and exchanges that are being made and/or proposes on the river. How much play in the system is there in terms of your ability to regulate the river to accommodate these interests while still preserving the ability to repay project costs and deliver water to the irrigators, municipalities, and industries that are using the water.

**Denzel Goodwin:** Colorado Springs has exchange agreements that enforce minimum stream flow requirements that have to be met before the exchange is to take place. The exchanges to a great extent are offset by the imported waters that come down in the Fry-Ark project and those Fry-Ark project waters cannot be taken out except at the Fountain Valley conduit which comes out of the Pueblo Reservoir. So the overall effect of this thing is a lot of paper shuffled, but should not actually have any significant effect on the native flows of the Arkansas River as far as Colorado Springs water is concerned.

**Question:** For southeast district water, is there a great effect for either upper Arkansas water or southeast district other than the increased evaporation losses that you alluded to earlier?

**David Sarton:** I think the effect that will be felt is reduced river flows in some areas from what some of the areas have been used to, particularly in the last two years since we have had significant amounts of imported water coming in. The actual effect on native flows of the river should be very negligible and it should not affect either the upper or lower river.

**Denzel Goodwin:** The 10,000 acre-feet of water in the Pueblo exchange, now the native water, will continue coming down the river. The water that Aurora takes over is transmountain water. That is not native to the Arkansas River and it is what is going to be shipped over the pipeline that you see up on the map. The Aurora water will be transmountain water, but that is water that in previous years has been coming down the river. It won't any more. But the native water will be coming right down the river into the Pueblo exchange.

**Question:** If these flows are manipulated to provide the minimums we are talking about, in the future, are we looking at greater imports of water from the Western Slope in order to provide benefits to the rafting industry on the Eastern Slope?

**Denzel Goodwin:** Let me explain the minimum stream that we were talking about with the Colorado Springs exchange. To operate the systems in Salida and Canon City, you have to have so much flow in that river or it gets pretty brackish. That is the way they say it, isn't it Mark? We, I am talking about the upper Arkansas, had to meet with Colorado Springs and they readily agreed. They said they would go along with us, but they wanted a minimum stream flow. And I think we based it on the 190 cfs of water, the absolute minimum.

**Question:** One of the statistics that we use, and I guess referring back to Vern a little, statistics are like belly buttons, everybody's got one. We have used the statistics from one of these university theses that was done at the University of Colorado. A 25-year hydrology study was done of the Arkansas River and found that neither the mean nor the median flow of the river dropped below 700 cfs until the first of September since 1962 until 1987. It did not fall below 700 cfs until the first of September over that 25 year period.

**Denzel Goodwin:** Must be a mistake somewhere, because I have only lived there since 1946. I have been out in the river and floated cottonwood logs down and made rock dams to get the water out, to divert the water. It was only 120 cfs and this was in the late part of July. Then, as luck would have it, here comes a flood and washes my logs away.

**Jim Lochhead:** Our first speaker representing a government agency is Steven Clark from the Bureau of Reclamation. Steven is the Project Manager of the Eastern Colorado Projects Office.

**Steven Clark:** I kind of feel like Daniel about to enter into the lion's den. Part of the history of this decision has been related to you already, but I will reiterate some of it. I do have a few graphs to demonstrate some of the issues that were considered in the decision.

The Frying Pan-Arkansas project is a multipurpose transmountain diversion development in southeastern Colorado and it makes possible an average diversion of about 69,000 acre-feet of water per year. The Fry-Ark, if you will, was authorized to provide benefits in the following areas: municipal water supplies, irrigation, recreation, fish and wildlife, and power. The total cost of the project at its completion is estimated to be right at \$500 million. Of this amount, approximately \$90 million has been allocated to the fish and wildlife benefits and \$41 million to the recreational benefits. What that means is that approximately \$130 billion has been removed from the obligation for repayment. This amounts to about eighteen percent for fish and wildlife purposes and eight percent for recreation.

In the Spring of 1990, our office was approached by representatives of the commercial rafting industry with a request to extend the rafting season. Our assessment of the storage levels in Turquoise, Twin Lakes,

and Pueblo Reservoir, in addition to our projected imports of water from the Western Slope, indicated that we did have some latitude available. In addition to the request by the rafting industry, the water levels of Pueblo Reservoir were projected to be approximately 55 feet below full. Now Pueblo Reservoir is also a recreation attraction to approximately 1.5 million visitors a year. Part of our decision making was based on what the project was authorized for, what the higher levels in Pueblo Reservoir would be, and what those benefits would be. It is perhaps unfortunate that so much attention has been focused on the rafting industry because there are other considerations in our decision.

There probably are three major areas. One is the recreation benefits of Pueblo Reservoir. Another is the rafting request, and finally there is the attempt to meet minimum flows throughout the winter to preserve the fishery. We received a number of letters from local governing bodies, private businesses, and the rafting industry. It was a classic example of gathering the forces to make known your effort. They were successful in that. We were very aware of what their desires were. They mentioned an assessment or an economic advantage to the local areas in excess of \$20 million a year. Those numbers are subject to interpretation, but I use in excess of \$20 million and I am sure some of the rafting industry will expand on that on the upward side. We talked about repayment to the project. Two-thirds of the repayment of the project is through ad valorem taxes of the residents of the Southeastern Colorado Conservancy District. Those folks who are paying the majority of the repayment are also the indirect beneficiaries, and sometimes the direct beneficiaries of that recreation and that fish and wildlife benefit.

Reclamation was in somewhat of a quandary. We had numerous requests from any number of various entities and the Colorado Division of Parks and Wildlife fulfilled the role of trying to provide a consensus as to what the various interests had from the recreational perspective. They came up with the number of 700 cfs to August 15 and 250 cfs through the winter period, a minimum flow. We looked at what our parameters were and how we would affect the other functional areas of the project and to see if anybody would suffer "irreparable harm." Irreparable harm is subjective. What is not irreparable harm to me may be wholly irreparable to you.

The downside of moving water to meet these requested needs is increased evaporation at Pueblo Reservoir. We had gone back in our decision making and tried to assess what those increased evaporative losses would be. This is just an example of the mechanism that we used. We took a three-year average, and a three-year average is probably not a good long-term decision making tool, but we were trying to get a decision put together and this is what we used (Figure 3). So there is an evaporative loss and we tried to be up front with everybody and indicate that there was a down side to this.

What we tried to evaluate was, is the upscale more beneficial than the down side. Let me try to give you a perspective of what those numbers mean. If we move 10,000 acre-feet of water from Twin Lakes and Turquoise to Pueblo Reservoir in the month of July and August, we anticipate there will be between 400 and 500 acre-feet of increased evaporation. Let us say we move 20,000 acre-feet from the upper reservoirs to Pueblo. Southeast Colorado Conservancy District serves 280,000 acres. When they allocate water, approximately fifty percent of that goes toward the municipalities and the other forty-nine percent

# WATER AND POWER CONTROL DIVISION

## FRYARK PROJECT NET LAKE EVAPORATION

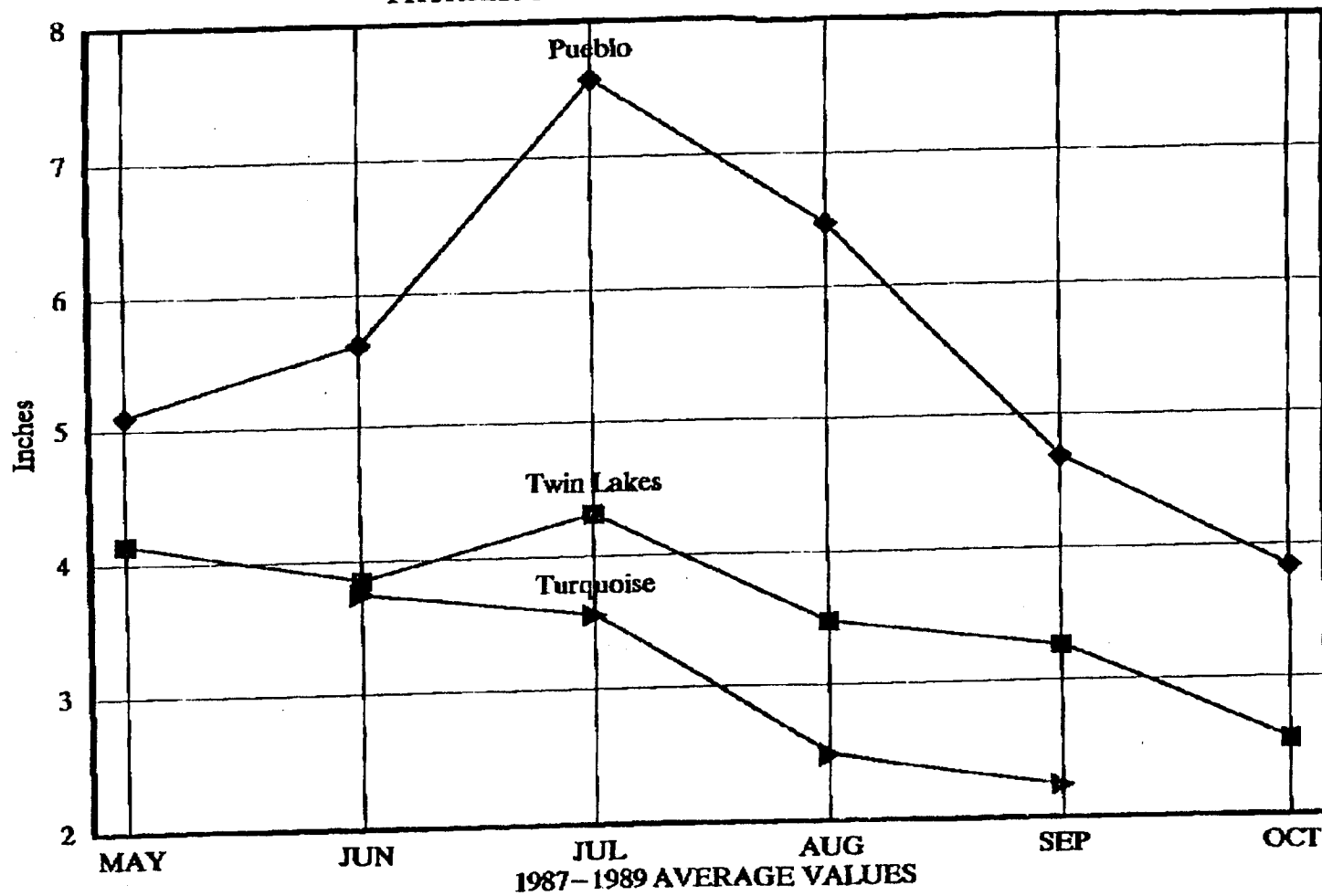


FIGURE 3

normally goes to the irrigation entities. If you take 1,000 acre-feet of the increased evaporative loss, what does that mean per acre served? If you distribute that 500 acre-feet throughout the service area of Southeast, that is .01 inch of water per acre. Now I submit that .01 inch of water per acre is an acceptable loss. That again is a subjective opinion, because if that was not subjective, I would not be up here talking to you.

This graph shows the allocation of the project cost of various functions (Figure 4). As you can see, power repays approximately 29.6 percent of the project cost. Remember we are talking about \$500 million here. The municipal and industrial (M&I) water is about 22 percent. Fish and wildlife is 18 percent, recreation is 8 percent, irrigation is 14 percent, flood control is about 3 percent, and the other miscellaneous is 5.2 percent. But if you combine fish and wildlife and recreation, we are talking over 26 percent to the cost of the project that has been "forgiven from repayment." It is non-reimbursable.

Now the fundamental question I think that has to be addressed is, do we provide recreation and fish and wildlife benefits only during the good times, or do we provide fish and wildlife benefits and recreation throughout the life of the project, not only in the good times, but in the bad times, too? I will not answer that question because that is a fundamental question that has to be dealt with. Wes Hirschi referred to the need to optimize the resource, and I think everybody in here will agree with that as far as that statement goes. We do need to optimize the resource. The question is, what are we trying to optimize? Are we trying to optimize water availability? Are we trying to optimize consumptive water use? Are we trying to optimize economics, the environment, recreation, fish and wildlife, in-state versus out-of-state use, growth or lack thereof, or power?

We operate in a pluralistic society and every one of those functions has a constituency group. Every one of those functions is trying to optimize their particular piece of the pie, if you will. It is up to the water managers to try and balance that. Balance is a word that has been used often in this conference. It is up to the water managers to try to balance those needs. I am relatively new to Colorado and perhaps my naivety has gotten me to where I am and that is standing before you trying to rationalize a decision that we made. But my impression of the culture of the Colorado water environment is that it is very administratively oriented and it is not very management oriented. We tend to want to get to everything adjudicated by some decree, by some contract, by some other means to institutionalize a process. The rafting industry approached us and once we had some latitude, there was some discussion about institutionalizing that process. I have resisted that and will continue to resist that because as you look at all the varying needs associated with water, those are very dynamic. They change yearly, and they can change monthly depending upon water conditions. Water managers need the latitude to manage. And as we institutionalize those processes, it assures the various users that they will have water, but it removes all the management options that managers have.

I will not belabor the point, but I would like to re-emphasize some of the things that have already been said. The upper line is a high water year (Figure 5). It reflects the water levels at Wellsville during what we consider an abnormally high year. The middle line, and by the way we used 1984 for that, the middle line,



# FRYINGPAN – ARKANSAS PROJECT

## COST ALLOCATION

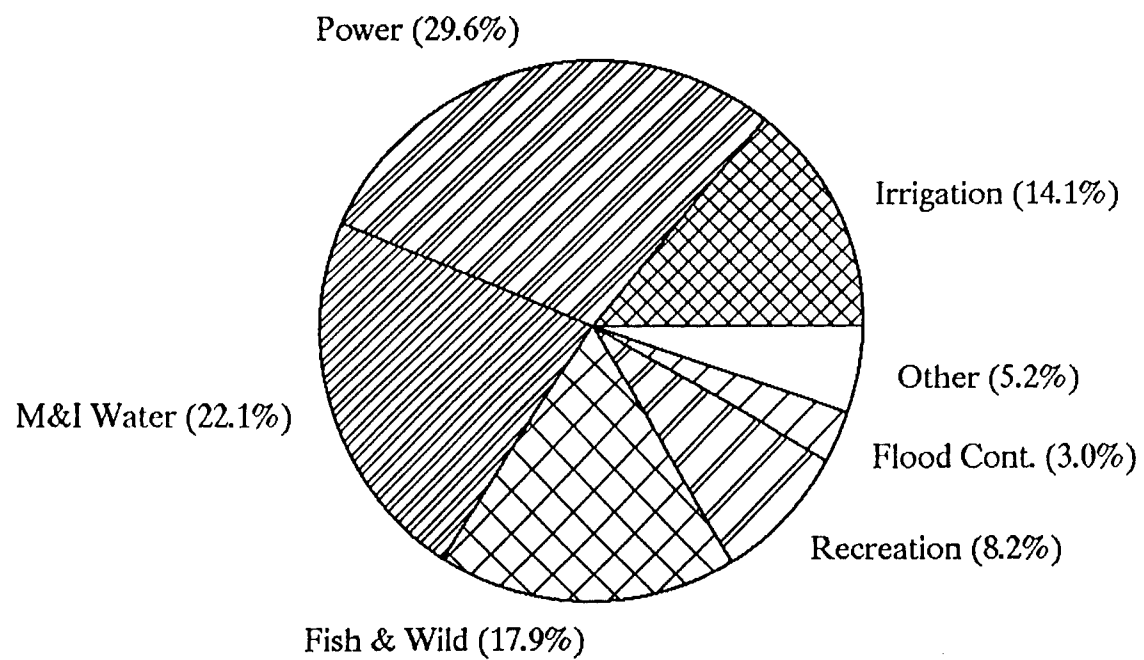


FIGURE 4

# ARKANSAS RIVER @ WELLSVILLE

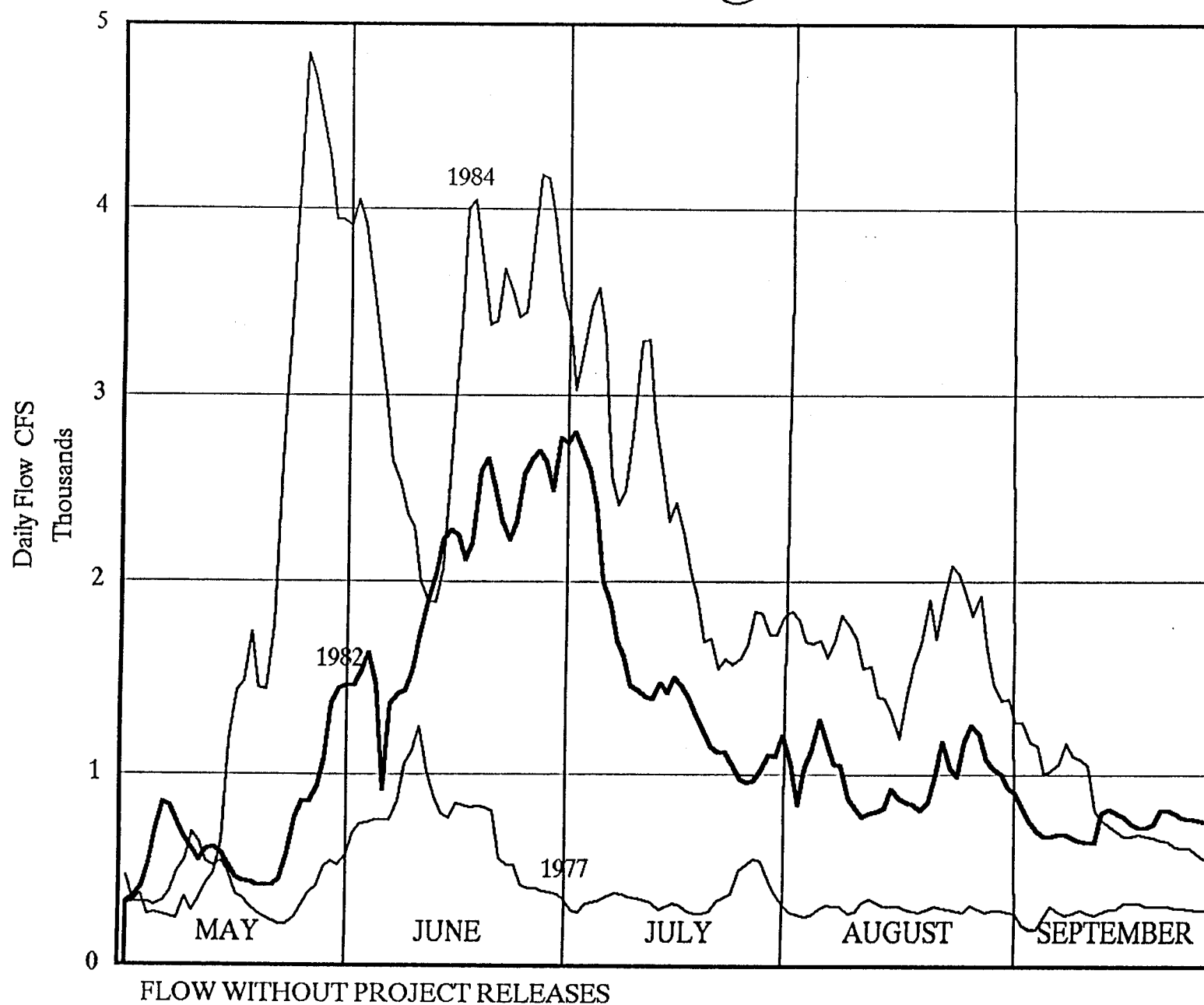


FIGURE 5

1982, is what we consider a normal year, if there ever is a normal year in water management. The bottom line, 1977, is a low water year. That gives you the range. Now, if you look perhaps at about 700 cfs, you can see that in a normal water year the rafting industry itself does not require supplemental flows to maintain that level. So our decision and our approach to this request has been that this is not a regular recurring request. If the rafting industry approaches us and we do have some latitude without unduly causing harm to our constituents, then we will attempt to meet those needs.

Now it is important that you look at this during the months of August and July. I think the point to be made here is, in 1982 when that water year occurred, we did not have requests from the rafting industry to supplement river flows, but we released water anyway. That is not an unusual condition for us. Perhaps the attention has been focused unduly on this year because of the conflict or the potential conflict for the use of that water. We are not deviating significantly from what we have done in the past. We are just doing it at somebody's request.

**Jim Lochhead:** Next we have Ron Holliday, the director of the Colorado Division of Parks and Recreation, who threw himself into the middle of all this. He might want to talk a little bit about that process.

**Ron Holliday:** Well, I think it goes without saying that this is a pretty complex and pretty competitive situation to say the least. It is very, very difficult to capture in just 10 minutes this whole picture of why State Parks is involved in the recreation management along the Arkansas. And of course the whole water question takes a lot longer than that to really capture. I will begin by saying that State Parks began the recreation management along the Arkansas this spring for the first time. That culminated in a three year planning process that, as best we can tell, is a unique partnership agreement between a federal agency, the Bureau of Land Management (BLM), and a state agency, in this case State Parks. We have agreed to manage recreation at the state level along a major, actually a nationally important, recreation resource.

As you can probably see, there is a great deal of competition and a great deal of stress among the various users -- the recreation users along the river, boating versus other kinds of uses, private boating versus commercial boating, and so forth. Certainly boating and fishing have come into conflict especially late in the summer season. As I think someone said earlier, the plan that was developed over this three-year cycle where State Parks and BLM went through a planning process. It did not address the flows nor did it address the water situation as such, other than the statement that Mark Emmer made, basically saying if there is any latitude regarding water management then certainly the basis for the ecological protection ought to be uppermost as a beginning point of reference. I believe Steve Clark also talked a little bit about the specific situation of this particular spring when the outfitters came to the Bureau of Reclamation asking for some extended flows this summer. When that request was made, snow packs were at 50, 55, and 58 percent of normal relatively late into the winter months. So there was encroaching panic on the part of the commercial outfitters regarding the need for additional water toward the end of this summer that we are in.

Not long after that request was made and the discussions were showing the snow pack picture improved rather dramatically, it was still premature from our standpoint. We felt it was premature to begin to talk about any kind of long-term suggestions regarding water in the river, because we had our hands full in just figuring out the specifics of initiating this new recreation area management. But nevertheless, a part of the responsibility that State Parks took on when it became the recreation manager along the river was the role or the attempted role of mediator and traffic cop for a whole lot of different questions.

The recreation management plan specified that there would be an advisory group pulled together from the various recreation users, so we convened that advisory group. It is made up of private boaters, fishermen, ecological interests, local governments, and so forth. We then began taking a hard look at the past and we were surprised to find out that no one had actually compiled the median and mean averages of flows on the river for this 29-year history. As stated on this table, this is from the U.S. Geological Survey water data reports from 1961 through 1989 (Figure 6). We were surprised when we looked at August and September to find that on the 29-year average, that looking at a median flow, a daily flow, that number did not dip below 700 cfs until August 31. And looking at it from a mean daily flow standpoint, that number did not dip below 700 cfs until September 2. So a lot of the recreation plan calls for certain windows for a period of time when numbers of rafts or kayaks may come down the river in the future. So we felt it was important to take another look at averaging these together in week segments. The column on the right side is seven day averages of those flows coming down from that standpoint. That is just a little bit of the specifics regarding our recommendations to the Bureau of Reclamation this year if there was any flexibility.

Certainly there is a tremendous amount of work and a lot of discussion that needs to take place before long-term recommendations are coming forward. Certainly the premise that we go on in State Parks is that we must work within the framework of existing laws regarding water, laws and policies. We found that when we work to our utmost with cooperation of water users and recreationists, more good seems to occur. So we believe that in the long term, there is a wide range of potential solutions. Certainly operational agreements can be struck where no one is injured or there is very little injury that can be spread across, as Steve mentioned. These could involve reservoir releases and surface diversions. It could involve the Frying Pan-Arkansas project water only or all storage and surface diversions. This would involve a very comprehensive look at all the sources and doing some rather complex calculations on things like timing of diversions and temporary loans among users. Naturally there are some concerns and issues as we would go forward in taking a look at that potential.

First and foremost is how to compensate for evaporative losses. It could be by payments only or perhaps it might be acquiring water to replace those losses which could be replaced later down the system. Perhaps purchases of water could be a long-term solution, but when one considers the volume of water needed, it does not take long for the price tag to escalate rather rapidly. But nevertheless, purchases of water might be a possibility -- purchases in the upper stretches of the river perhaps to be leased or sold later on down the system. Leases of water are certainly a viable alternative. It is one we are using at Boyd Lake, for example, in Larimer County that seems to be working very well this year and last. At today's rate of about \$8 per acre-foot, which is a considerably lower cost than purchasing water, this might also be a

ARKANSAS RIVER NEAR WELLSVILLE  
29 YEAR MEAN DAILY FLOW, 1961-1989  
AUGUST 1 THRU SEPTEMBER 11

July 15, 1990

<u>DAY OF MONTH</u>	<u>29 YEAR MEDIAN DAILY FLOW</u>	<u>29 YEAR MEAN DAILY FLOW</u>	<u>7-DAY MEAN FLOW</u>
AUG 1	1040	1214	1079
2	1040	1120	1079
3	1080	1063	1079
4	1010	1071	1079
5	988	1042	1079
6	914	1021	1079
7	900	1025	1079
8	948	1003	972
9	927	974	972
10	969	972	972
11	972	987	972
12	914	969	972
13	872	950	972
14	872	948	972
15	940	943	911
16	1000	935	911
17	954	924	911
18	891	911	911
19	856	916	911
20	835	867	911
21	813	879	911
22	782	895	838
23	824	881	838
24	800	866	838
25	782	855	838
26	781	813	838
27	752	791	838
28	739	769	838
29	740	747	690
30	736	741	690
31	645	726	690
SEPT 1	540	696	690
2	521	679	690
3	476	617	690
4	520	623	690
5	519	616	594
6	521	609	594
7	530	604	594
8	530	607	594
9	574	601	594
10	531	571	594
11	516	550	594

Prepared by State Parks based on U.S. Geological Survey Water-Data Reports, 1961 to 1989.

FIGURE 6

viable alternative. It would take the certainty or a good deal of the certainty out of any solution that might be struck among the parties. There might be structural solutions that would get water to municipal users. As we understand it, Colorado Springs and Aurora's options are limited as far as their use of the lower Arkansas basin rights they own, since they have little or no way to get the water to the consumers. For example, the existing Fountain Valley pipeline to Colorado Springs has a fairly low capacity and so now cities are forced to make exchanges so that they can divert at the Otero pump station.

Perhaps as we get into this situation, the combination of some or all of these alternatives might be the best long-term solution. But there is something that we view at the end of all of these solutions and that is dollars which will be needed to solve some of these problems. We need to figure out how many dollars and we need to figure out how to get those dollars into the right hands so that there is no damage to existing water owners.

I have not mentioned any policy-type solutions. There has been, recently, a discussion launched regarding the potential of the Division of Parks to hold instream rights for recreation. This was an idea that, pardon the pun, has been floated and perhaps from our viewpoint, we consider should be debated. Now only the Water Conservation Board can hold instream flow rights and they are limited by current interpretation of the law that, "protection of the natural environment to a reasonable degree," really means minimum flows necessary to keep a fishery viable. We believe this bears looking into and certainly it involves the resolution of a number of issues much too complex to solve over a short period of time or certainly here. But some of those criteria, again, would include what criteria would be used to determine targeted recreational flows, the effect on interstate compacts, the nature of rights that might be acquired, and on and on. So these seem to all be viable alternatives that we believe should be explored so that, hopefully, the end result of the exercise would be the optimum use of the Arkansas for all of its special uses.

**Jim Lochhead:** And now our last government speaker is the State Aquatic Manager for the Colorado Division of Wildlife, Eddie Kochman, who will regale us with stories about fish on the Arkansas.

**Eddie Kochman:** Let me give you a brief history of the Division of Wildlife regarding its mission and purpose, because that is important to the things that I am going to say. First of all, the Division's primary mission is to protect the state's wildlife and habitat. Wildlife ranges from bull elk to rainbow trout to many of the non-huntable species in Colorado. Habitat in this case is essentially the Arkansas River and the flows. The Division has been involved in this entire Arkansas River issue from the very beginning right up to the present. The real primary goal is essentially to protect to the fishery resource. What we would really like as a long-term objective is to see a natural self-sustaining population of brown trout. When I say self-sustaining, I mean everything from the fact that the browns spawn in the river in the fall and eventually, what we have through a period of three or four years, is sexually mature fish that spawn again. Obviously that life cycle is directly tied to flows.

The second very important objective is essentially to maintain the interests of the fisherman. We are not only talking about the interests of the fisherman of the Arkansas, I am also talking about the interest of the fisherman of the upstream reservoirs. I guess if anything today that I have heard as an admission, is that I have heard plenty of talk about impacts to the Arkansas River. I have heard very little about impacts to Turquoise Reservoir, Twin Lakes, or Clear Creek. I can tell you that there is just as much or more fishing pressure on those reservoirs than there is in the Arkansas. So certainly when we talk about releasing water from reservoirs, we have to be concerned about them, too. Tourists that come from Texas, California, or wherever do not like to walk through 200 yards of mud flats at Turquoise, Twin Lakes, or Clear Creek to get to the fishing.

Probably the third objective, and a number of people have alluded to this, is economic benefit to the valley. I cannot tell you exactly what the economic values of fishery and fishing is in that area, but I can tell you that state-wide fishermen contribute about \$750 million a year to the economy. I would guess within that Lake County, Chaffee County area, both fishing and hunting easily contribute over \$25 million a year.

I stated that the Division has been involved from the beginning. Two years ago we played a very major role with the rafters. Bill was involved, as well as many of the other rafters, in putting a rafting chute over the Mt. Shavano diversion structure. Those of you who have seen it, that was approximately a six to eight feet vertical drop. In fact, the year before we worked on the diversion structure a young man died going over it in a canoe. It overturned and he drowned. He and his sister were together, fortunately his sister survived. That, with the Department of Local Affairs and others, essentially cost \$150,000. We put over \$200,000 into fishing as fun projects between Buena Vista and Salida. Some of those projects were aimed at benefitting rafters as well as fishermen. The Division, while its first objective was fishery, we were and continue to be concerned about the rafters also.

Let me talk a little bit about the current situation. I am a Salida native. I was born and raised there. My father was born and raised there, too. In fact, I was one of the lucky kids who grew up right on the south banks of the South Fork of the Arkansas and probably within half mile of the Arkansas River. During the summers, from the time I could fish through the time I left Salida, I fished those two rivers. I remember vaguely back in the 1950s when people like Tommy Thompson, who was the city manager in Salida at the time, was talking about this project called the Fry-Ark project. It was just a dream then. Well it has become a reality.

Back in the 1950s and 1960s, what the Arkansas River had as flows was essentially what Mother Nature gave it. We did not have any transmountain water. And it is true that often during the summer and late fall that river was down to 400 cfs on the upper reaches and fishing was probably the finest it had ever been. Well, lo and behold as time goes on things change. The rafting industry developed and it is truly a very important and very significant industry to that valley. But at the same time, fishermen used to be the only kids on the block who could go down in the middle of August and essentially have two miles of the river to themselves. Then, the only thing that resembled a raft was some kid in an inner tube. It has changed a lot.

From a biological standpoint I think what has been said today by Vern and others is correct. The worst thing that could happen to that river is it would be yo-yoed from the middle of September or October through May. And the reason it is so important to maintain stable flows is when brown trout spawn in the fall, the eggs are still in the gravel for five to six weeks before they hatch, and then you have small fry. If you have a stable flow, you are going to have good survival. If any of us were in Hawaii today sitting on the beach with our shorts on, this might be a good comparison. We are sitting on the beach and in 10 minutes, somebody flips a switch and we are timberline in a snowstorm. There is a big transition. You do the same thing to the brown trout when you fluctuate the flows.

The Division of Wildlife's position is that we would prefer a flow of around 400 cfs during that winter-early spring period. From the standpoint of the remainder of the year, we would like to see it somewhere around 700 cfs. I think Mr. Clark did make the statement that there has been a compromise in terms of 700 cfs. The Division of Wildlife agrees with that. I must say we would prefer less, but in the spirit of cooperation and some consensus we have agreed to 700 cfs.

I want to make this point. There is a difference in terms of what is optimal for the fisherman and what is optimal for the fishery. In my judgment, 700 cfs is approaching a level of flow that makes fishing hazardous. Fishermen would prefer a reduced flow. From the standpoint of the fishery, it is probably acceptable, but from the standpoint of fishability, it is marginal.

In terms of the pressing conflict, I would like to suggest a couple of solutions. One of the key problems in terms of flows is that there has not been a process that all the groups could sit down on a scheduled basis and really discuss things. And I would propose that sometime early winter, perhaps November or December when there is some feeling of what the snowpack is going to be, that the Bureau of Reclamation essentially take the lead with Trout Unlimited, Audubon, Division of Wildlife, Parks and others to sit down and tell how it is shaping up for the next season. And sometime after January or February when you really know what the snowpack is, you have a second meeting. This group would not talk about anything except flows; that would be the principal issue.

This might be an opportunity to look at managing the river for the benefit of all concerned. What I see now is many of the issues involving rafting and the recreation quarter probably have been resolved, but unfortunately it is like building a house without putting a good foundation under it. The success of that recreation area is going to depend on flows, not just for fishing but for rafting as well as other interests.

I want to again emphasize the reservoirs. The reservoirs seem like the step-child here. They are not, and unless some pretty serious attention is given to impact on those reservoirs from a fishability standpoint, a lot of conflict will develop. Now the good news. Some gentleman mentioned the Frying Pan River. The Frying Pan River is not only one of the best trout fisheries in this state, it is probably one of the best in the nation, maybe even the world. The good news about the Arkansas River is that with current attempts by the EPA, the Bureau of Reclamation, and others, the pollution load that comes into the Arkansas at Leadville is going to be cleaned up. It will be cleaned up easily within our lifetimes. That is almost a



dream come true. And what that is going to translate to is that within the next 10 years, the Arkansas will become an increasingly good wild trout fishery and that is good news. So in terms of businessmen, fishermen, and rafters, we have a pretty bright future on the Arkansas and I think that is significant to remember.

Finally, the rafters have seemed like today they are going to be picked on a little. I hope they do not feel that way. I have been on the river with Bill. He is just as much a fisherman as he is a rafter and I think he wants the same thing in many ways that Trout Unlimited and others do. It is just a matter of somehow bringing everybody together at the same table and talking about flows. From the standpoint of the water users, the Southeastern Conservancy District, I can understand their interests. Due to the leadership of the Southeastern Conservancy District, we had a new hatchery built at the base of Pueblo Dam. If it was not for their help, we would not have received that hatchery. So the real trick is to get everybody together. From my perspective I often deal with water users all over the state and there is not one problem that has been expressed today, not one, that cannot be resolved through good cooperation. We do not need a change in Colorado's water law, we just need a better dialogue of communication.

**Jim Lochhead:** Before I open it up for questions or comments from the audience, I will take the moderator's prerogative of giving you my views to start things off. I think it was about three years ago that I spoke to this conference and defended our existing system in terms of water planning and advocated that we did not need a "state water plan." I think the discussion today illustrates that Colorado's system works pretty darn well. I think that you are seeing a situation where clearly there are competing interests, clearly not everybody is happy, but you have seen a response from the Colorado legislature. You have seen a response from government agencies, as well as federal, state, and local, in response to needs in competing interests in a local area. And as a result, those competing interests have been brought to the table to solve some very difficult issues. Certainly there are more difficult issues ahead on the Arkansas River, but to me it illustrates that our system works pretty darn well.

**Question:** Like Eddie, I was raised on the Arkansas, about 100 yards away, but lived on the South Arkansas because they did not have the sewers cleaned up. He is too young to remember that. They would not allow us to catch fish and bring them home. But on the upper Gunnison, what I would like to do is suggest that you have patience. We started with a contract in 1975 at the Bureau of Reclamation. The Colorado River District, Uncompahgre Valley water users, and our Upper Gunnison River District started negotiating in 1966, had a contract in 1975, had the substantial parts of it worked out in 1975, but we fine-tuned it with substantial help from three or four separate studies from the Division of Wildlife.

We have improved the fishery and brown trout 70 percent, both in terms of weight and numbers. We have created a rafting industry nowhere near what it is on the Arkansas, of course, but it never existed before. This was started in 1966 by some resort owners who felt that the flows on the river were enough. They were not thinking about improving the fishing at that time. It was operated initially as an irrigation reservoir.

And they would knock you down with the water when they wanted it, that is before Blue Mesa was built. And when they did not want it, they shut it off tight so it was either feast or famine. They have regulated that so there has been a fairly dramatic improvement.

Contrary to what Ron says, there are other people who believe you can get a water right and we filed a water right in 1986. The trial just ended a week ago, so we do not know where it is going to go. It will end up in the Supreme Court, but we did make a filing for the recreational use of water based on just pure appropriation of water for recreational purposes. The trial essentially is over two things, whether you do in fact have that right to do that and what the quantification was. Again, my advice to you would be to have patience. It may take you 20 years as it did us, 24 years.

Relative to what you were saying, Eddie, we also took into consideration that there was a committee of the four principals to the contract. And there was a committee meeting at least once a year which just discontinued a few years ago. They felt they ought to fine-tune it and they did not need to do that. But they then balanced all of these various competing needs. It has been a balancing act between Taylor Reservoir needs, Taylor River and Gunnison River needs for fish and recreation, and we have also had about 20,000 acre-feet of irrigation flows that we utilized over and above the existing water rights. I would suggest that this is something we as the water users in the State of Colorado should follow through throughout the state.

It is tremendous as to what the statistics are in the recreation industry and I think we should really take a serious look at this. We need to come to grips with paying for it. That has to be paid for. You cannot come in and hold a project hostage by saying we need these recreation flows. It is a recognized industry. If it is statistically the biggest one, then they should be paying their fair share. And if it benefits the whole state, then the state should be paying significant funds to benefit those. That is more of a statement than a question but I guess I would ask the panelists if they agree that we should be looking state-wide at getting some flows that are optimum as distinguished from minimum to follow this throughout the state.

**Jim Lochhead:** I would like also for Ron to talk about the issue in terms of payment, not only having commercial boaters pay but the individual private boater in terms of a system for somehow paying for the use of this water that is for their benefit.

**Eddie Kochman:** I think what he said would be a good example of what I was referring to when I said cooperation, because what he did is reality. He is taking impact in terms of the fisheries and other wildlife, and has wrapped it up into essentially the water development plan. It is a very good example. It is a precedent of what could be done all over the state. But the key point I want to emphasize is that it is probably one of the most outstanding examples I know of in the state where flows and water development were kind of equally planned.

**Speaker Unknown:** Well, I think the point regarding having patience is extremely well taken, because this is going to take a long, long time to begin to hammer out where proper balance is. Certainly a part of that balance leads to your comment, Jim (Lochhead), regarding payment, because I believe that recreationists have ridden the coat tails of a lot of other entities for a long time. A lot of recreation has been viewed historically in our country, not only in Colorado, as a right instead of a privilege. And in some cases, certain kinds of recreation can be viewed perhaps as a right, but all too often when one gets right down to it, a great deal of the recreation afforded our citizens and guests are privileges. So I think we need to take a very hard look, an aggressive look, at how to pay for proper proportion, a proper balance of what recreationists are getting.

As far as the Arkansas is concerned and private boaters paying or private boaters paying all over, I think private boaters have traditionally viewed their recreation as pretty much a right and there has been an extreme reluctance from the perspective of private boaters to pay. A whole bunch of different reasons, a whole bunch of different viewpoints, but in my judgment that reluctance hopefully will change in time, especially as more and more alternatives are laid out that will help private boaters.

**Jim Lochhead:** What is your reaction in terms of private boaters' willingness to pay for the use of water if that water can be there?

**Bill Dvorak:** Well, I think we have seen a real transition here in recent years over in rivers I outfit on in Utah. For instance, three or four years ago, there was no private fee and then they initiated a \$5.00 fee per person for rivers like Westwater Canyon on the Colorado and the Green and through Desolation Grade. It met a little bit of opposition initially and now it has just gone by the wayside. People are used to it, they understand it, they are paying for the management and the recreation resource. They understand that there are certain things that go hand in hand with that, such as trash collection, safety patrols, and things. There has been very little resistance to pay those fees.

**Question:** I am a private boater and I do a lot of kayaking. I just wanted to comment that late in the season, there are probably three rivers you can run at this time of the season: Cache La Poudre, the Arkansas, and Westwater Canyon. Westwater has a fee on it and a permit system. I think you would be pretty amazed at some of the rivers throughout the countries that have late flows in October as far as the season goes. Up in Idaho, as far as the north and south forks of the Payette, and in California, on the south fork of the American River, you would be amazed how many people those rivers attract when they have late flows into the fall. I mean, it is incredible how many people will show up. Look at the Arkansas. I was there yesterday. There were five or six people from Maryland, drove all the way from Maryland to come to the Arkansas, and they are kayaking and boating for free. And they can boat anywhere.

**Question:** Where do you get your funding? And one question for Eddie, \$25 million, was that all the money from the hunters and fishermen or were there some moneys or funds there that were held back by the state?

**Ron Hollday:** The Division of Parks is funded on its operations and about 70 to 75 percent from fees taken in. The remainder comes from the state's general fund and the capital work of building, as well as from buying new parks and rebuilding old parks. The bulk of that money comes from a sliver of the lottery money that was approved back in the early 1980s by the voters.

**Question:** You mentioned something should come from rafters, did the rafting industry contribute any moneys for those projects?

**Ron Hollday:** The Arkansas is 100 percent self-sufficient in operating. And right now the major contributor to the operations is viewed toward the commercial outfitters. We charge three percent of their gross to help pay for the operating as well as the fees for the camping areas and so forth. So from that standpoint, all users are paying when they come into the major access points whether they are camping, launching, or retrieving a private boat or operating commercially.

**Eddie Kochman:** The total Division of Wildlife budget is approximately \$40 million. Now that \$40 million comes entirely from hunters and fishermen. The economic benefit to the State of Colorado from fishing only, that includes everything from a motel in Gunnison to buying a boat, is about \$700 million, that's economic benefit. Now my guess, and I qualify this as a guess, within Lake and Chaffee counties, I would say there is probably around \$20 million to \$25 million in economic benefit to that county just from the fishermen.

**Question:** I was under the impression that some of the moneys from the fishermen and hunting license fees did not all come directly to the Division of Wildlife.

**Eddie Kochman:** No, all the revenues essentially go into what is called the Wildlife Cash Fund in the legislature. The legislature does give the Division spending authority, but essentially it is all in one pot. And the hunter and fisherman are essentially paying the bill.

**Vern Rutherford:** I do not want the audience to go away with the impression that was given about average flows, that it is going to happen every year. I think as Steve showed there is quite a fluctuation

in Arkansas flows year to year, and half of the time flows are going to be below that average. As a matter of fact, a median is a better figure to use. You know, median means half the numbers are below the midpoint and half are above, and the fishermen are concerned with the flows below that median and the augmentation of them. We are not concerned if there is enough snowpack and Mother Nature has been kind to us all and there is enough water for rafting. We are talking about the years like 1990, for example, when the snowpack is below normal. That is when we feel that augmentation is a threat to the fisherman.

I think I stated to Ron Holliday when we were having our decision making meeting on this, that the fishermen really would like to have the status quo. We will take our chances with Mother Nature. In 1984, she dumped 2,000 cfs down the Arkansas every day in August and there was not any fishing (Figure 7). In 1977, she only dumped about 250 cfs. I was not here unfortunately, but that must have been a great fishing year. We have talked about cooperation and communication being important, but I still feel that a lot of this difficulty, perhaps animosity that we are hearing was caused by the commercial rafting community not using the system. It was caused by not using the Arkansas Headwaters Recreation Area Management Plan which gives us a way to resolve these problems and that is what we need to do in the future.

**Question:** How do you get around the compact provision requiring the commissioners to review dam operating criteria and the corollary question is, do these increased or temporary flows and releases have any effect on the delivery of the compact obligation water to Kansas?

**Steven Clark:** Our decisions are well within our operating latitude. We have operated this way in the past. We are making an operational decision to move water from our upper reservoir to our lower reservoir. The detriment to that is that there will be some increased evaporation, but it is not a non-traditional approach for us. As I mentioned before, perhaps it is unfortunate that we have gotten so much publicity, because if the rafting industry had not approached us, we may have done this anyway. We have approximately 90,000 acre-feet of storage in Turquoise and Twin Lakes, that is available storage. As of this moment, we have about 115,000 acre-feet of water there. That means we are encroaching on somebody else's storage who is not using it. If we bring 69,000 acre-feet of water, import that, bring it over from the West Slope, we are going to have to move 69,000 acre-feet from those upper reservoirs to Pueblo Reservoir. So the question becomes, when do we move it? I think we are well within our operating criteria and those decisions are just operational decisions.

**Question:** One thing I think you have to realize is that rafting is an industry like any other industry. And it goes through a cycle. Bill Dvorak is in a position where he has to make an investment, not only on a year to year basis, but over a period of years. If you look at the way that rafting has developed on rivers around the country, you will see that, as Mr. Goodwin noted, in the beginning you saw a bunch of yahoos in army surplus rafts with a beat up school bus and who were intruding on his property. As the industry stabilizes, you get enhancement in the quality of the operators. But when you have reliable flows, people

ARKANSAS RIVER  
28-YEAR FLOW DATA (1961-88) FOR MONTH OF AUGUST -- WELLSVILLE GAUGE  
RANKING, HIGH TO LOW

<u>RANKING</u>	<u>YEAR</u>	<u>MEAN OR AVERAGE FLOW, CFS</u>	<u>HIGH/LOW FLOWS, CFS</u>	<u>8/15 CFS</u>
1	84	1,889	2,270 / 1,470	1,500
2	65	1,588	3,340 / 900	1,570
3	83	1,433	2,490 / 866	1,440
4	68	1,244	2,000 / 724	1,470
5	82	1,192	1,520 / 896	1,170
6	70	1,159	1,370 / 685	1,130
7	73	1,132	1,450 / 781	988
8	69	1,122	1,680 / 500	1,260
9	75	1,065	1,600 / 740	1,330
10	71	1,047	1,280 / 685	1,020
11	62	1,015	1,370 / 504	1,190
12	79	938	1,460 / 704	1,110
13	64	868	1,130 / 432	940
14	78	857	1,190 / 339	1,070
MEDIAN		848		
15	86	839	1,040 / 625	788
16	72	822	1,310 / 468	569
17	61	815	1,290 / 484	686
18	80	760	1,030 / 480	550
19	85	747	1,160 / 530	680
20	67	738	1,090 / 380	898
21	74	708	1,090 / 372	809
22	66	702	989 / 336	845
23	76	684	1,220 / 444	640
24	87	657	877 / 510	570
25	63	653	940 / 408	554
26	81	540	969 / 311	458
27	88	528	842 / 397	414
28	77	278	331 / 240	295

929 = 28-yr avg.

NOTE: 1989 August flow data excluded due to Twin Lakes releases.

FIGURE 7

like Bill can make investments over a period of time. You will see that they will probably be more interested in contributing to the enhancement of not only the safety of the rafting experience, but the environmental quality of the resource.

**Question:** What were those percentages on use of the water and I believe he mentioned 51 percent was used for one area. Now what was the other 49 percent used for?

**Steven Clark:** The other 49 percent is primarily for irrigation.

**Question:** No, sir, I believe you are wrong. I just wanted you to clarify that. What I am say, 51 percent I believe goes to Fountain Valley, right, out of the Pueblo Reservoir. The City of Pueblo uses some water and I believe the agriculture is only 3 percent or 4 percent. And I just wanted you to clarify that.

**Steven Clark:** Maybe I should defer to Dave. Dave can you address that?

**Dave Sarton:** Yeah, Steve was correct. It is 51 percent municipal, 49 percent agricultural. The 51 percent municipal was split up between Colorado Springs, Pueblo, Canon City, Salida, Lamar, La Junta, Rocky Ford, Ordway, Buena Vista, and Poncha Springs. It does cover pretty much full reach of that stretch of the Arkansas Valley. It is 51 percent municipal use and it is split among all of those communities.

**(Question Inaudible)**

**Bill Dvorak:** I guess I do not want to try to do anything the creates more controversy. I guess I offer this just more as an explanation on perhaps where we came as an industry. One of the things we look at is from the first of September to the fifteenth of May, the river is at 400 cfs. And the people who like to go wade fishing have that river to themselves for eight and a half months of the season. And what we were looking at was some way to augment the economy of the valley and also our own industry for an extra two weeks. We thought that eight and a half months as opposed to two weeks was a pretty fair trade, a pretty fair compromise.

What you find on the river is of all the people who use the Arkansas River, only 10 percent of that use is fishermen. Of that 10 percent, only 1 percent of those are wade fishermen and so for that 1 percent to give us so much controversy for that extra two weeks, we felt was a little bit unfair. Maybe that is why we went outside the normal ground rules of say working within the Arkansas headwaters recreation area. And we

went to our local politician, the county commissioners, the business people and we presented those facts. I guess they backed us up a little bit and I will apologize to Vern if we went outside of whatever agreement maybe some of us had entered into. But we thought we had reasonable grounds to do that. I will be more than happy to work with Vern in the future and try to resolve any sort of conflicts that we might have.



## **Managing the Chama Through Interagency Cooperation**

**Moderator: Brenda Mitchell**

**Brenda Mitchell:** An example of managing water problems that we would like to share with you this morning is from New Mexico. I would like to introduce Tom Mottl and Mike Hammon. Tom is the river manager for the Taos Resource Area in the Bureau of Land Management's (BLM) New Mexico office. He is responsible for managing recreational activities on the Rio Grande and Rio Chama rivers. Tom has a background both in recreation and hydrology and has spent some time with the U.S. Geological Survey. Tom is also the founder and current chairman of the American River Management Society.

Mike is a civil engineer and graduated from the University of New Mexico. He has spent his career with the Bureau of Reclamation in Provo, Utah, as well as in Carlsbad and Albuquerque, New Mexico. He is currently the branch chief of water operations for the Albuquerque projects office.

Both Mike and Tom are going to provide us insight as to how New Mexico has been involved in an interagency effort on managing the Rio Chama River. They are going to share with us methods they have used to resolve conflicts and improve coordination among water users and water managers.

**Tom Mottl:** One of the great things about coming in later in a conference is that you have a chance to get a feeling for what the issues are and what people are concerned about. As I come into this morning's talk, I feel that a lot of the things that have been going on in the conference, the concerns people have and the issues out there, we have been dealing with in New Mexico.

Of course, we are a dry state; we are a lot drier than Colorado is and we have a lot of the same problems. One of the themes throughout the conference has been cooperation, which may be a solution to a lot of these problems. I think that you will see that cooperation can work, but there are certain things that you will need to set that up. Cooperation can be represented by having someone like myself who is really an avid whitewater boater, loves rivers, part of the recreation world, and a hydrologist in the past; and over here we have a civil engineer. We are on the same table and we are working together. I think that symbolizes that you can cooperate and really get some neat things done. I think Mike has a special feeling for rivers, too.

The first thing that we are going to do is to lay out the fiscal setting and the institutional setting of the Rio Chama so that you have a feeling of what we are getting into. Mike will kick that off.

**Mike Hammon:** I think it would be important for us to give you an idea of what the setting is. I will give you an idea of where it fits into the basin of the Rio Grande. The San Juan/Chama project facilities are

a gravity feed diversion system where we have three diversion dams feeding into a series of tunnels that cross the Continental Divide. This diverts on the average of 100,000 acre-feet a year which provides New Mexico with a portion of their share of the Colorado River system based on the Colorado River Compact. It terminates into Heron Reservoir, which is the project storage reservoir. This is one of the diversion dams on the Rio Blanco River. This is looking downstream from the diversion facility on the Navaho River. This is a really pretty shot of the Navaho Basin in the late spring when we have already seen the majority of the runoff come down. This is the Azotea tunnel outlet which is accumulated flow that drains into the Willow Creek channel and then eventually finds its way down to the Heron Reservoir.

Basically, this is the mode of operation that we have pursued since the 1970s when the project was first operated, early 1970s through about 1983. We maximized diversions during the spring runoff to get the maximum project yield out of the diversion facilities and we attempted to fill up the reservoir over a period of years. We had an arbitrary contract delivery date to our San Juan/Chama contractors, who actually, for the most part, paid full cost for the water because the majority of them are municipal and industrial (M&I) users within the Rio Grande. We had an arbitrary delivery date of December 31 and because of that we would make the deliveries from the Heron Reservoir to downstream storage sites or other locations within the basin.

We have in excess of 10 contractors and the majority of them are M&I users. The City of Albuquerque is the biggest one. They use about 48,200 acre-feet of water a year and have plans to utilize that fully by the year 2030. There are a lot of other smaller municipalities that have lesser amounts of water within their contracts.

The next system is the Lotto Dam and Reservoir. This is a feature of the Middle Rio Grande project. The owners of the facility are the Middle Rio Grande Conservancy District. This is the main storage reservoir for supplying the Middle Valley in which they have in excess of 120,000 irrigated acres down below Cochiti Dam. This facility stores both natural flow and San Juan/Chama diversions.

The interesting part is that our office has to attend to the accounting of the water. We have to separate the transmountain water from the natural flow as dictated by the Rio Grande Compact. There are some restrictions on how you can regulate the natural flow. It is a fully appropriated river. The Rio Chama is fully appropriated, so it is important that we pass the natural flow to the downstream water users upon their request; it is also subject to some restrictions that are dictated by the Rio Grande Compact Commission.

In the event that New Mexico would go into debt, it is a requirement that any reservoirs constructed after 1929 have to maintain that debt in storage. So there are some dramatic restrictions on the ability of water managers to re-regulate the natural flow within the system because of the state water law and the Rio Grande Compact. It is important to understand the distinction. We do have a lot more flexibility with the transmountain water, and that is what we will be focusing in on today -- what we have been able to accomplish in terms of re-regulation for that purpose.

This is the El Vado channel where we make our releases. There is a small power plant down into the stretch of the river and is approximately thirty miles from El Vado and the Abiquiu Dam. This particular facility is a Corps of Engineers facility that was originally authorized and constructed for the purpose of a dry flood control reservoir. Around 1981, they received additional authorization to store conservation storage at Abiquiu. This allowed a place for the San Juan/Chama contractors, who have not fully developed their contracted amounts, to store their annual allocations of San Juan/Chama water in a location where they may be able to use it at a later date.

At this elevation, this is approximately the full conservation storage right here of roughly 200,000 acre-feet in Abiquiu. Basically, there are some restrictions at Abiquiu. No natural flows are allowed to be stored; when I say natural flow, that is the natural flow of the Rio Chama. There is no authorization for storage of natural water, unless there is a flood event. Then, of course, the Corps of Engineers with their flood control operations have to evacuate that flood storage as soon as they can, as soon as downstream flood conditions permit.

What is really interesting about this, is being here at the conference and listening to the presentation on the Arkansas river, we see a very large similarity to the situation that they have on the Arkansas. We have the ability to re-regulate the flows similar to what Steve Clark discussed yesterday. We also have transmountain water that we can work with and we have an upstream storage reservoir for that purpose. It is extremely similar to the Arkansas situation. Even the flow amounts that Tom will be discussing regarding the fishery and the rafting concerns between El Vado and Abiquiu are very similar. I was really amazed how close the situations are between the two rivers. With that, I will let Tom discuss the fishery and the recreational aspects.

**Tom Mottl:** In the mist of all this project activity, we have a section of river of which part is very remote and part is accessible by road. It was declared a Wild and Scenic River and it also has wilderness on it. That is an important thing to bear in mind. That is a difference with the Arkansas -- it is a little more remote and a little more of a wild wilderness river. It also does not have some of the whitewater that the Arkansas has, which tends to draw large numbers of crowds for the whitewater experience.

This is the headwaters of the Chama which happens to be in the State of Colorado, the upper end of it. It comes out of Colorado and flows down immediately into New Mexico. This is a very beautiful valley; I was up there in the fall doing a little fishing.

This is the launch point which is just downstream from El Vado. About one-fourth or half a mile downstream is the El Vado Ranch. This is where the boaters take off for their overnight, generally one or two nights, float trip. It gets very busy there. We are having to get into a management plan. We do have a draft plan. I have a copy of it out on the table, and I also have a map of the river, so you can get an idea of what it is like. We average about 250 people launching here on a weekend in the summer. We are about to go into an advanced permit system because we are getting so many people, and we want to

maintain the wild wilderness character of the river in the upper part. So, beginning in 1991, we will be doing permits for boaters and keeping the numbers around 250 or 16 parties on a busy weekend. It is actually quite a complex permit system which I will not get into right here. We have had the use levels reach a point where we feel that we have to do something to maintain the quality of the canyon.

The Chama is a pretty peaceful river. It does not have some of the big whitewater that you might see or hear about on some of our western rivers. It is a great river to take a family on. As a matter of fact, I went a couple of years ago with my 21-month-old son. It was his first river trip. It is the type of place that you can bring young kids and feel quite safe as long as you have your basic boating skills. We have all kinds of boats on the river. For those of you that are river runners, we are Class 2+ water for the Chama.

We have some little historical sites. This is called the Ward Ranch. We just acquired land in the Ward Ranch area to protect it from any kind of development and enable people to explore it. We are going to stabilize this building and interpret it for the public. It is a 1920s vintage homestead, and it is neat to walk around inside. The upper canyon is quite forested. There are a lot of Ponderosa and Fir trees on the sides of the canyon. It has a tremendous riparian zone. Some folks have told me that it is one of the more interesting riparian areas in terms of the diversity of the plant, animal, and bird life that they find in the canyon. There are some side canyon opportunities. That is one of the neat things about river trips, you get to take off and do some hikes up into the side country. As you can see, this is a sandstone canyon. You get a lot of neat colors and variations in the rock.

I was talking about the different types of boats we get. It is a good canoeing river. We have rafts of all sizes, kayakers and canoers. I think canoeing is going to be one of the biggest uses of the Chama in the coming years. A lot of people are getting into canoeing out here. We did not have canoes in the first years that I started looking at the Chama, in the 1980s, but the canoers have really come on strong.

There is a transition about 20 miles downstream from this launch point. You come to the Christ of the Desert monastery which is a neat feature on the river. You can see how the architecture blends in with the canyon walls. If you are lucky and drift by late in the evening, at about six or seven o'clock, you can hear the monks chanting and their voices echoing out over the river. It is a small community, maybe six monks, but they have a lot of visitors come up and stay for several days, like a retreat. They are at the very end of forest service Road 151, which is the road access on the lower end. You get some of the best rapids in this section of the river. Again, there is nothing too wild, just a lot of fun.

Something I noticed back when I started looking for a job in 1980, when I came over to the BLM in Taos, was that there were a lot of opportunities for improvements, many of which were institutional. There needed to be communication to get things going or perhaps we could make some changes in what was happening in the flows in the Chama. One of the things that was occurring which Mike talked about, was the releases of water in the lake toward the end of the period that they had to get out of Heron. So, they were dumping water down there in November and December, and they would raise the water up. That would do real damage to the fisheries. The fish would spawn and lay their eggs in the fall say at 100, 150,

or 200 cfs and then the water would be raised to say 500 cfs. It would cause havoc and basically wipe the fishery out.

The other thing is that water was not moving through the system the way people could float on it. Water was to be released for irrigation some time in the summer, but nobody knew when that would be, so nobody could vote on it. We saw some opportunities to make some changes here which would really benefit the resource. What we needed to do was to get people talking to each other. Why don't we have a river trip through this canyon? That is where this resource is. Why don't we get people together? Why don't we talk about what might be done?

So, we organized a trip and we put together a group of people. We had the land managing agencies: the BLM and the Forest Service, the state director and the regional director. We had the state involved. The State Parks Department was there; the Game and Fish Department was there; and the Secretary of Natural Resources right under the governor came on this trip, too. We had the U.S. Fish and Wildlife Service because they had been concerned about what was going on at the fishery and had already done some studies on it. We had the Bureau of Reclamation project office director and Corps of Engineers. I believe the colonel was on that one. We had a representative of the City of Albuquerque, who is a major water owner of San Juan/Chama project water. We had someone from the Mil Rio Grande Conservancy District (MRGCD). We had an outfitter representative to help us with the trip logistics. And I think we had someone from the State Engineer's office, which is a critical player in New Mexico.

So we went down the river with this group. By the way, on a river trip, a critical ingredient is beer. So we brought an appropriate amount of beer. Most people like to bring beer on a river trip. We sipped a beer at lunch and then got to the campsite and decided that we were going to have some evening campfire discussions. An interesting phenomena happened, because people started talking. First we had lunch discussions about some of the problems and after dinner people started saying, "Well, I think that I can do something about some of this." Somebody else said, "Well, I can do something about this." Then pretty soon, everybody was chirping in on what they could do. It was sort of this kingdom thing, like, "Well, I have this power," and, "I have this," and, "I have this." We came off the trip with so much spirit. I mean everybody had to stop and really start concentrating. It turned into a really serious discussion on how we could improve what was going on in this river.

The following day, people really got to know each other. This was a paddle boat trip. You have to paddle down the river, so it forces you to work together. That is something good about a river trip -- everybody has to work together to make it through the canyon. Symbolically, we have all got to work together to make it through some of these water problems that we are all facing in the West. We have to start working together. That is what we did, and the results of that we will talk about. Mike is going to start off with improved coordination.

**Mike Hammon:** Some of the basic operations on the San Juan/Chama, for the enhancement aspects of it, were that we developed a program where we were working in the comfort zones for all of the different groups. As Neil Grigg said yesterday, we had to establish what the comfort zones of all the water users and water managers were and what were the needs of the recreationists and the fishery folks. What came out of this thing is that we decided that we would adjust, as needed, on an annual basis. We would adjust the contract delivery date for San Juan/Chama water from the Heron Reservoir and down through the system. We got waivers for the contract to adjust that date to April 30, as opposed to December 31. We were able to provide steady flows below El Vado for fishery development in the 150 to 200 cfs range. And in talking to the fishery folks before I came on this trip, there had been a dramatic improvement in the brown trout below El Vado. They have had not only a larger fish, but the age distribution is more uniform and they are finding large numbers of fish. We are still noticing some dramatic improvements there.

Also, the re-regulation of flows at Abiquiu was a key component of this management objective. Basically what we would do was that we would make our irrigation releases. We would set up an arrangement whereby the Middle Rio Grande Conservancy District would borrow water from the City of Albuquerque that they had in storage at Abiquiu. We would then release that water during the irrigation period thereby making a nice hole, so to speak, in Abiquiu. Then, when the Middle Rio Grande Conservancy District would pay the city back for their supplies in El Vado, we would release that at a nice steady rate through the winter for the fishery during the spawning period. Also, we would have some re-regulation capabilities to provide rafting flows in the vicinity of 1,000 cfs up to 10 weekends during the summer months. We made some pretty good improvements there as well.

Another thing that has come out of this is a dramatic increase in coordination efforts. The communication between agencies has really improved in New Mexico. It is not a "love fest." I do not want to give you that impression, but we have made some really good improvements between the different agencies. Then when the other issues come up, we know each other better and things have since worked out really well. We have also had improved relations with some of the individuals and the local water users downstream and we have been able to help them out through this re-regulation process as well. It has come along quite well in that regard.

Also, some other accomplishments are that we have been able to provide some re-regulation for some fishery studies. In the future, we plan to help the BLM with quantifying flows for additional recreational opportunities and preparing values in there as well.

**Tom Mottl:** Mike talked about the fishery improvements, and the studies they have done, shockingly, have shown an improvement. But what really counts is people going fishing. I had a comment from the owner of the El Vado Ranch. And by the way, the El Vado Ranch began primarily as a fishing ranch, but it has become a combination boat launch or river runners' ranch and a fishing ranch with the advent of increased boating. He said that they are catching some nice big trophy fish these days -- lots of them. And he definitely feels that there has been an improvement in the fishery due to the modification in the flow.

The other area is for float boat opportunities. Due to the changes that have been made, we now have eight additional weekend opportunities. I might mention that the Chama is very much a weekend river, because it is for one or two nights. You can launch on Friday or Saturday and take off on Sunday. For people from Santa Fe and Albuquerque and tourists coming through Santa Fe, it is good for the weekend traffic. Anyway, we have added about eight additional weekends and that has turned into about 2,000 additional people that can boat the river that probably would not have been able to before.

That is just on the upper end. On the lower end, I think that we will see a real increase in boating opportunities. It is accessible by road. We are not as concerned about restricting the numbers down there. We do not have the same values that we are managing for, in terms of solitude. Since you can access the road, people can drive in and camp along the river. It is not just boaters who are involved. I see the possibility of an additional 5,000 people on that lower end due to the change in management. We are looking at a potential net increase of 5,000 to 7,000 people that get to enjoy the river. That translates into a definite economic value. If you figure \$100 per person, per day that they are spending, that will have a good impact on the economy.

One thing that I might mention is that we have recognized a need for fishing on this river, in two areas. First, we do not have the flow up every weekend. We alternate every other weekend. So there are weekends when the flow is lower. Of course, there is the mid-week when it generally is low later in the summer. And second, we are looking at the opportunity for float boat fishing, which I will discuss a little later. But we see the opportunity to float fish with the appropriate floats. We still need to look at that a little closer.

**Mike Hammon:** We have given you an idea of what was happening before and what we are doing now. We also feel that there are some additional opportunities and goals that we can address in the future. One of them that we see as being relatively important is to formalize our cooperative efforts and our relations in a written manner.

One of the reasons that we would like to do that is to have some continuity. The players that have developed this operational methodology may leave and go to other things, and we would like to have something formalized between the parties with more of a long-term arrangement. At the same time, we would like to maintain the flexibility in the system that we have right now, and not be real rigid and say that we are locked into this process. I think it is really important to be flexible, because 10 or 20 years down the road there may be some other things that we might want to consider.

Also through this process, we might be able to eliminate the need for any pursuit of a legal, federal reserve rights within the corridor based on the fact that it was designated as a Wild and Scenic River in 1988, below Lotto Dam. The Justice Department has the authority to preserve the federal reserve rights for the Wild and Scenic section, and we feel that on a fully appropriated river in a state that does not yet necessarily have an instream flow or does not necessarily recognize instream flow, it would be beneficial.

We feel that it would be important to formalize a process to eliminate the possibility of a law suit arising from some sort of federal reserve rights in that region.

**Tom Mottl:** I might mention that we are going to be doing an instream flow study pretty soon. We will be looking at quantifying these flows and determining exactly what we need more precisely for the fishery. What do we need for the opportunity to float? What is the minimum flow we need to get different kinds of craft down? Of course the water rights issues will be coming up, so what we are going to do is have another boat trip. We are going to put together some of the people involved in dealing with water and that will need to work together. We are going to have some lawyers on the trip to sit in and listen to the conversations. We hope that through that mechanism, we can alleviate some problems there.

Another thing that we are going to be looking at is exploring how we can help offset some of the costs involved in order to provide for these other alternate uses. Other than just the traditional uses, we are going into some of these new opportunities and there are some costs involved. One project with the permit system that we are putting through is that we might have an additional fee for boaters that are going through that would pay for some of these costs. I know that has been mentioned, wondering can we do that, can the recreationists pay in relationship to some of these things. I think, yes, it is possible. We are going to be doing a pilot project on that. One thing left is expanding this cooperative effort.

**Mike Hammon:** Another aspect of what we will be looking at is that we have done some good things on the Rio Chama, between El Vado and Abiquiu, but there are some other management aspects that we can look at. We are going to possibly pursue some congressional authorities to get some conservation storage. If you remember the basin map, there was another Corps of Engineers reservoir on the main stem of the Rio Grande, the Cochiti. If we could get a little conservation and re-regulation space there, we might be able to do some things below Abiquiu in terms of minimum flows. And we might also be able to help some of the water users re-regulate their irrigation demand. Because if you get some rain in the valley, you have got three days of water in the river. It would be nice to cut that off and save it somewhere upstream in the event that you could release it for later use. So it would be not only a water conservation effort, but we also might be able to do some things with the river below Abiquiu.

Well, we feel that we have had a very successful program of developing an interagency relationship and granted, it is still working within the comfort zones of all the water users and all of the other groups. Once, if we decide to do anything outside the comfort zone, Tom mentioned that we might have a mechanism for providing some funding to enhance that, to alleviate some of the problems for perceived losses in the system. Basically we felt that if you come to the table with a "can do" attitude and a willingness to sit down and negotiate, we feel that you can accomplish an awful lot through that process.



**Brenda Mitchell:** I think it is interesting to point out something that Ken Span had mentioned, that we need to get closer to the ground to manage these resources and not make decisions from far away. I really like the effort that you guys put together, the river trip, and brought everybody to the resource and said, "Okay, let's get together and see what we can do and we are right here in it." That makes a big difference and I want to commend you for your fine efforts.

**(Question Inaudible)**

**Tom Mottl or Mike Hammon:** We also manage for the water supply for the six southern pueblos. The Indians have a prior paramount water right on the Rio Grande, so they are taken care of in that regard. We also have a requirement to store certain amounts of water depending on what the forecast is predicted to be for the Rio Grande. We are also mandated to store in El Vado for their needs as well. The Indians have an agreement outside of their prior paramount lands. They have a contract that BLM administers with the Middle Rio Grande Conservancy District for their own responsibilities, but they do not pay anything in regards to the Rio Chama rafting situation.

**Question:** Did I gather that you cannot store that natural flow, and that you have to keep it going down the river?

**Tom Mottl or Mike Hammon:** We can store the natural flow. The Middle Rio Grande Conservancy District has storage rights in El Vado, and we can store that flow. They have the option of not storing it and they can maximize the San Juan/Chama water in El Vado if they so choose. It is administered by the State Engineer's Office as to how much has to be bypassed for the diversion rights below El Vado and also how much can be stored by the Middle Rio Grande Conservancy District. They do have the option of storing the natural flow in El Vado.

**Question:** What amount of cfs are we talking about in your average natural flow?

**Tom Mottl or Mike Hammon:** I would say that it ranges. During a heavy runoff, we can have 4,000+ cfs coming into the reservoir. On the average, during the runoff period, we probably get 2,500 cfs, and then it drops off to 50 or 30 cfs during the low flow periods during a dry year.

**Question:** How much money do you make yearly on this recreational use of the river?

**Tom Mottl or Mike Hammon:** Well, I assume that you mean what the government makes then, is what you are saying. Actually, I make sure every boater slips me a couple dollars when they go down. That is how we take care of our salaries as they dwindle in these last few years. The amount of money spent on an overnight trip, on the commercial side is around \$150. Private boaters probably spend \$50 to \$60 per day on their trips. We are collecting approximately three percent of that \$150 trip. We actually get \$425 per person on a commercial trip, and on the private trip we are not collecting anything because we do not have the type of permit system where I felt that we could.

Going into next year, we are going to be collecting from both private and commercial boaters. We are told how much we can collect under our present regulations and the restrictions on that. We are trying to deviate a little bit and in collecting on the money that is appropriate for the condition of situation that we are in. We have a little pilot project going in fee collection for the boaters and I mentioned that we might be collecting an additional fee or looking at it to help pay some of these costs. But right now, it is not that much money that the government gets.

## **Institutional Examples from Other Western States**

### **Part 1**

Moderator: Eric Kuhn

**Brenda Mitchell:** Eric Kuhn will be our moderator for the next two sessions. Eric is the assistant secretary engineer for the Colorado River Water Conservation District. He served as a staff member to the Governor's Metropolitan Round Table. He has also served as a member of the West Slope Advisory Council and the Western Negotiating Team on Water with the Front Range cities.

**Eric Kuhn:** Some think we are the only state which has a system of prior appropriation and we are the only state that has these various problems that we face from day to day; believe me, we are not. We originally had four representatives of different states, and as was mentioned this morning, Jim McDaniel, deputy director of the California Department of Water Resources, could not make it.

California has some staggering problems compared to Colorado when you look at the fact that they are preparing a water plan where they have to provide for an increase of 600,000 people per year. That is more people than live in Denver and that is what they are dealing with each and every year in California. They will have a population of 40 million people by the year 2010. So their water problems are really quite staggering compared to Colorado.

We have representatives from the states of Wyoming, Montana, and Idaho. Our first speaker will be Richard Moy from Montana. He is the Chief of the Water Management Bureau of the Department of Natural Resources and Conservation in Montana. Montana has a very innovative way of addressing conflicts and Richard is a very major part of that. Richard is a graduate of the University of Montana and the University of Missouri.

**Richard Moy:** I plan to describe the processes we use in Montana to resolve water conflicts and allocation issues. The two items I want to present to you today are: (1) our state water planning process, and (2) our water reservation proceedings. Before doing this, it is important to provide you with a little background on water use in Montana.

Like Colorado, Montana uses the prior appropriation doctrine. Also like Colorado, Montana uses a judicatory proceeding or process. It is very similar to yours, although I am not sure that it is the best approach -- it is very costly and time consuming.

Montana may be classified as "water rich" and "water poor." Some areas in western Montana such as Glacier National Park receive about 80 inches annually of rainfall. Most of eastern Montana is semiarid or arid, where rainfall averages between 9 and 16 inches a year.

Most of our water projects were begun in the 1930s through 1950s. Agriculture is the primary sector of the state's economy. To settle Montana, it was necessary to bring water to those areas that needed it. The state, as well as the federal government, spent a lot of money developing water projects. Today, we annually divert about 15.4 million acre-feet of water for agricultural uses and deplete about 7 million. On the average, about 44 million acre-feet of water leaves the state and about 28 million acre-feet originates within it. Almost 98 percent of all water used is associated with irrigated agriculture and slightly more than 2 percent for municipal, industrial, and other uses. These figures do not take into account instream uses such as for fish, wildlife, recreation, and water quality dilution for hydropower production.

Over the last six years, we have seen a conflict develop between instream users for fishing, floating, recreation, and power production versus offstream users primarily for agricultural purposes. The conflict peaked about two years ago. Part of the problem is that we have had drought in four years out of the last six. Most of our irrigation is on the tributary streams. For example, in the headwaters of the Missouri River there are about 700,000 acres of irrigation. Those tributaries include the Madison, Gallatin, Jefferson, Big Hole, and Beaverhead rivers. Most of these rivers are known nationally for their Blue Ribbon fishery or as you would call Gold Metal fisheries. The problem is that during low flow years, recreationists and fishermen want the right to use the flows for instream uses, but agriculture has the legal right to divert the flows for irrigation.

Over the past 30 years, agriculture has declined in importance to the state's economy and tourism and recreation industries have increased. So, during low flow years, this conflict between instream and offstream users is heightened. To add insult, agricultural users suffered a major loss over stream access. Based on a state Supreme Court decision, the stream bank between the low and high water mark belongs to the public for its use. It does not belong to the land owner. For years, the land owner, primarily agricultural users, have paid property taxes for these lands -- land they thought they owned. Our state Supreme Court said, "No, you don't own them -- they belong to the public." It based the decision on the state constitution and the public trust doctrine.

With this brief background, I want to describe our state water planning process. In 1967, the Montana Legislature created a statute that requires the Department of Natural Resources and Conservation (DNRC) to develop a state water plan. In that statute, the department is to develop a plan that focusses on the conservation, development, and preservation of the state's water resources. The plan is to be developed in sections corresponding to hydrologic units and to be submitted at each legislative session.

During the late 1960s, 1970s, and into the early 1980s, the department was actively involved with the river basin commissions such as the Missouri River Basin Commission and the Pacific Northwest Basin Commission. The commissions had the primary responsibility for basin planning. Montana's involvement

with basin planning activities was considered by many as our state water planning effort. With the demise of the basin commissions in the early 1980s, we were in a transition period. The loss of federal planning monies under Title III removed our funding source for water planning activities. Still, we had thought that our other activities such as with reserved water right negotiations, ongoing adjudication efforts, and water reservations proceeding and other planning activities were enough. But the Legislature and its water policy committee at the time said, "We need to have a state water plan."

At that time, we did not know what a state water plan should look like nor whether we even needed one. So I had the staff talk to water specialists in other states and begin looking at what could be done to develop a state water plan. One of the planners came and said that we needed to look at the Kansas approach. Kansas has a very innovative process for developing a state water plan. We reviewed it and liked it. We modified it, however, to meet Montana's specific situation and this is the planning process I would like to describe to you.

It is a very simple process, a cyclic one involving five steps. First, you identify the issue that needs to be taken through the planning process. Second, you analyze the issue, evaluate all alternatives, and then choose the most appropriate solution. Third, you allow for public review and comment on the draft recommendation. Fourth, you use a formal process for adoption of the plan. The last step is to implement and evaluate the plan. The plan is developed in sections -- each section addressing an issue. These sections are six to eight pages in length and include a description of the issue, background on the issue, policy statements, and then recommendations on how to resolve the specific issue. The sections also contain an implementation strategy -- a way to evaluate implementation. These sections are then placed into a three-ring binder and together they are called the state water plan. If at some future time an issue is outdated, it is taken back through the planning process and the appropriate modifications are made. The mission of our state water planning process is to resolve state-wide and basin-specific problems in a cost effective and efficient manner. I need to emphasize that the planning process is as important as the actual plan.

We feel there are a number of objectives that must be adhered to in order to have a successful planning process. A major effort must be undertaken to involve all water users, resource managers, and policy makers. It is important to break down jurisdictional boundaries that have developed over the past 50 to 100 years. This is done by involving all water users and interests throughout the process. The Governor appoints a state water plan advisory council. During our first planning cycle year we had a 9 member council and then broadened the representation to 15 members for the second planning cycle. The council represents local, state, and federal entities and all major water users and interest groups in the state. Steering committees are also created and report to the advisory council. A steering committee was appointed for each issue taken through the planning process. Members on a steering committee include individuals with expertise in the specific field and represent all interest groups.

The second objective is for the steering committees to identify and agree upon the magnitude and extent of the problem itself. We find that it is very difficult for people to agree on the problem. After everyone

understands the problem, the steering committee must look at all of the possible alternatives to solve the problem and then try to pursue a consensus solution that is fair and reasonable -- a solution that can be implemented.

Another objective of the process is to balance competing water uses. Make sure agriculture, instream users, hydropower users all participate equally in the process and that their needs are balanced fairly.

The first cycle of the state water planning process began in 1988. Four different issues were taken through the process. The section on water resource data management, which was not controversial, provided valuable recommendations on how the state should develop and implement a state water resource data management system for the future. One recommendation involves the development of a GIS system that is coordinated throughout the state, involving state, university, and federal personnel. This was not a difficult issue.

Another issue, the Federal Energy Regulatory Commission and state water rights, also was not too controversial. Recommendations included a strategy for the state in its dealings with the Federal Energy Regulatory Commission regarding water rights. Another issue was agricultural water use efficiency. This plan section received strong criticism from agricultural users. Through the planning process, we learned some valuable lessons that aided us in improving the planning process before beginning the second cycle.

The last issue taken through the planning process was instream flow protection. This issue was also very controversial. Initially, one of the draft recommendations was the transfer and sale of water where an agricultural user would have the option to sell his water right for an instream purpose to our Department of Fish and Wildlife and Parks which has a mandate to protect fish and wildlife. Agriculture, after losing over the issue of stream access, did not want to concede on the issue of selling water rights for instream purposes. They were in strong opposition. A compromise, that was finally negotiated was a water leasing bill. In this bill, an agricultural user has the option to lease the water in his/her water right during a drought period to the Department of Fish and Wildlife and Parks to maintain instream flows. Any entity, individual, or organization like Nature Conservancy may gift money to the Department of Fish and Wildlife and Parks to buy the lease. It is a four-year study to try to determine whether this lease option is a workable process. Eventually I believe an agricultural water user will be able to sell water rights for instream flow purposes. At this time, however, an agricultural user can sell water to an agricultural, industrial, or municipal water user but not for instream purposes such as the maintenance or improvement of fish and wildlife.

During the current cycle of the state water planning process, two issues identified by the public are being addressed. One is drought management. I am very impressed by some of the innovative recommendations that the drought steering committee has developed regarding pro-active drought management. Today, Montana is primarily reactive when dealing with drought. Through the planning process, water storage is also being addressed. It was divided into three sections: financing, policy, and regulation. Some very innovative ideas were developed regarding water storage. I do not have time to

describe the recommendations, but if you are interested in them, please let me know and I will send copies to you.

So far, we have addressed only state-wide issues through the planning process. When analyzing a state-wide issue, we are evaluating and improving on the tools necessary to solve state-wide problems. After addressing state-wide issues, we plan to use the process to solve specific issues, where local people are involved in solving local problems. Basin planning is just beginning. A brochure/questionnaire was drafted and sent out to the public. Responses have provided us with good ideas on how to develop the basin planning process. One of the first basins that we want to use this process on is in western Montana, which includes the Clark fork, Flathead and Kootena river basins.

The issue or concern is that the Bureau of Reclamation, the Bonneville Power Administration, and the Corps of Engineers are going through a system operation review (SOR) of the entire Columbia River Basin. The outcome of that SOR will effect the Pacific Northwest Coordinating Agreement and the 1964 Columbia River Treaty with British Columbia, and probably some of the functions of the Northwest Power Planning Council; this will affect water supply and management in Montana. We believe that it is very important for the state to resolve our intrastate issues and to formulate a unified position before entering into the SOR which is an interstate proceeding. The SOR will address power, fishery, recreational, agricultural, and other needs of the four Pacific Northwestern states, British Columbia, and the appropriate federal agencies. It behooves Montana to develop this unified position and to submit data and information to the SOR which the local water users and interests have already agreed upon.

Working with the Bureau of Reclamation, we plan to create a basin committee consisting of all water user groups in the basin. We will also develop a water accounting model to look at ways to optimize and maximize water use within the basin. It is important for user groups to agree on how best to balance recreation, power, fish and wildlife, indian, and agriculture needs. We are using this process not only in the Columbia River Basin, but also in the Missouri River Basin. I now want to identify some of the basic lessons we have learned so far in our state water planning process.

One thing that you must do is establish the need for a state water plan. What are the consequences for not having a plan? In Montana, we feel this is an excellent process to resolve conflict and to improve the quality of life. It is one of the most cost effective and efficient approaches for solving conflicts. Through this process, one can solve any type of natural resources conflicts, not just water problems.

Another component of the process is to establish and maintain the credibility of the lead agency. In Montana, this is the DNRC. We have had some credibility problems regarding our position on the state-wide adjudication, but through this process, our credibility problem with diverse sectors of user groups in the state has been lessened.

You need to maintain and establish the legitimacy of the planning process. The public must understand and believe in the process. It is important for the public to agree, understand, and believe that the process

is fair before beginning it. You must define the roles and responsibilities of all participants, including the public, within the planning process.

Limit the number of formal decision making steps in the process. In Montana, we have one too many decision points. You should have a group like our state water planning advisory council that makes recommendations to the Governor and the legislative body.

Another component to adhere to is to provide balanced representation on all committees. During our first planning cycle, a tough lesson was learned because we did not have balanced representation. We thought that we knew who the right players were. We were wrong. It is now done differently. We request that user groups recommend or select their representative on the steering committees and the state water planning advisory council.

Make sure that you provide adequate time for the steering committees to do their work. In the first cycle of the planning process, we did not do this. In the second cycle, it was amazing how easily people can work together. For example, during the first two or three meetings, we saw a lot of posturing. After that, they started to get down and really work. At times it is good to have a facilitator for each steering committee to make sure the process is achieved in resolving issues. Look at some of our recommendations from our current draft plan sections. I think they are very good.

It is difficult to achieve consensus but not impossible. When people work together, they may not like a recommendation but they might agree that the recommendation appears to be fair and reasonable. Do not compromise the integrity of the process. Once you establish the planning process, you need to adhere to the process. Do not change it at the last minute or for any special interest group. The process will promote better communication and cooperation, as well as facilitate consensus. Quite a number of user groups in Montana are involved and interested in the planning process. It can lead to the resolution of water management issues.

Regarding public involvement, you need to involve the public very early on in the process. In the first cycle, the public was first involved after the draft plan recommendations were selected. Before beginning the second planning cycle, we involved the public. They helped us identify the important issues that should be taken through the process. To do this, the nominal group process was used where the public is divided into small groups and everyone has equal opportunity to participate in the process.

You should tell people what they need to hear. Do not tell what they want to hear. This will help you establish credibility. Do not assume that the public knows more than they do; provide adequate education. The Montana university system and Bureau of Reclamation offices from Boise and Billings are participating with us on an education program to get people more involved in the planning process.



In the first planning cycle, there were what we call "energetic opponents." In fact, there were a lot of them. Sometimes we had public meetings where over 500 energetic opponents attended. They were very well organized. The silent majority did attend because they thought we are doing a good job for them.

A few lessons were learned on conducting public meetings. Do not have the bureaucrats sitting up front looking down on the public and telling them what is good for them. There are different approaches to break down the "us" versus "them" approach.

Make sure you know how to evaluate and incorporate public comment into your decision making process. Today, the level of interest in Montana is to the point where the process now belongs to the public. The DNRC is proud of the process. Most interestingly, the public has told us that the process belongs to them and the department is to act as facilitator and coordinator.

Another institutional process that I want to very briefly describe for you is what we call our water reservation proceeding. Any entity of government whether it is a municipality, a county, a state agency, a federal agency, or an irrigation district can reserve water for either future consumptive uses or for instream purposes such as maintenance of fish, wildlife, recreation, and water quality. The reservation statute was passed in 1973.

A Natural Resources board makes the decisions on the allocations of reserve water. Applicants must clearly demonstrate to the satisfaction of the board the need, the purpose, the amount, and that the reservation is in the public interest. The water reservation proceeding involves the public at every stage. We generally develop a sophisticated water model to evaluate tradeoffs among water uses. We also prepare an Environmental Impact Statement, and then go through an extensive contested case hearing. An example of the reservation process occurred in the Yellowstone River Basin. In the early 1970s, when energy independence became a common slogan, energy companies came to Montana and into the Yellowstone River Basin (which by the way is one of the longest free-flowing rivers left in the lower 48 states) and requested the right to a million acre-feet of water for industrial use. There was concern that this amount of new industrial use would dewater the Yellowstone River system during low flows. Because of this, the Montana Legislature created a moratorium on these industrial water use applications and suggested that a water reservation proceeding be initiated in the basin. The Montana Departments of Fish, Wildlife, and Parks and the Health and Environmental Science, as well as the Water Quality agency, applied to reserve 8.8 million acre-feet of water in the Yellowstone River Basin, which is more than half of the average annual flow. Because of their action, municipalities, irrigation districts, federal agencies, and even the DNRC was concerned that there would be no other water available for future consumptive needs. The basin municipalities and all of the irrigation districts, the Bureau of Reclamation and other agencies submitted reservations for future consumptive uses. The applications were for meeting future growth needs as well as protecting instream flow needs.

After an extensive contested case hearing, the Board of Natural Resources and Conservation granted the following reservations in 1978. It said that municipal water had first preference in the basin. It allocated

enough water to meet municipal growth for the next 30 to 35 years. Instream flows upstream of Billings had a higher preference than any other user and reserved 3.6 million acre-feet of water for the protection of fish, wildlife, and recreational purposes. The next priority went to agriculture for irrigation. About 700,000 acre-feet of water was reserved for agricultural uses. Fourth preference was for instream purposes downstream of Billings. Last priority was to reserve water in future storage reservoirs -- those by the Bureau of Reclamation and one by the DNRC.

The process worked well in the Yellowstone River Basin. A similar process has been initiated in the entire Missouri River Basin of Montana. We also have another reservation process ongoing in the headwaters of the Clark Fork River Basin. In the Missouri River Basin, the Department of Fish, Wildlife, and Parks has applied for instream flows for 250 streams or stream reaches. The Bureau of Reclamation has applied for instream flows on 31 stream and stream reaches. We also have 18 conservation districts and 18 municipalities that applied to reserve water for future consumptive needs. The Bureau of Reclamation is interested in water for an interbasin diversion into the Milk River Basin. The Department of Health and Environmental Sciences requested all the flows of the river to dilute the high arsenic levels which originate naturally in Yellowstone National Park. These levels exceed EPA instream standards. Within two years, we will have a decision on the allocation of the remaining flows in the Missouri River Basin.

**(Question Inaudible)**

**Richard Moy:** The stream access issue was decided before we actually initiated the planning process. Our first cycle of the planning process began in 1988. I believe that in 1985, was the year the Supreme Court made its decision on stream access. Based on the court decision, a negotiated compromise was developed by the 1987 Montana legislature.

**Question:** Sir, you have worked with the North Fork Council of Governments committee to bring this process into Colorado. I'd like for you to tell these people how that experience was, and what other entities in Colorado expressed an interest in your process. Quite frankly, did it work there because you weren't over appropriated except some small sections, and will it not work here because we are.

**Richard Moy:** First, with regard to appropriation, the State Water planning process works in any basin including those that are over appropriated because it is designed to resolve conflict. The water reservation proceeding would not work here because it only involves unappropriated waters. I gave a presentation on the Montana planning approach to the Northwest Council of Governments. Based on our experience, I identified some of the positive benefits and also some of the problems that arise in implementing the first cycle of the planning process. During the second cycle, we have refined and improved the process. The planning process is working in Montana.

## **Institutional Examples from Other Western States**

### **Part 2**

Moderator: Eric Kuhn

**Eric Kuhn:** Our first speaker is from Wyoming; he is Jeff Fassett. Jeff is the State Engineer of Wyoming and has been since 1987. He is a graduate of the University of Wyoming and is a registered professional engineer in Wyoming, Colorado, and South Dakota. Prior to his working in the State Engineer's office in Wyoming, he worked in Denver as a consultant, so Jeff is very familiar with the Colorado water scene. Those of you who are not familiar with the State Engineer in Wyoming, that job has been described to me as if you were to combine the functions of Chip Berry, Jerry Danielson, Bill McDonald, and seven water judges into one person -- that's Jeff.

**Gordon (Jeff) Fassett:** That is relatively accurate and we like it that way. As Eric said, I have been State Engineer in Wyoming since 1987. That is about when our four-year drought started. I am starting to take it personally at this point. Every imaginable hand-shake deal that was cut during the good years has completely fallen apart since I have been there. Everybody is saying, "Well, let us let the State Engineer decide," and we are. But most of the people who are asking us to decide do not have things in very good order.

I want to briefly touch on just a couple of things. The objective of course is to talk about institutions. I want to describe to you how we in Wyoming go about our process and discuss the responsibilities that Eric briefly summarized. And then I want to focus a little bit on our instream flow, because I know there is a lot of interest in that aspect of our law and how we go about handling that particular issue.

Wyoming is of course a prior appropriation state just like Colorado and most of the western states. That was established at statehood for us. We just celebrated our 100-year anniversary as a state just two weeks ago. We have had a relatively pure permit system ever since to handle water rights. The author of our permit system was a gentlemen named Elwood Mead who interestingly enough was a professor at CSU. He came out of the Colorado way of doing things, immediately ran across the state line, and did something entirely different. He was referred to as the territorial engineer and was in charge of water issues even before Wyoming was a state. He became the first State Engineer. And as I said, he was truly the author of our basic permit system of water law in our state.

The Wyoming Constitution established my job as State Engineer. It also established an administrative system, a very strong administrative system, of handling water right issues through the State Engineer's office and what is also called the Board of Control. But it puts the entire appropriation, adjudication, and enforcement or administration duties all tightly held in a very small gathering of authorities and responsibilities of agencies. We are often referred to as sort of the water czar in our state, but quite

honestly that process has served our state very well. You know where to go, you know who you are dealing with, you know exactly what the rules are, and even in 1990 you can do that without any lawyers and very little engineering and surveying help. You can even get through the process, in some cases, in a matter of days. That in this state is much different.

The Constitution says that as State Engineer I get to have what is referred to as general supervision over the waters of the state. They gave to the State Engineer all authority to appropriate water. You cannot use water or you cannot get a water right in the State of Wyoming without filling out a form and ultimately finding the State Engineer's signature on it. You have to first apply for and receive a permit before you can do anything. You cannot build a dam, cannot dig a hole in the ground for stock water, you cannot drill a well without first getting a permit. My position is an important position under our system of government and it is that way in the Constitution. Once confirmed, I serve a six-year term in our state. Purely in theory, this is done to keep the State Engineer out of pure political changes with gubernatorial changes. That has not necessarily been the case, but we have some history of changes for pure political reasons at times. In 100 years, I am the fourteenth State Engineer of Wyoming.

I am the one who gets to appropriate the water. I am the one who approves the permits and handles all the enforcement, as well as the administration tasks, just as Mr. Danielson does. But as opposed to a court system, we have what is called a Board of Control.

The Board of Control is the adjudicatory body under our system of water law. As State Engineer, I am on the board. With me are four water division superintendents who are analogous to division engineers in the State of Colorado. In our state, there are only four basic drainage boundaries that divide our state. Each one of those major river basins has what we term a division superintendent. Those four superintendents and myself, as State Engineer, make up the Board of Control. So once in awhile we sit as a board. The rest of the time the division superintendents report to me as far as enforcement type activities are concerned. They act very similarly to division engineers and are in charge of the entire enforcement water commissioner-type of system that we have.

But the board has sole jurisdiction over adjudication of water rights and it is an administrative adjudication - you do not go to court. We have quasi-judicial powers under the law to adjudicate the water rights. The Board of Control also has sole jurisdiction over abandonment issues and over changes in water rights as well. Certainly, changes in the views of water rights all come before the Board of Control. The jurisdictional relationship, if you will, is that if the water right is in what is called unadjudicated or a permitted status, then it is within the jurisdiction of the State Engineer. Once adjudicated, anything else that happens or deals with that water right is in under the jurisdiction of the Board of Control. And it takes board action to make changes or abandonments, things of that nature.

Our system is a little fuzzy, but in most instances anything that the State Engineer does can be appealed to the Board of Control. Obviously, I do not sit with the board if it is a decision of mine that is being appealed. But it does not go to the courts. It first goes to the Board of Control. That is on permit

decisions, administrative decisions, any decision under the authority of the State Engineer first would be referred to the Board of Control.

From there we go into the district court system and ultimately our Wyoming Supreme Court. There is hardly a district court judge in the State of Wyoming that wants to fuss with any water issue. Almost no water issue ever gets past the Board of Control. If they go beyond, they technically are directed to our Wyoming Supreme Court that takes on the water issues directly. District courts just do not fuss with it very often in our state, but they certainly are in the proper chain. Over 90 percent of our problems are resolved between the State Engineer at the board or between the appropriators and the people involved. Typically, they will not end up in any sort of litigation.

Our water rights process is pretty simple. The rancher can still walk in, get help from my staff to fill out the form, pay the 25 bucks, and if he is in a hurry, he can probably get the permit that day if I happen to be in the office. For simple stock watering kinds of things, domestic kinds of water rights, certainly lots of well applications are literally handled the same day or within a few days. Clearly complicated ones are not quite that easy. For major reservoirs, major pipelines, municipal-type permit applications, clearly will require lots of engineering and surveying work. But again, the town can retain the engineering, surveying expertise they need, go through the process, and submit that water right to us for our review. Ultimately it gets approved.

The appropriation process is initiated with a permit application. Your priority date is set when that application hits my office. That is approved into the process, the time, date, everything is put right onto the permit. That is what sets the priority date in our process. Thinking about it for 100 years or going to meetings for 20 years before then, you do not get a priority date until you apply to the State Engineer's office in Wyoming. And that is the way it has been since 1890.

The State Engineer has relatively broad authorities in approving permits. We can levy conditions, limitations, anything that we feel might be appropriate to properly consider water availability or other appropriator things of this nature. Clearly there is a presumption within our statutes to approve permits if a beneficial use is envisioned. When we approve a permit, we set strict time limits. When the person is issued a permit, we tell him that within X number of years you have to start this project; within X number of years you have to complete this project; within X number of years you have to show beneficial use. And if you cannot meet those time lines, you have to come back to the State Engineer and request extensions.

And a lot of times big, major reservoir projects obviously could take many, many years to get off the ground and extensions for the early years are relatively routine. After 10 or 15 years, they just do not have to grant one. It is all within the authority of the State Engineer. You can just say, "Sorry, you are just not being diligent," and it is a diligent type of standard that we measure it by. And you can just stop giving extensions. If I did that, that kind of a decision would be appealed to the board for their consideration. After completion of beneficial use, you have to let us know, you have to write us, when you have a permit. You say, "Okay, I am done now." Let us know you that you are meeting your time obligations, otherwise,

that permit expires. If the permit expires, you have to start all over and you just lost X number of years of priority date.

After you tell us that you have put the water to beneficial use, the adjudication process is triggered. As I told you, that is handled by our Board of Control. For many years in our early history unfortunately, the adjudication of a water right was viewed as optional and was not a mandatory step in the water rights process. Starting about 25 years ago, it was automatic. The water right is automatically sent through the adjudication process so that all loose ends are tied up. Adjudication requires an on-the-ground inspection by the staff of the Board of Control. We provide advertising and we provide opportunities for public comment in a public hearing if necessary. Again, in our state's system, primarily because we have the luxury of having less than a half million people in the whole state, most of the problems, and some are serious, are usually resolved by sitting down and hammering those things out with the people involved, with the State Engineer's staff, and with the Board of Control's staff. Seldom, seldom, seldom are those things ever appealed into the courts, although there are clearly avenues to do that if necessary.

Beyond the permitting process, my responsibility as State Engineer certainly deals with enforcement. We have a very strong enforcement system, which I think is very similar to Colorado's. It is much different than the agency that I think Mr. Moy is in, in Montana for instance. Very strict authority to administer the water rights of the state flows from the State Engineer, our division superintendents, and water commissioners. I also have all the dam safety responsibilities, similar to Jerry's.

I also have the complete jurisdiction and authority over all the interstate issues in our state. We have the luxury, if you want to consider it that, of being in almost every major river basin in the country. We have waters in the Columbia, Missouri, Colorado, and Great Salt Lake basins, all four major areas west of the Mississippi. We have seven compacts, a number of interstate decrees, and all kinds of interstate activities. Those are all focused through staff within my office. No other agency of state government gets involved with those things as well.

As I said, the board deals with all of the changes. Of course, our newest activity there is that we do allow for changes of use, and that does include changes in instream flow. Almost all of the activities that come before the board in changing water rights go to hearings. But again, over 90 percent of those hearings are just the individuals themselves involved, and less than 10 percent are the individuals represented by counsel. If issues arise during the hearing, a lot of times you just literally take a break and everybody sort of goes outside. This may be that somebody is new or it is some new issue, and we get things resolved even before the hearing is over. Not with all of the cases, but with the majority, that is how our process has been able to resolve those kinds of conflicts.

Beneficial use is really the driving issue and really becomes the ultimate measure of the water right in our state. The criticism of the czar process that we have is that beneficial use per se is not defined by any sort of statutory authority. It has literally evolved over time in the eye of the State Engineer. Meaning whoever

has sat there has had to deal with a constant flow of new types of applications, approaches, and suggestions to new appropriations or to the use of existing appropriations.

Personally, I think that is good. You nail down too much and then it becomes a real problem to try and change that. Our process has been able to accommodate new changes, new societal pressures to adjust to wildlife issues and fish preservation issues. If every time we had to deal with massive statutory changes that evolve into those beneficial uses that were clearly not a part our history at the turn of the century, I think it would be a much bigger struggle. We are able to accommodate lots of those.

The assumption, of course, for most of the past 100 years, was that some sort of diversion was envisioned to make beneficial use of the water. Whether it be for agriculture, which clearly is the majority of water rights in our state, or whether it be a storage project. Some sort of diversion or physical act under a permit to make ultimate beneficial use was typically required. That was finally changed although lots of instream flow or instream uses were accommodated before that.

It was not until just recently, in 1986, that we had our major instream flow legislation pass and for the first time, I think we truly recognized or got away from any ideas of the needing diversion to make beneficial uses of waters. Our instream flow law though is very specific. It is geared only to fishery type of instream flows. The law talks about the minimum amount necessary to maintain fisheries, to improve fisheries, or to establish the fishery, but all related to fisheries.

The instream flow law was really the first major change in our laws for quite some time. It gave those types of uses the formal standing that they needed in our state. And they did it by blending it in to the existing permit system. It did not take an unraveling of our long history of water rights, but for the first time allowed those uses to not only be recognized, but to play the game the way everybody else had been playing it for 100 years.

They have the standing to argue and to appear and be a true player before the State Engineer and Board of Control process that we have. The process of appropriation has just blended right in to the opponents system. Only the state at this point, only the State of Wyoming, can hold instream flow water rights and we have an interesting process to accommodate that.

The law though is pretty full spectrum. While it does deal with just fish, it allows for direct appropriations. If you started today, you would have a July 24, 1990, priority date. You could just come in and appropriate unappropriated water for instream flow purposes. It allows for the construction of storage facilities and the release of water from those storage facilities for instream flows. It also allows those releases to be protected through some length of river under that doctrine and for transfers and changes of use. Agricultural water rights can be converted to instream flows under our 1986 law.

That process, since 1986, has not been tried. The instream flow process is driven by the Wyoming Game and Fish Department which has the biological expertise and is really the initiator of instream flow

appropriations. It is truly a seller willing, buyer-type of relationship. The Legislature made it clear that the Game and Fish Department could not condemn agricultural water rights for conversion. But if Farmer Jones wants to sell his water rights to the Game and Fish Department, he can do that. Then the Game and Fish Department can come forward and make a conversion of that water right to instream flow under our laws. And again, that would be a Board of Control type of proceeding.

In the last four years, the Game and Fish Department has been focusing primarily on direct appropriations. They have not yet gone to the extent of changing views. As I said, the Game and Fish Department starts it; they do their own biological studies. Our instream flow laws are geared toward river segments, although there is no length restriction on the river segment, except that it be specified.

The Game and Fish Department has been using three or four different habitat-type models. Then our Water Development Commission, which is the state's water planning and water development agency and is the only other separate water agency besides my own, are hydrologic experts for the instream flow process under the instream flow law. They do the necessary hydrologic work that is then blended with the biological efforts and all of that comes together with a permit application to the State Engineer.

What is different about our process? The biggest change for me as State Engineer is that for the first time, unlike any other water right, instream flow water rights are mandated to go to public hearing before the State Engineer can make a decision. No other water right application in the state is handled that way. There is no requirement for a public hearing on applications before the State Engineer can make his decision to grant a water right permit. With an instream flow application, that is the case. You have to have public hearings.

The other really important issue that is all through our instream flow deals with interstate compacts. The Legislature put in the law, time and time again, about making sure the State Engineer does not grant an instream flow permit if the issuance of that permit sends one extra drop of water out of the state more than what has to go out under the state anyway under a compact. There was a huge legislative concern that all these millions of gallons of water, these rivers and streams all over our state would have instream flow water rights on them and all that would do was to help everybody downstream from us. Except for a small piece of Colorado, everybody is downstream from us so there is a huge burden on me in making a final determination on instream flows. I have to go through an analysis of the issue as to whether waters would be unnecessarily, in Wyoming's view, delivered across the state lines just because of the instream flow process. And that is in the law two or three times.

Since 1986, only 14 applications have been received in our office for instream flow. Of those, I have granted three so far. Two more are about ready to be put on my desk for a final resolution. We have a couple more hearings coming up in about two weeks. The Game and Fish Department was very strategic. This instream flow law took about 14 years to get passed through the Legislature because of the opposition primarily from the agricultural community. They were very cautious and not suddenly blazing in with hundreds of applications all over the state to upset the apple cart.



They were very pleased that they got the law through. It was a good law and everybody wanted to try it out for a while before getting very controversial. So the early applications were in areas that were very noncontroversial. The public hearings I had were close to "love fests," as opposed to any sort of a contested case issue. And again, issues that were raised were easily accommodated through limitations and conditions that I am free to put on that permit approval. I have broad discretion to approve any amount I want. It does not matter what the Fish and Game Department applies for, the ultimate decision is the State Engineer's.

The early ones have gone through very smoothly. The very first one we issued was up in the Clarks Fork of the Yellowstone Basin. It happened to be a very similar segment which has also been nominated now as a Wild and Scenic River. We have also issued a permit in the middle fork of the Powder River in the north central part of our state, and also on the Tongue River, north of Sheridan, Wyoming.

The early ones were also all high mountain, canyon pristine areas of our state. There were areas where the Game and Fish Department had very valuable high class fisheries and they wanted to make sure they remained that way. They are trying to appropriate quantities where there is no conflict with existing users. They want to get their place in line, get priority. So if there is any ultimate development after them, at least they have their quantities of water needed for the fisheries purpose protected and protected by water rights. We are going to have about 8 to 10 a year in our state. I hope that we can keep up with the work load. As with most states, the Legislature loves passing all kinds of laws and never giving you more people or money to deal with the new issues. But we are tackling this particular problem the best we can.

We have had ongoing, almost infamous, Big Horn River general adjudication with a general adjudication process that we started in 1977. Even though we had been administratively adjudicating water rights for 90 years up until then, that particular area of our state is where the Wind River Indian Reservation is located. We wanted to begin assessing, quantifying, and getting a handle on exactly what the reserve water rights demands were. That process was started in 1977; it came to closure in 1989. Twelve years and about \$20 million later, our Indian tribes on the Wind River have been quantified now clear to the United States Supreme Court.

We also adjudicated desired flow rights for the National Forest, as well as every other federal reservation of land throughout that particular area of Wyoming. We have over 250 streams throughout the Big Horn and Shoshone National Forest where negotiated flow quantities were resolved between the state and the forest service without litigation. We successfully negotiated flow values across all of the high mountain areas of those two significant forests in our state in this Big Horn general adjudication case without litigation. We were also successful in addressing the concerns involving instream flows in these higher mountain areas of our state.

**Eric Kuhn:** Our next speaker is from Moscow, Idaho. Charles Brockway is a professor of civil and agricultural engineering at the University of Idaho. He is also the Associate Director of the Idaho Water Research Institute.

**Charles Brockway:** Lucy indicated that I should share with you how the Idaho institutions have responded to changing needs and demands for the water resource. That implies that they have changed. I am not sure they have. They have been doing things differently. We have been a state for 100 years and we have been arguing about water for 130 years. So visit Idaho. Gas up in Wyoming and then come spend your money in Idaho. The Governor does not know I am here, I would not care if he did, but I am speaking only for myself.

Idaho is not a large state. We have just passed the milestone of one million people. A third of those are from California. The irrigated area in Idaho is 4.1 million acres, the fourth largest in the United States. We also have quite a bit of water, most of which is used (98 percent) for irrigation. About 87 percent of the water supply for our municipalities comes from groundwater, so we do not have the same types of squabbles over surface water for municipalities as you do here in Colorado.

We have one major river in the state which is used primarily for irrigation and that is the Snake River. This river runs from Wyoming across the southern part of Idaho. It forms the border of Idaho and Washington and flows into the Columbia River. We have seven major irrigation reservoirs storing about 10 million acre-feet of water in the whole system and tributaries. There is very little irrigation in the northern part of Idaho where rainfall will range from 40 to 50 inches. In the southern part of Idaho, we are semi-arid or arid with rainfall in the neighborhood of about 10 inches. So, we need the water.

Let me share with you the players, if you will, and the institutions in the State of Idaho. We have an Idaho Department of Water Resources which evolved from a state reclamation engineer at about the time Wyoming was getting involved also. The Legislature, in their infinite wisdom, decided to change the name. They did not change the duties much, but they did change the name. So we have a director of the Idaho Department of Water Resources. This man, Chief Higginson, is a former commissioner for the Bureau of Reclamation. That may be good or bad. Our Governor, Governor Andrus, is a former chief of the United States Department of Interior. They make a good team some say. I can say that because I am not on the staff of the Department of Water Resources or of any other government agency.

The Department of Water Resources is empowered with the planning function for the State of Idaho in water rights, as well as water and water resources. They also control water rights regulation and designate protected rivers in the state. They operate well drilling and a minimum well standards program, licensing of injection wells, and bonding and regulation of water masters on adjudicated streams. The director serves at the pleasure of the Governor. Andrus is a democrat, so I assume Higginson is also.

Also, we have an Idaho Water Resources Board. This board, appointed by the Governor, consists of five individuals geographically distributed generally throughout the state. The board is responsible for water resource policy and for the development of a water resource plan or state water plan. They also serve as the trustee of water for the people of the state and they can appropriate water for instream uses, instream flows, and set minimum flows in the various streams.

The board is also the administrator of a water development fund operated by the state to assist water resources development and projects within the state. They are responsible for interstate compacts and for negotiations with Canada. We have a Canadian stream that comes into Idaho from Canada and we also have streams coming in from Wyoming and Montana. We have a stream that we share with Utah and Wyoming, but not so much with Nevada. We just simply send our gamblers across the boarder.

The proceedings of the Idaho Water Resources Board are all public proceedings, including hearings on any adoptions of the state water plan or any applications of instream flows. Any agency in Idaho can request the adoption of a minimum stream flow or the appropriation of water for instream uses through the Water Resources Board, but they cannot apply for a permit directly, as apparently they can in Wyoming. But they can request it through the Water Resources Board.

On the water quality end, we have the Idaho Division of Environmental Quality that is responsible for planning and managing water quality in the state, both surface water and groundwater. They are responsible for the monitoring, regulating, and permitting of point sources under the NPDES Program and other water quality improvement programs. The other players are the Idaho Department of Fish and Game, which is responsible for water resources instream for fish and wildlife regulation and for autonomous fish protection which we have in the state. And then the Idaho Department of Parks and Recreation are also concerned with and responsible for water resources in the state parks system.

And we have federal players, too. The Bureau of Reclamation, the big player in developing the Snake River since about 1905 and their Minidoka project comprises a large part of the irrigated area in the Snake River Basin. The EPA is involved and our good friend, the Federal Energy Regulatory Commission is also involved.

We also have our share of environmental groups, the concerned agencies, and voluntary groups, such as the Idaho Conservation League, the Snake River Alliance, Friends of the Big Wood River, and so forth. And so we have a lot of players, a lot of institutions, a lot of problems.

I think we need to take a long-term look at whether this metamorphosis of the institutions dealing with water in the State of Idaho has really changed anything. If we do not look at a time period longer than 20 years, we may not see the change. On a short-term basis, there has not been much change. But looking back further, we can see quite a bit of change.

Prior to the 1970s, if there was a protest on a water filing or an application for a permit that would dry up a stream, that protest would not even have been heard, because back then, it was allowed under the statutes and under the Constitution to divert all of the water in the stream for beneficial uses. That would certainly not occur now. We assumed for a long time, as did many western states with the appropriation doctrine, that it would take care of us and it would work forever. It does not work forever. It is a good doctrine and we have no intention of changing it. We are going to bend it a little bit and have done so.

Idaho was one of the first states in the U.S. to adopt a state water plan. After the Water Resources Planning Act of 1965 when all this wonderful federal money became available for planning, Idaho did just that. It was prepared by the Department of Water Resources, holy water was sprinkled on it by the Water Resources Board, and it was run by the Legislature. That is the procedure. The plan consists of a number of policies agreed to by the state which indicate where the priorities for water development, instream flows, and minimum flows should be in the state's streams. It is not inflexible. In fact, it is in the process now of being updated.

I was looking through the state's history and I found that Idaho, in 1925, empowered the Governor to appropriate lakes for public use. So we have had some statutes on the books as early as 1925 which would protect waters for the people of the State of Idaho. In 1971, we adopted a state stream channel protection act which preceded the federal act. We had a minimum stream flow act in 1977 which is still on the books with some modifications. Right now we find that in the application system or the permitting system for new water rights, there is encouragement, and sometimes a mandate, for minimum efficiency for irrigation. This is a new procedure. It is not on the books, but the State Engineer takes some licence with beneficial use and the Department of Water Resources has done that also.

Let me indicate one process, or one institution if you will, that seems to be promoting efficiency for water use in Idaho. It is what we call the Water Bank. It is not a money bank. It is a water bank. And the way it works is this: those districts, canal companies, or individuals who have contracted storage water in the reservoirs, in this case only now in the Snake River System, can at their option put that water in the Water Bank. And what that means is that they agree that they will not use that storage water in that particular year. It will go into a pool from which water can be leased by other irrigators or any other entity in that basin for that particular year.

The district can put that storage in. They have to make a decision by July 1 as to whether they are going to use that water for that year. They make that choice, put it in the water pool, or the Water Bank, and then it is rented or leased for one year by other entities. There is a fee charged per acre-foot for all water put into the storage pool. Most of that fee goes back to the entity that put the water in originally and part of it goes for administration of the Water Bank and the water district. Water District 1 operates the Water Bank under the sanction of the Water Resource Board. It is somewhat embryonic, but I think it is a start in water marketing if it would increase the efficiency of water use.

There are some constraints on water use from the Water Bank. The first constraint is first choice goes to other irrigators for rental of that water. If the pool is not fully subscribed by irrigators, then other entities, the power companies or the utilities, can rent the water. Entities for instream flow purposes can also rent the water. So there is not a mechanism for instream flow enhancement through the Water Bank. The price for water rental from the water pool is set by Water District 1 and approved by the Water Resources Board. So, it is not a free market. It is a set price and I think for last year it was something like \$3.50 per acre-foot. California is looking hungrily at this water, but it does serve a need. The funds are used for better water management and water measurement improvement for research and for staff.

Some of the transfers are hydrologically constrained in that you cannot move water 500 miles downstream without either subscribing to some loss or putting some constraints on the movement. The Water Bank and other factors have effected a net decrease in water diversions for irrigation within the last 10 years in the Snake River Basin. So we are seeing a decrease in water diversions in the Snake River.

One of the things responsible is that the USDA set aside a program for cropped areas. Many people are opting to set their land aside and not irrigate it for a period of 5 years, sometimes 10, and that is decreasing the diversion requirements in the basin. The Legislature adopted a statute last year which essentially says that if you opt to set aside certain acreage and defer diversion to those acres, you will not lose your water right because of forfeiture or abandonment. So there is no danger of a water right loss if you go into the set aside program.

There are some other hot topics in the State of Idaho. If you have read anything about water in Idaho, you have heard of the infamous Swan Falls. Swan Falls is a small, about a two megawatt, generating facility on the Snake River in southwest Idaho. Now the early irrigation developers were very astute. The Department of Reclamation, the forerunner of the Department of Water Resources, in licensing dam and water rights for dams in the State of Idaho thought they had subordinated every hydropower facility to upstream agricultural development. So even though that hydropower plant had a water right, it could not protest upstream development for agriculture.

In 1977, a group of electricity users petitioned the Public Utility Commission in the state to force the Idaho Power Company, which owns the Swan Falls' facility, to protect their water right. What they were saying was that flows in all of these generating facilities, hydropower facilities, were going down. The company was able to generate less electricity, which meant that the users had to deal with more coal-fired plants. This meant the rates would go up and something needed to be done to protect the users' water right. So, the Idaho Power Company did that.

The electricity users filed suit to determine whether they had subordinated rights on the falls, and through a series of court battles, the Supreme Court finally said they did not. The language of that particular licence did not contain adequate subordination language so the power company did have a right, a protected right, for 8,400 cfs at this small little power plant. That changed the complexion of water rights in the Snake River system drastically.

So the outcome of that lawsuit, as well as subsequent negotiations and agreements between the utility, the state, and the other interested users, including the Idaho Water User's Association, resulted in an agreement which caused the state to do several things. One of the big things was a forced adjudication of the Snake River system, 40,000 water rights to go through a court process. It is estimated and we are in that process right now. It will take \$25 million and some say they can do it in 10 years. I say 20. We are in an adjudication process.

It did set some minimum flows in the Snake River system, primarily at the Swan Falls Dam. It was not the 8,400 cfs in the licence, but a negotiated amount of 3,300 cfs, which happened to be about what the state water plan had indicated in the first place. So we negotiated pretty well on that. It did set up a trust water block in the Snake River watershed for future development. In that trust water block, there is a municipal and industrial block that is available for future development and an irrigation block.

So it did not stop development, either for agriculture or energy, but it did put a lid on it. It reserved a certain amount of additional water which at that time was not adjudicated. It required new criteria for public interest for any new permits under the trust water or any other permits. It also entailed very stringent public interest criteria, including regional economic benefit cost durations and favorable benefit cost durations.

This forced irrigation districts to document what they were doing which was kind of painful. Some of them had not updated their account of acres irrigated or what they were diverting since about 1910. It cost them a lot of money, but I think it was a useful project. The other thing it did was it forced the federal reserve rights into the picture and primarily the Shoshone Indian Tribe at the Fort Hall Reservation in eastern Idaho. They were forced into being involved in any state-wide or basin-wide adjudication. The state and the tribe agreed that rather than litigate, they would negotiate an agreement so that we would not go into a prolonged adjudication battle in the court over the federal reserve rights on the reservation.

At this time, there is an agreement that was hammered out between the state, the tribe, the Department of Interior, and the Bureau of Reclamation that is ready for signing. The state has signed it. All indications are that the tribe is going to sign. We will have to wait and see what they are going to do. It forced us to take a hard look at the finite resource in the Snake River system and all the tributaries there, too.

Another thing that has come into the picture is nonconsumptive water rights and they take several forms. Instream water rights, or applications for water rights, are just one of the nonconsumptive water rights that are being dealt with. Prior to the 1980s, nonconsumptive use was not a beneficiary use by the statutes of the State of Idaho; now it is. You can get a permit for recreational use, aesthetics, and instream flows. Those are all now recognized as beneficial uses. One of the things that is really putting a burden on the department and on the water masters who regulate water rights on various streams, is those people who apply for nonconsumptive rights off stream.

A nonconsumptive right, literally, is one that does not use any water. It is very difficult to divert water from a stream, run it through a recreation pond, or fish pond, and put it back into the stream so you have used

no water. And yet there are permits out there for nonconsumptive rights that allow just that. So now the permits say that if you have a nonconsumptive right and consume water, you have to make up that water with an irrigation right or a consumptive right. This makes the accounting somewhat difficult. That means the water master who regulates these water rights must measure the water being diverted, he must measure the water returning to the stream, and he must make sure that the user has some kind of a consumptive right to make up the difference. It is a pain.

And the water master system in Idaho, I think you have a similar system in Colorado, requires that for every stream that is adjudicated for which the water rights have been determined, there is a water master. This person is bonded by the state. He is not a direct employee of the Department of Water Resources, but he is supervised somewhat by the department. He is elected by the water users of that particular stream. Generally, he has very little training in water management or water measurement. He is probably a retired farmer or maybe just somebody who did not have a job for that summer. But it is difficult for him and for the rest of the water users to keep track and regulate all the water rights on the stream. So if there is a need in the State of Idaho, in my opinion, it is for a revamping of the water master system to require some minimum training, some minimum confidence, before that individual can go out and regulate water rights on installations and large farms where we are dealing with millions of dollars.

Things are changing though. Let me give you an example. It used to be, in the good old days, that when you applied for a permit to divert water for irrigation or for whatever use, we used to be almost as fast as the State of Wyoming. You could get your permit in and there was a minimum advertising period of a couple of weeks. Usually there were no protests, so you got your permit back, an approved permit, that maybe had one requirement on it and that was that you have a measuring device. You had five years to prove beneficial use on the permit. That does not happen anymore.

Recently there was an application that went in for diversion of water for a nonconsumptive water right to run through a subdivision that had several recreational ponds. There were four hearings held on that one right with input from the Division of Environmental Quality, from Fish and Game, from the Corps of Engineers because it involved wetlands from the county, and from four or five other interested environmental groups. The permit was finally issued and it has on it two and a half pages of requirements.

They include measurement devices for inflow and outflow and one in between, temperature monitoring procedures to protect the temperature of the inflowing stream, ponding tests to ensure what the losses are within the ponds, and it goes on and on. Even specific times when water can be diverted so that it does not interfere with instream rights in the reach between the diversion and the return flow are outlined. As a result of this permit, the county in which this subdivision is located adopted an ordinance which discourages all nonconsumptive water use in any subdivision. So this is a case where maybe local zoning is going to conflict with the state's duties.

We have another situation in Idaho where some counties have a conflict between local planning and ordinances and a state or federal permitting process. We have a stream channel alteration program in the

state under which the state grants a stream channel alteration permit for any work done below the high water mark in a stream. The Corps of Engineers administers the 404 Program to do likewise. But some counties have their own stream channel alteration permitting process, so you have to get a permit from at least three entities, none of which is mutually exclusive. You can get one from the state and maybe the Corps, and then the county will not grant it. Or, you can get one from the county and the Corps, but the state will not grant it. It is a pain, but we are working through that.

We have a permit for a major hydrogeneration facility that requires that oxygen be injected into the effluent in the tailrace to bring the dissolved oxygen up to minimum requirements for fisheries protection at low flows. That is an expensive item, but it is in the permit. Things are changing in Idaho.

I think that the Department of Water Resources has protected the traditional water users through all of the changes today, but there are some things on the horizon that may be difficult to do. Let me mention one of them. There is, I think, a possibility that within the next few years we will be taking a look at a new duty of water for irrigation. There may be imposed minimum best management practices for irrigation that could include minimum irrigation efficiencies. That would interfere and drastically change old water rights and it could probably be done under the public trust doctrine.

I mentioned the Water Resources Board's ability to apply for and get in trust instream water rights for the people of Idaho. The Legislature has set minimum stream flows unilaterally on specific streams for the protection of either the autonomous fish runs or water quality. One of the things that is a constraint is that in Idaho, at the present time, there is no provision for changing a decreed irrigation right to an instream right while maintaining the same priority. You can make the change, but you lose the priority. That is a tough decision to make. I think we are going to see a testing of that particular provision in the next few years.

What bothers Idaho users? First on the list was California. The County of Los Angeles, or the City of Los Angeles, has made another overture to appropriate water, not really appropriate, just take it, from the Snake River in southern Idaho. We would like to make a deal. Perhaps we can bargain. The public trust thing is scary for all of us, but we are going to have to deal with that.

The irrigation district is facing perennial problems with not being able to use chemicals and demossing water quality problems and possible permitting of irrigation return flows. Those things are scary. We have in the Snake River autonomous fish runs from the Pacific Ocean, overtures to utilize some of the storage in the Snake River system for fish flush runs to make sure that the smolt get back down to the Columbia River and down to the Pacific Ocean. Those could interfere ultimately with traditional water rights and water quality problems.

Water quality is generally not a problem, but we do have this problem this year. Algae blooms on the Snake River, high nutrient loads from irrigation, plus aquaculture commercial fisheries add to the problem.



We need a revamping of the water master system and we need a lot more research on system management.

**Question:** Mr. Brockway, you mentioned the possibility of improved efficiency of application. What sorts of improved application efficiency methods can be used and still guarantee return flows to downstream users?

**Charles Brockway:** There is nothing in the statutes of the State of Idaho's water law that requires a person to irrigate with any specific efficiency now. Either to improve efficiency or to maintain an inefficient process even though we know that inefficient irrigation is the best and cheapest means of aquifer recharge that we have. That will have to be worked out. We have had instances in the state where there have been lawsuits and threatened lawsuits to require individuals to maintain surface water irrigation systems as opposed to sprinkler systems. Those have not been successful. We have had a lot of conversion from surface water gravity systems to sprinkler systems that have impacted downstream return flows and established water rights. So you have to know the system before you can make a decision on whether to require or even encourage increased irrigation efficiency.

**Question:** Mr. Fassett, what would you do if somebody wanted to inundate one of your instream flows with a dam or other project?

**Jeff Fassett:** You mean actually build a dam in the segment where appropriation has been made? I am not too sure what I would do. We just have not been faced with that. Right now it is sort of a non-issue because the lands have been protected. You would have to go through quite a process to resolve that. The water right is in existence and the state, as an appropriator at that point, holds the instream flow water right; it would be no different than effecting somebody's diversion dam. If you have a five-mile water right, you have a water right through five miles and that means all of it in between, too. So I think the permittee, which in this case is another state agency, not me, would clearly have standing to try to be a real player in some sort of conflict like that.

**Question:** Mr. Fassett, you indicated in your statements that your office is very proactive towards permits, that you feel like you are there to grant permits. Yet, you stated that you have approved only 3 of 14 instream flow permits, which is less than 25 percent. How does that approval rate compare to other beneficial uses during your tenure and did your decisions generally reflect the sentiment expressed by the citizens of Wyoming in the public hearing process that was required by your instream flow law?

**Jeff Fassett:** The reason more have not been approved is that they are not ready to be approved. You have got to remember that there is always a priority system set when an approved application hits the door. There is a real race-to-the-courthouse type of attitude sometimes to do enough to make an application acceptable well before a lot of the technical engineering and even biological information has been completed.

So even though I have 14 applications, those are not literally just sitting on my desk waiting for a signature. There are still a lot of technical things that are being resolved, but it allowed them to come in and hold their spot in line, if you will, under the priority system. Regardless of when I approve a permit, the priority goes back to when it was accepted into the office. So there is no loss of a priority by a delay of action. We have had some of these that have been there almost a year and that is not terribly unusual.

Certainly, major water right permits could easily be around that long between the time they file for it until it is approved. The extreme example of a couple of days are very simple kinds of activities. Major dam or major municipal types of projects would take longer to get through the process. Of the ones that I have approved, two of those were for precisely the quantities the Game and Fish desired. On the first one I made a small modification because I did not agree that the minimum amount necessary had been requested. I felt it was a higher quantity of water in my own analysis separate and apart from the Game and Fish and the hydrologic studies. That was a discretionary decision of the State Engineer which was not taken on any further.

Other than that, the public hearings, all of the five that we have had so far, have been extremely favorable to granting the instream flow. The main issue of opposition has been really an enforcement action. It has been concerns from upstream ranchers primarily, who are concerned about small stock watering and domestic kind of things. We even had a number of camping recreational concessionaires complain that they may need little bits of water for campgrounds in the future, something that would be later in priority. And they were concerned that instream flow would lock up the available unappropriated water for the majority of the year. So we were able to accommodate those.

We will allow, through a subordination process, some minor types of outer priority diversion. So we were able to resolve that issue, but the majority of the testimony that I have received at the hearing has been very favorable. And as such, I think there is clearly some criticism about the speed at which these things are being approved. But it is just a much more complex technical issue. I did not have a lot of biologists on my staff to evaluate these kinds of permits as opposed to engineers.

**Legislative Panel**  
**"As Colorado's first Governor of the 21st century, I would . . ."**

Moderator: Brenda Mitchell

**Brenda Mitchell:** Our luncheon speakers are going to be discussing some of the things they might do if they were the Governor in the 21st century. Don Ament is our State Representative of District 65 which is the eastern counties of Logan, Morgan, and Sedgwick. He is now completing his second term. He is the vice president of the Agriculture and Natural Resources Committee, a member of the Highway and Legislative Review, and is heavily involved with workman's compensation legislation. Representative Ament also serves on the Governor's Great Outdoors Citizens Committee.

**Don Ament:** It is very interesting that they titled a topic, "What you would like to do as Governor in the 21st century." I am an irrigated farmer on the South Platte River. I have been involved in water projects since, well, I think my grandfather was one of the first ones to start that Narrows business and tried and do some channel storage on the South Platte River. We still have not completed that project. So as you can see, I may not be getting my job done, and this is the reason that I am so concerned.

What are the problems? I think a governor needs to really be active in defining what those problems are. I think we have a bunch of problems. I am alarmed at what we face in the future for water in Colorado. Let us take a look at some of the things we are facing right now.

First of all, we have the metropolitan demand for water and I am not critical of that. If the Denver Water Board had not had some foresight, some money, and some political clout, there would not have been the water development in the State of Colorado that is there already. So I am not critical of the metropolitan water demand. I just think we need to deal with it because it certainly affects what we are doing with agriculture water. And agriculture water is the number three contributor to our economy and is something we ought to worry about. And so these two things have to go hand and hand, metro water and agricultural water.

Why would I be concerned about that? First, because of the way the Environmental Protection Agency looks at water development in the state or any place else for that matter and how they accept local input. That kind of thing bothers me. Second, I am very worried about how we balance the environmental concerns with what we do with metropolitan water. Are we going to try to conserve water? Because after all, as I am sure you know, what I live on down there on the lower regions of the South Platte is what other people waste. And I want to make sure that the return flows, which I think are an important part of the Colorado water system, continue to benefit all of us.

And then we get into water quality. But first we have to be aware of those demands that are being placed on metro water. I am really concerned, because for the first time that I can remember I have heard mayoral candidates and city councilmen campaign on the platform that you go and buy agricultural water at any cost. A big concern to those of us on the eastern plains is what we are going to do about agricultural water.

Well what about the new interest that the federal government has in water? That is something that really worries me, too. In 1907, my grandfather bonded a farm to begin a project with horses and antiquated equipment to put into place what we call the North Sterling Irrigation District. That has literally made the economy in that 45,000 acres of which I have chosen to call home.

So now, nearly 100 years later, we are talking about the federal government stepping into this situation. We are talking about whether the federal government has a water right, whether the U.S. Forest Service has a water right, what does "wilderness" mean and so on. And do not get me wrong, I have carried hunting and fishing licenses successively in the Legislature. I have been involved in environmental issues in the Legislature and I make my living on taking care of the environment. But at the same time, I think it is important to maintain a balance.

I get concerned about the feds coming in having discussions about wilderness, what they would like to accomplish, and who they are taking directions from. Because a lot of us have spent a lot of time understanding the issues that are important to Colorado. Many of us are very well aware of a very sophisticated water law system, the prior appropriation law in Colorado, and needing to put water to beneficial use.

And I think before we let anybody come in, and especially from the eastern part of the United States, and tell us how to deal with water, I think they better take a lesson from us on how we have dealt with water in the last 100 years. And so certainly our water law in Colorado is one to be protected, the beneficial use policy is certainly one I want to keep in place, and so we have some work to do there.

Really, what role has the Governor or any governor played in this process recently? That is something that instead of legislators talking about the Governor's role, our candidates for Governor that we are going to vote on should debate. I would like to know what they have to say. I would love to ask them some of these questions. Well, certainly how this whole business of Two Forks, the Environmental Impact Statements, what we do with wilderness, what we do with wetlands, etcetera. I am sure if you have been keeping up on the Two Forks discussions, it is interesting to think about the three-for-one exchanges and whether this is a viable alternative to putting forth a project or whether we really have to look toward something else.

Certainly our ability to attract tourism, to have a hunting and fishing type of wildlife experience in the state is important. It is important not only to our quality of life, but to our economy. So I am interested in those kinds of issues. I think that a governor, and I suppose that is the effort of the Great Outdoors Colorado

Program, should come forth with a plan, with something that people can talk about, something that they can cooperate on, compromise on, and something that will not only protect that part of Colorado's heritage, but will also allow the economy to carry on. As you know, we come up with tax problems, tax limitation efforts, and on and on it goes. We have to be aware of the economic impact of all the things we do.

I think it is time that we come together as water users, as recreators, as an entire community, and protect what is really important to Colorado. And I would suggest to you that if you follow the Legislature and the Governor, you would see that we have done very little in preparing a long-term plan for Colorado, as far as water is concerned.

As new quality standards come down the road, have we prepared business? Have we prepared agriculture? Have we prepared people to deal with those kind of new standards and new values? Are we making it a place that we can thrive and use this water and put it to beneficial use? I am not convinced of that, but I am convinced that it is the role that we need to take and it is the task before us. And it is not going to be an easy one because too many times when we start talking about environmental issues, we get involved in emotional discussions and sometimes the actual fact of the matter gets lost in the emotion.

So when I hear that 1990 is going to begin the decade of the environment, that we are going to make these sweeping changes, that we are going to start listening to 80 percent of the population, it bothers me that two percent of us is trying to put the food and fiber on your table and we do not have a very loud voice in all of this. But we have a lot of experience on how to deal with these kinds of issues.

I am really concerned that those people that live in Colorado, that have been working with the prior appropriation law, have been working with the environmental issues, will not be listened to as we start to shape the public policy for the 1990s and the 21st century. So I would hope that as we approach these policy decisions that we could all do this in a framework of cooperation, a framework of understanding, and see if we can carry forth with what has really made Colorado a special place to live.

We have a special thing here, being one of the very few states that does not import any water. So we really have an opportunity to develop our water and return it to a lot of those basins in the quality and quantity which will allow other people to use it. So I think that is the way I will start my term as Governor. I hope I will have all of your support when I make that step.

**Brenda Mitchell:** Our next speaker is Margy Masson, the State Representative for District 58. That is the southwest counties of Montezuma, Delta, Montrose, Ouray, San Miguel, and Dolores. Margy is in her second term and is serving on the House Agriculture Committee, the Western Legislative Water Committee, and the Local Government Committee.

**Margy Masson:** It is a great day in Gunnison . . . rain. It is much nicer to talk about water when we have had some rain. Everybody just mellows out a little bit; you are not quite as tense or brittle. I think it will help everybody's point of view.

When I am Governor, I would be the first female Governor. Yea! I think we can deal with water, the economy, the point of view of an incredibly anxious state, and why I would come and talk to you this way and talk about anxiety is because I know you feel it. But I think maybe we would rather recognize that anxiety. If I have the opportunity to be Governor, answering those concerns would be my priority.

What are your anxieties? Obviously they have to do with money. Money tends to raise the hackles on everybody's neck, whether you have it or whether you don't. The State of Colorado's economy has been flat for quite a while, but at least we are showing a little hump.

As we look at what causes an anxious moment in the state, we find it is looking at a \$5.4 billion budget of which half is revenue generated into general funds. You also see an increasing demand on the pay-as-you-go or cash fees over and over again. Rather than raising general fund revenue, we just raise a fee a little more. It is sort of hidden taxation. But everyone of you as you look at it realizes that \$222 million was increased in hidden taxes. That is serious. We are facing a tax revolt in this state.

I met with several people on the Highway Commission recently, as well as Club 20. Club 20 was very, very clear as they spoke to people from the Front Range who had dealt with the Highway Legislative Review Committee (HLRC). They had told the HLRC that you cannot just look at all of Colorado and say we are going to improve the highways, we are going to drop the off-the-top, we are going to pick that up in increased revenues. That is about \$66 million. Increasing those revenues from where? Where are you going to drop the off-the-top? How do you raise \$66 million and not raise taxes? Good question? Good question.

When you talk to folks, particularly from the Western Slope which went very strongly the last time for the tax referendum, I feel that their wishes are stronger than ever. It is a real concern of mine as we look at Proposition 1 that is going to be on the ballot this year. We follow it all the way down to the very tail end and realize that, yes, in fact, if a proposition such as this passes, you and I at the ballot box will deal with such tedious things as the increase in fees for C.U. football tickets. Maybe that is really relevant to all of us here, but I do not think it is. I think what we are really here to deal with what we are spending our money on in the state and what our opportunities are in changing how we spend our money.

Since I have been in the Legislature, it really seems to me that we budget backwards. Every spring we go to the mattress and we do the budget. Everybody grumbles and everybody whines and everybody comes in and lobs a hand grenade, and makes about a one-tenth of a percent change in the budget. The bottom line is X amount of dollars come in, and thank God we do not spend more than that. Yea for Colorado!

But what we really need to do is look at the big end of this budget. Why in the world cannot we pay the big end first? You never cut programs if they get funded first, do you? If you are going to reallocate where the money goes, you have got to look at the programs and you have got to spend for the four big items first. And obviously those concerns are social services, corrections, education, and transportation . . . the four big ones. Pay for them, acknowledge them, and then deal with the periphery. And the periphery is heavy duty stuff, I know, but we can do it.

So as Governor, one of the things that I would like is to be able to work with the Legislature. Colorado has one of the six least powerful governors in the United States. The Governor we have right now realizes that and he functions very well. In fact, because he knows of his powers out in the community, his home on the range and all of his many activities, he has gone out and met a lot of people. That is where he is successful. And in that success, if you take it one step further, is where you build a coalition with the Legislature in order to make Colorado's government positive. You would have to do that in order to change any other opportunity for budgetary practices.

When we look, water is your primary interest here. Over and over again I pick up periodicals that come in my mailbox and they will say, almost point-blank, "East versus West, West versus East. I have it, you want it, how do we get there?" I feel an incredibly different change in that attitude. We have a lot of people in our state that are incredibly knowledgeable about water, its directions, uses, and needs. We have also polarized ourselves forever and ever when you mention the word water.

But I feel a wind of change and I truly mean it. I have felt it all over the state since about the middle of March. I do not know quite why it is there, other than we are not going to get to the most anxious point of our lives. We are realizing that the federal impact and assertion of federal rights on water is more than critical for us. We have already met the big hand of the feds for years and years and years. The more we dilly-dally around on how we will determine usages from stream flows to conservation uses in the home, the more we fiddle around and do not get to work, the more we lose.

So maybe you will not see the opinions come from the people we have heard from before. Maybe the message for tomorrow will come from someone we have never met. But let us learn one thing and that is you and I each have the opportunity to receive a new message. When we do that, we open our minds. We open our minds, not to change, but to a future. We offer ourselves the opportunity for a perspective. We offer those who are willing to share their ideas with us the opportunity to make our Colorado stronger.

I walked out of a little business in Nucla, Colorado, on Thursday. As I walked out the door the lady said, "Margy, I'm really so glad you came by and it's always good to see you, but would you do me a favor?" And I turned around expecting a concern about worker's compensation or one of those little trifling things we deal with. And this lady said to me, "Would you be supportive of us in seceding from the state?" I thought that was kind of sad. We have an incredibly good state. Divisiveness of attitude weakens our state. As Governor, I would want to do my very best to overcome such divisiveness. How and when?

I am not going to get into that now. I am just glad I had the opportunity to tell you that if given the chance to be Governor, I would give it my best shot. Maybe I would have to face-off with Don Ament, but it would not be the first time.

**Brenda Mitchell:** Our next speaker is Matt Jones. He is the State Representative in District 34, Adams County. Matt was first elected State Representative in 1986 and was elected Assistant Minority Leader in 1988. He serves as a member on the Agriculture, Livestock, and Natural Resources Committee and Legislative Council. He is really thought well of by his colleagues, as he was awarded the Outstanding Freshman Representative to the Colorado Senior Lobby in 1987 and 1988.

**Matt Jones:** When I first saw this topic, let me see if I have the correct name of it. It is, "What would you do as Governor of the 21st century," basically, and I figured it out. That means that, I am happy to tell you that a Democrat has been in the Governor's office now for over thirty years, or close to thirty years, which is just great as far as I am concerned. But I probably alienated about a third of the audience and all the politicians so far.

We have been talking a lot about policy, but I think many times we forget what drives policy. I mean it is not created in a vacuum. Yesterday I heard all these comments about, "Oh, the Legislature will have to look at this issue," and I just went, "Oh, boy." Heaven help us, because a lot of times we do not get the stuff, different interests, that kind of thing, but policy does not come out of nowhere. It comes out of things that drive it such as attitudes, public opinion. I mean, we are just like a business. The businessman provides a service in return for a dollar, basically. We provide a service in trade for votes.

It is a really blunt way to look at it, but that is what our job is, to represent the people who elect us, the majority of those people. So it does not happen in a vacuum. The other thing is that the economics of a state or any kind of culture really drives how people think. What I want to talk about today is the public attitudes and the economics. And the theme of that is change. Change is happening, it has been happening the last 20 years, all the way through the year 2000. It will continue to change and I think our system of keeping up with that change in the Legislature is slow. And the Governor has a role in pushing that, as well as do the legislators.

Let us look at the survey research, the opinion research. Year after year the environment is number one or number two in the public opinion polls. Just recently it slipped to number two because of the job situation since about 1986. But it is number one or number two. That is not going away. People think that is important and people, even more so by the Baby Boomers, people of my generation that have huge voting clout if they voted, really hold it as a primary issue.

What is going to happen is that people are going to look at the retirement, see what has happened in Social Security, and really see it as a pocket book issue. They will start to become more and more active,



because it is their hide if they don't. We are going to see more and more of that and these people think of themselves as environmentalists. The poll I saw said 75 percent of the people nationally think of themselves as environmentalists now. So that is happening. That is real. It is ongoing and it has been the trend for a long time.

The economic, tourism, and recreation industries, as we all know, have been growing and growing and growing. If you look at Glenwood Springs, with the new alliance with the Chamber and the recreation industry, you say, "Wait a minute, what was that alliance with 30 years ago?" Was it with different entities? So this huge coalition is building out there, is changing the face of how we look at how we derive our dollars for our well being in this state.

And we see little pieces of that in legislation. The instream legislation, the trails bill we had last year fits that. Although, we said this cannot affect any water rights, but we want to put trails along rivers. You know, do not touch the water rights. It is almost like begging the question. Aesthetically, people love to walk along those areas and they are also the easiest places to put trails, but they cannot affect the water right. It is recognition of those rights having value without putting a value on them.

Those two things are happening and they are going to happen through the turn of the century. A 30-year and 40-year trend is going on. I try to relate this thing at 10 years out. A lot of you see my daughter running around here and she will be 10 years old by then. And I start thinking of long term, 20 years. What is going to happen to people like that? You have to really think like that to understand where we are going with these things and the transition that is taking place.

But, what would I do if I were Governor? There are a lot of things I would probably do if I were Governor. But the three I thought I would concentrate on are conservation, how we allocate the water, and the coordination of all that. It is just a big issue.

First of all, on the conservation side, I would issue an executive order and seek funding for changing our state projects so that they are water efficient. I would start with the state capitol. Have you ever walked across that lawn in the summer? It is a bog. It is just wild to me that we do that and we are supposed to be setting examples. But I also have to say that it is a state-wide issue. I saw the sprinklers run out here after a rain yesterday for one hour. You know, as much as you water concrete, folks, it just is not going to grow. That is just the way it is. So that is the first thing I would do.

And on the agricultural side, the evaporation loss, that kind of thing, I think the Extension Service has a very legitimate role in helping people increase the use of their water. I know you have to have the return flows so other people can use the water, but that is not true of evaporation. If you can reduce that or the deep, deep percolation, you can do some good things.

On the private side, I would help expose what I call the great bluegrass hoax. People are so brain washed. They are told that bluegrass is the way to go. In fact, the Extension Service put out a brochure that I am

trying to get them to retract, because it says that bluegrass is the best multi-use turf around or best all around turf. That is such a subjective statement, it is unbelievable to me.

I figured out that I spend roughly eight hours watching that lawn a week, which I hate quite frankly. I do not know about you guys, but eight hours a week is a long time for me to spend on a lawn. Watering it, mowing it, trimming it, and getting the kids to help, which they do not want to do. I figured out in the course of a summer, if I put in a fescue that takes half the water and half the time, I could save 100 hours. I could spend that time with the kids, go out fishing, golfing. I could spend that time making income to better my life. That to me is incredible and people, time after time, keep putting in new bluegrass lawns in the metro area. It just does not make sense to me.

The other piece to that is the water. We heard about Two Forks yesterday. Less yield. I do not know what the cost of that water is going to be, but I will tell you when the water bill comes due for some people, it is going to be a significant part of their budget. They are going to say, "How am I going to cut back?" So I think the economics are going to drive this whole thing. It is happening in my district now. People get expensive water from a city next to them and they are screaming bloody murder. They are going to change their habits.

The other piece is how do we value water, the whole public interest issue. I think we should spend some time looking at other variables that fit into that to see in the equation what we should include. I think we are sticking our head in the sand when we do not think that the public does not put a large value on aesthetics or the ability to go fish for a trout or any of those things. I think Neil Grigg hit it on the head yesterday. You can put this into economic terms. We have an economic system that is based on moving water toward dollars. It is a good way of measuring what you are getting and we should continue that.

But maybe we should ratchet in additional value on some of these things. If you go door to door in my district, which is a Democratic district, you will find that it is a conservative district. It is working folks. They would agree with me. And I think we are the ones who are not 100 percent honest. I think that they are the ones that say, "That is important to us and we are willing to pay through some sort of revenues for that." I do not think that is going to happen overnight. I am not naive, but I think that is a thing that people value.

Now that I have everybody nervous in the room . . . I knew I would alienate the half that I had earlier. Finally, and it fits with this valuing of this water and what it does for us, I think we need to work on better coordination and transfer of those waters. I know it is kind of a pie-in-the-sky thing to say because it is very difficult to do. But I think we really need to work at that. If this Two Forks proposal, this latest one, does not go, people will be wrestling with twenty-two 200-pound gorillas instead of one, 800-pound gorilla. They are really going to start to scream. I mean it is going to be more of a nightmare. It is going to be in everybody's interest to coordinate on this thing, because quite frankly, the water is going to start coming from agriculture. And I think people know that and that is what makes them very nervous. I do not think any of us want to see that base of our economy eroded in that way. And incidentally, I represent a part

of Thornton and it is the city's decision. But it is hard for me. I grew up in Northern Colorado and it is hard for me to see that happen. I think we can find better ways. And I think the public would agree with that. They would agree that we should probably do it more efficiently.

So there is a real driving change. It is going to happen and I think we have a choice at this point. We can look at the conservation, the other variables of the value of water, better coordination, that kind of thing, or we can choose not to through inaction. I have been in the Legislature for four years and I know it is a body that is built for steadiness, not speed. Really, it is a stability body. It is the way it was designed, but we do more things on inaction. We do so much that way that I do not think we are really going to address this thing head on. I hope by the year 2000 we do a better job at that. I think that we are looking at evolution, or revolution.

**Brenda Mitchell:** Our next speaker is Senator Bob Pastore. He is the Senator for District 5 which is quite a large district. It spans from the San Luis Valley all the way to Delta, Colorado, and includes Gunnison County as well as Chaffee and several others. Bob is a land owner in the San Luis Valley, has an adjudicated well there, and is very concerned about some of the water development issues that are going on in the valley right now.

**Robert Pastore:** My kids came home this week with something to help me prepare for this speech. They came home with a video, "Back to the Future, Part 2" by Steven Speilberg. A lot of imagination Steven Speilberg has. Part of the movie takes you to the year 2015. Now if you will use your imaginations with me, we are going to the year 2000 or 2001, after I have been elected and take office. For those of you who have not seen this movie, what happens is that two or three people get in a DeLorean. The doors lift up in the DeLorean, and they take off and fly around until they end up in the year 2015.

Steven Speilberg has a wonderful imagination, but he went too far. He has the cars all flying. You fly right away from your parking space, you know, sort of magnetically, I guess. It is not going to be like that in the year 2015, not in 25 years. Things will not have changed that much. They will be a lot more the same than they will be different. And of course, in the year 2000, things will be a lot like they are today.

We will see projects like the Union Park project up here on the Taylor River, the Collegiate Peaks project and American Water Development Inc. (AWDI) the one that is seeking to pull water out of the already desert-like San Luis Valley. We will see them kind of where they are today, except that maybe they have gone to the Supreme Court and back, once or twice.

Now, you have to go with Steven Speilberg and myself. We are in the year 2001 and I am the Governor, which takes a little imagination, I understand. I look back at the two previous Governors. Now let us be the writers of the script here. We have only had two Governors in the last 24 years. One of them was a big time environmentalist for the 12 years he was Governor. Now in the year 2001, he is a big time water

developer. The other one was a big time airport promoter for his 12 years, big time growth; let's expand Aurora; let's move to the Kansas border if necessary in the name of economic development. But lo and behold he has turned environmentalist, right toward the end of his term. So by some miracle I get elected and what do I do? Well, I will tell you what I do. After having battled AWDI, Arapahoe County, the Union Park, and the Collegiate Peaks for all these years and every year I have run my transbasin and diversion bill unsuccessfully, I have a chance to do what I think is right. For 24 years, I have seen these two characters make their mistakes and I have learned from them. And my job then becomes to go out there and educate people.

In the future, what do we have? We have the beltway now around the entire City of Denver. It was billed as something that would cut down on smog. Did not do it, why? Because we as a Legislature and all of us in this country still did not have the courage to burn something in these automobiles besides petroleum. We are putting little additives in here and there making a one percent, two percent difference and that is all. We are still dictated to by the oil companies. So the beltways and growth that came about because of the brand new airport that is now in place with all the jets coming in and out, just made everything smoggier. And what do people do when it gets smoggier in the Denver metro area? They come to Gunnison County more often, don't they? That is what makes it just a little bit easier for me to sell my whole agenda. And my agenda is going to be that we enact firmly into law a statute which will control the constant raping of the waters of the Western Slope and other areas of the state.

And why am I going to sell that? Because by this year that we are talking about, agriculture and tourism have seesawed back and forth. In fact, this year that I am taking office, guess what? Tourism jumps out as the number one industry. And let me tell you, East Colfax did not have a whole lot to do with that. Gunnison country had a lot to do with that. My district as a whole had a lot to do with that, with the skiing, fishing, hiking, hunting -- all of these things.

Throughout the time I was in the minority party, every year I ran my transmountain diversion bill, I lost, every time. I would get close. We would get it out of one house, over to the next house, and lose it. This was due in part because county commissioners from the Western Slope wanted more power than we were wanting to give them. Then one year we gave all the power to the county commissioners and the judges got mad and lobbied. And if it was not that, then the water conservation districts jumped in because they were not quite happy. And then of course the Denver Water Board would always kill us right when we thought we were going to pass it.

Seriously, I think we will have come to the realization that we have to do something to protect these waters. We need to leave the waters in the rivers where they are, for tourism and farming. The piece of land that once produced potatoes, barley, grains, whatever in this state, is dry and that is a shame. And even more of a shame would be a dry Gunnison River that once was a great attraction of tourism and a booster of our economy running about 300 cfs. So my job to educate the rest of this state as to what we really need to do is not going to be that hard, is it?

**(Question Inaudible)**

**Robert Pastore:** When I go to answer that question, I have to put things in my own backyard in the San Luis Valley where I live. As I have said, we have AWDI coming at us from one end and then we have a certain number of people that want to make the gorge where the Rio Grande River leaves the State of Colorado Wild and Scenic and have reserved federal water rights there. And I look at my neighbors all around me that grow potatoes, barley, and wheat. And they are going to be caught in a real bind. Even though I am somewhat sympathetic to the idea of Wild and Scenic, the gorge leaves the San Luis Valley and goes off toward Taos, New Mexico. You are never going to be able to build a road down in there. The reserve water rights part of that I am opposed to.

And so I want to go on record. Certain people have accused me of not having a very strong stand on that. We cannot have those federal reserve water rights in the wilderness and Wild and Scenic, especially downstream. It is just going to put us between a rock and a hard spot. With agriculture, we will maintain. It is right in there at the top of our industries in this state. It is going to stay that way. And we cannot put farmers in that type of a squeeze.

**(Question Inaudible)**

**Robert Pastore:** I would have to say that I would experiment with the idea of maybe the state board having the power to put flows, to buy up some water to keep in flow. I know that is stepping on toes. When we think of the AB lateral, for example, down here at Blue Mesa there is talk of water being purchased in effect by the state to maintain minimum flows maybe of 500 cfs. I may change my opinion in the future. I know there are a lot of people that do not ever want to see that come to be, but I think that just might be the answer. I am a novice in water law. I am an attorney of 18 years, but I have only had three cases in water court in my entire career. It is only since AWDI came into the valley after their 100 wells, 1,005 feet deep, trying to suck us completely dry in an already dry desert that I became interested. I became a water law student. But I would say that the state does need to have an interest in stream flows. They could actually purchase water to let run down in the key places.

**Margy Masson:** Last year I was coauthor of a resolution that went to Congress concerning federal reserve water rights. The primary focus of that was that there is not a federal reserve water right, not in the states of Colorado, Wyoming, Nebraska, Utah, Montana, Arizona. There is not to be. What we intended was that our states, each in separateness, but together, would make that very clear by statutes of our own. And, in fact, the resolution asks for a denial of the premise and maybe that is a place where we need to start. You have to say no and we are not saying no right now. Had the federal opportunity been taken earlier,

we would not have the question today to answer. But it has not been, so it seems to me that we still have the opportunity to say no.

**Matt Jones:** I feel like I am in Ag committee again. Here is the counterpoint. I think Margy ran that resolution this year and did a substitute in total, saying that headwater wilderness areas should have a reserved right. Only headwaters. I think downstream, especially near the border, that causes real problems. But with headwater wilderness areas, I see no problem there because nobody gets injured. Again, I feel like I am on Ag committee sometimes. I am outnumbered a few votes, but that is going to change.

**Don Ament:** I have headwaters occurring on my property 150 miles northeast of Denver. Water comes out of the ground and is a tributary of the South Platte River. We are just getting into a whole can of worms there when we start talking about reserve water rights. But what can the Governor do? We are going to elect a Governor in November and I would hope we would put him to that test.

And what is the role he is going to play? For some reason, whether the population is supportive of the Governor or not, the Governor has a lot of influence. The press hangs around the Governor like you would not believe. The Legislature does all these antics, and really what press do we get? But the Governor goes around the state with a dome and does anything, and he gets press. So we ought to expect the Governor to set the tone for what we want to accomplish, what we believe in. That cheerleading role that we all hear about, he ought to assume that role and he ought to take out there into the public forum those issues we think are critical to our future.

**(Question Inaudible)**

**Don Ament:** The question is understanding everybody's biases and everybody's problems. That is the value of conferences like this; you listen to a person's problem, you try to understand its uniqueness, and you wonder how can we work this out together?

Now what comes to mind is my concern about wetlands. I live where the annual rainfall is about 12 or 13 inches a year. The only wetlands in northeastern Colorado are wetlands that I created with my irrigation water. I am not in favor of somebody telling me how to change my farming practices or getting control of that, since I created it. Now, on the other side of that issue I really feel that we have a responsibility and probably in our tax policy ought to make an exception for those kind of people who have an interest in creating habitat. And that is why I carry bills that help finance creating habitat. I think we ought to create a policy that would tax people and an incentive to people to create that kind of habitat and let it be utilized. And I think that is the private sector that most of us live in out here in the western United States.

And so I am back to a team concept. I really think, as a minority legislator, that those of us who are rural legislators really realize what real minority is. But what we need to decide on here is a collective group. How are we going to survive together. We have to listen to greens, we have to listen to blues, and most of all, we ought to understand one another's problems. Just sit down and listen to 100 legislators debate and see if you think that everybody understands one another's problems.

You all hear about communication and it is so easy to say that we need to communicate. We do need to communicate and we need to have an understanding and a sympathy for one another's problems and work them out together. I really think you are hitting the nail on the head, because we are beyond manhandling this situation and forcing it in one direction or another. In the year 2000, we had better be. In a state like this, we better have our act together or we are going to be defeated by California or Arizona.

Isn't it astounding to think that Colorado has six congressmen and California has 60? If we do not control ourselves and get our own act together, somebody else will do it for us. And that is the way I feel about government altogether. If local government does not handle their problems, state government will handle it. And if we do not handle ours, the feds will handle them. The farther it has to go, the less we have to say, and the less special information is dealt with in the issues. So I am into this big deal about holding hands together. It is time to realize that in a state with a population as small as Colorado, we ought to be able to put our act together and am hopeful we can do that.

**Matt Jones:** By the way, in the reserved rights, none of Don's ranch or farm operation was in that resolution, so, he is safe out there. My view is similar to Don's. It is a real team concept kind of thing you have got to get into. That is why I talked about getting people together around the table and determining if there are other values to water. If so, should they be in the system? It is a real can of worms to open when you do that, because everybody who does not have it wants to have a new value in it. You have to be really careful. If we do not sit down and as a group try to work this thing through, I think we will have bigger problems from outside our borders, as well as just being out of touch with the people we represent.

## **Incorporating Non-Consumptive Uses Into the System**

Moderator: Brenda Mitchell

**Edward Sparling:** (Beginning of speech inaudible.) . . . we did find that an added acre-foot of water would increase the fish catch by four. Now that is water added at the optimal time and at the optimal flow rate, for example in wintertime. What I am using as a value of fish here is \$4.50. That is of fish caught. This one is subject to lots of debate.

Dick Walsh is an economist in our department at CSU and he has recently come up with a cost figure of planted trout, \$4.50 a planted trout. So actually by the time you catch one of those, it is probably going to cost you somewhat more than that to replace a caught fish. That \$4.50 is not too astronomical then. So what we come up with is a value of about \$18 an acre-foot for water in the fishery. Again, it is water that is released optimally, an optimal amount in optimal time. So we have \$18 here. I do not deny that this figure can be debated, in particular with the value that fishermen place on a fish. This is something like the average value of the fish caught.

As far as boaters go, the people that were contacted were mostly whitewater rafters, although people on the Gunnison River were really more into floating rather than riding for the excitement. We did find that people would have been willing, that is in aggregate, to pay about \$27 an acre-foot for additional water during the time they were rafting. This is on the Taylor and Gunnison together. Basically, the value on the Taylor was \$26.50 and only \$.50 for an incremental acre-foot of water on the Gunnison, that is partly because the Gunnison is not as exciting and because an acre-foot of water when you add it to 1,300 cfs is not all that much.

Now here is a set of values which ends up being very high and some of these figures are fairly solid as well. Recreation and preservation are two that we just did not deal with, such as instream flows in the Black Canyon. What we did look at was power generation and dilution and in particular, dilution of salts in the Colorado River and withdrawals by urban users downstream, including the Metropolitan Water District of Los Angeles.

In power generation, there are approximately 2,000 kilowatt-hours of electricity generated by each acre-foot of water that is behind the Blue Mesa Reservoir. The way these values were estimated was fairly conservative. We used prices that reflected the alternative mode of generating the electricity both in the lower and upper basins. In the lower basin it came to \$4.78 per kilowatt-hour and the upper basin was \$2.44 per kilowatt-hour. What we came up with for the value of power generation per acre-foot was \$66.50. That is a bit conservative. In effect, a lot of the water that is used for hydropower is used to peak load hydropower. So the value is a good bit higher than the \$2.44 kilowatt-hour value.



It has been estimated that the cost of salt in Colorado River water that is used in the Metropolitan Water District of Los Angeles is \$100 per acre-foot. That is one estimate found in the literature. One way you can look at it is that the water that the Colorado River supplies to the City of Los Angeles is worth \$100 less than water that they might get from the San Joaquin Valley where there is not much salt. In effect, what we find is that a minimum value on an acre-foot of water to Los Angeles is \$475. Now if we adjust that for the cost of the salt in that water, it would be \$375. Another way of putting that is that the value of an acre-foot of water that is not saline that dilutes is roughly \$100 in terms of its dilution value. We see then that we have something in excess of \$500 just in value to downstream users.

If we were to add in the value of the water to the fishermen, and we can do that in the wintertime, we come up with a conservative or a real low-end estimate of the value of that water as it is flowing out of the Taylor Reservoir during those winter months. In the same way, we could replace this \$18 in the winter months with the \$27 for the summer months and have a similar kind of value for downstream or instream water.

There is yet the other aspect of instream water value -- the value to the community. Basically, figure roughly that a visiting fisherman spends about \$100 a day. And if you were to increase the amount of water that goes down the Taylor River during those crucial months by 2,400 acre-feet, that would increase the flow from 40 cfs to 60 cfs. You would produce 9,000 more caught fish. If we figure that those fish then attract an appropriate amount of fishermen to catch them, then we are looking at something like 130 fishermen to catch those fish. The 130 fishermen times their \$100 a day comes to \$13,000 in expenditures. You can simply double that if you want to look at the multiplier effect. There has been a recent study of the effects of fishing on Blue Mesa Reservoir in Gunnison County. There seems to be a relationship of about \$2 in total business generated for each dollar that is generated in fishermen expenditures out of the Blue Mesa Reservoir.

**Brenda Mitchell:** Our next speaker is Bruce Driver and you will notice there has been a change on your agenda. Bruce is a water and energy lawyer and consultant from Denver. He represents the High County Citizens Alliance in their existing Gunnison Basin litigation challenging the City of Aurora and Arapahoe County over their application for conditional water rights.

**Bruce Driver:** What I am going to do is go down eight or nine categories of public values associated with water and pose the question whether Colorado water law does or does not account for these values.

We start with fish. Colorado water law does protect fish in two ways. First, the instream flow program, operated by the State Water Conservation Board, exists to appropriate water for the purpose of protecting the natural environment to a reasonable degree. About 8,000 stream miles now have junior water rights held by the state to protect the natural environment to a reasonable degree. These are very junior rights, but they can protect against changes of use that would materially injure them.

There are basically four criticisms of that program. The first one is that the rights are junior and that they are actually subject to call and are called out upon occasion. Second, they protect minimum flows and those are not necessarily the optimum flows for fish. The third is the way the Water Conservation Board has chosen to implement their authority. The program really exists in almost all instances to protect cold water fisheries. There are a couple of examples where the board has tried to protect a riparian habitat, but they are pretty hard to find. Therefore, the board has somewhat constricted the implementation of the program and the basic authority it has, which is again to protect the natural environment to a reasonable degree. The fourth criticism is that it is not clear that the program is going to be of much help if a municipality or anybody else wants to build a water storage project right in the middle of a reach that is protected by an instream flow right held by the board. That is an issue that is quite complicated. It is being debated by the board right now.

The second way the state protects fish is to permit private parties to divert water for fish ponds in order to raise fish. But private parties in this state may not protect fish through instream flow rights. In other words, you can divert the water out of a stream to raise fish, but if you want to keep it in the streams of a private party to protect fish you cannot do that in this state. So the bottom line is that Colorado water law does protect fish and public values in water, but not totally. And the current policy has been pretty roundly criticized by a number of folks.

The second value would be whitewater rafting. Obviously, whitewater rafting is an increasingly important component of Western Slope economies. Rafting is not something the Water Board has chosen to protect under its instream flow program, because flows for rafting do not seem to fall within the scope of protecting the natural environment to a reasonable degree. Sometimes the potential exists for clashes between rafters and people who want to operate the river to protect fish. And the Water Board has essentially not gone out and appropriated water to protect rafting values. Private parties also cannot hold instream flow rafting rights. Now, obviously rafting does occur in this state. How? Basically through arrangements with the feds and through piggybacking on other people's rights. But people who run rafting companies for a living out here are pretty vulnerable to the fact that they cannot hold rights to protect their interest in that water being there at the time that they need it. So, I think the question is, are these rights protected? Not really. They are not.

The third value is riparian habitat. In theory, it is protected under the Water Conservation Board instream flow program. There are one or two exceptions where the board has not afforded any protection for that habitat. Private parties cannot hold instream flow rights to protect that particular habitat. Again, the habitat's protection depends on piggybacking downstream senior calls, primarily on the instream flow program as it is presently implemented to protect cold water fisheries. So the question again is raised, are riparian habitat rights protected? Not really.

A fourth value would be aesthetics. This is very difficult to measure, obviously, but just because it is difficult to measure does not mean that the value is not there. Most people in this room would acknowledge that obviously water plays an important part as far as aesthetics are concerned. Are those

rights protected? Not directly in any way. Again, to some degree you could protect aesthetic values by piggybacking those values in existing instream flow rights, as well as downstream senior calls. But there is no direct protection for that. The state itself does not get involved with that and so in answer to the question, are aesthetics protected, the answer is no, not really.

How about dilution, as far as effluent and salts are concerned. This is another instream value but it is not offered any direct protection under the water conservation program. Arguably these kinds of values can be somewhat protected by piggybacking downstream senior call compacts and the Water Conservation Board rights. There are, however, disputes that presently exist between water quality regulation and water quality protection and quantity concerns. It is not clear which kind of value dominates when those two clash. So, in answer to the question, are these rights protected? Not really.

What about preservation value, the value that people have in simply knowing that an area is being preserved, not only for themselves but for their children. The sense that there is basic wilderness there and that there is water being permitted to flow freely without being impounded. Is that kind of a value protected? Again, it is very difficult to assess and really measure, but the answer is no. It is not being protected. We do not have a state Wild and Scenic River program. And I am not sure if we have any federal Wild and Scenic Rivers in the state. We might have one or two. But in answer to the question, is that value protected? Not really.

Power value, that is the value of water to create kilowatt-hours. Is that value protected? Basically, it is. The feds hold water rights in this drainage basin that permit them to use the water instream to turn turbines. It is not only the feds that actually hold those rights. So power values are fairly, securely protected in the law, provided that the feds do not turn around and try to market, sell, or lease water that is presently used to produce kilowatt-hours for additional kinds of consumptive uses elsewhere.

What about future economic growth? What am I talking about? Well, I am talking about the concept of a particular region being able to hold on to their water or to take water from another area in order guarantee or secure future economic growth options. Now in this state, growing or purportedly growing cities seem to be able to protect those values. There is the great and growing cities doctrine which has permitted Front Range municipalities to tie up lots of water in conditional water rights in order to be able to meet the needs that they have forecast for over the next 10 to 40 years. That is what the litigation in this basin is all about.

Should the City of Aurora and Arapahoe County be able to do that? Well, so far, by law those Front Range municipalities have been able to do that. So I would say that so far, Colorado water law guarantees, or almost guarantees, their right to do that. But what about basins of origin like this one where water may not be used to meet increasing municipal demand, but may be very valuable because of its ability to attract tourist dollars? Is our basin of origin in future economic development and growth protected? No, it is not. We do not have any such protection like that except where conservancy districts exist. Under a 1943 law

that we have in this particular state, conservancy districts have to effectively compensate basins of origin for loss of water that they might occasion. Of course, that has typically led to compensatory storage.

One final quasi-public value, maybe almost private, is the value of water on property values, particularly where you have riparian property. Is that value protected under Colorado water law? No, except perhaps indirectly through 1041 county planning procedures, but there is no direct protection of that particular value.

In conclusion, although some of these values I have been talking about are very hard to assess, that does not mean that they do not exist. They are for the most part not directly accounted for or protected under Colorado water law. Obviously there is some indirect protection, including 1041. In my view, Colorado water law must change. It must evolve in order to afford some protection for these basic values and to stay in step with the way a growing number of people feel about these particular values.

**Question:** (Beginning of question inaudible.) . . . about erosion control, the part that water can play in that. And I came away with the strong conclusion last night that the ranchers and farmers are willing to conserve water, but they do not want to lose their rights nor do they want to lose that water. So what do they do with it? And I wondered if you came across anything like this in your observations, either one of you.

**Bruce Driver:** There are some states that enacted legislation, Oregon and California to name two, that give the farmer the incentive to salvage water by declaring that the salvage of water is a beneficial use as is the lease or sale of that water to the highest bidder. There was some discussion of this last night as to what the status of the law is here. Some farmers claim that you can do that now, but the law is not clear. I think the Legislature ought to clarify the degree to which farmers can salvage water by crop changes, by improving irrigation efficiencies, etc., and market that. It is just not clear and some farmers do it and appear to get away with it. There would be no challenge, but it would be better and would allow for more of it to be done if the law were completely clarified.

## **Election of Conservancy District Members: Pros and Cons**

Moderator: Brenda Mitchell

**Brenda Mitchell:** Charles Howe graduated from Rice University and Stanford. He has held faculty assignments in a number of places. He has worked virtually all over the world on water issues: Botswana, Paris, Indonesia, Beijing, as well as in this country. Studies that he is working on include an assessment of the water resources of the upper Colorado River Basin, another on the potential for expansion of water markets in the Southwest, and a study on the urban water conservation and drought policy for the Rocky Mountain Institute.

**Charles Howe:** Let me correct the title of this talk. It should read on your program, whether or not the board members govern the policies of the conservancy districts under the water conservation act, conservancy district act of 1937, whether those directors should in fact be elected or whether we should stick with the system that we have now whereby the directors are appointed by the district court judges.

Let me apologize for being here late. My wife and I just got back from attending a workshop in Australia that dealt with water transfers. Of course we here in Colorado and all of the Southwest hear about water transfers. Countries like Australia have not felt the pressure yet on water supplies, but are beginning to. They are beginning to experience water quality problems because of return flow, because of more intensive use of their surface waters. They too are beginning to be greatly interested in the experience of the western United States and affecting water transfers.

I will try, in Larry's absence, to make this an objective presentation of both sides. Needless to say, I am a bit better prepared on one side than the other. It probably does not take a great deal of guessing on your part as to which side I represent. I have on occasion argued for the election of board members for conservancy districts and I will try to make a case for that line of argument. But I do not mean this as a criticism of the many wonderful accomplishments of some of the conservancy districts that we have in this state. And Dan Tyler could tell you a great deal about the very exciting history of the Northern Conservancy District, about the early establishment of that district under the pressure of the Depression and drought, and about the tremendous degree of devotion of the people who established that district and looked ahead to the future as they spent years of their lives seeking assistance and financing from the federal government to put the Colorado/Big Thompson project in place. In the Northern District, they have evolved; and more from evolution than from direction, they have a set of markets which are really very effective in reallocating water among users as the demography and the economy changes. So certainly the history of the conservancy districts in this state has been one of innovation and I in no sense want to be critical of this.

The real issue is, are the districts today responding to the evolving values and interests of their populations? I will not even try to cast it in terms of the state as a whole, but try to look at the issue of whether the established districts that are governed by boards that are appointed by the district court judges are responding, or are capable of responding, to the changing values that the people of Colorado clearly place on the water resource. We know that institutions have to change with the times. The question is, how do we initiate a responsible, stable process of change in the actions, activities, and policies of water conservation districts?

Why should we elect conservancy boards rather than following and continuing the process of appointment by district judges as currently carried out? Well, although it may sound a little bit corny and historical -- taxation without representation. This is a principle that is deeply imbedded in the political processes of the United States. Where there is a taxation power, there is supposed to be, in the traditions of this country, an avenue of responsibility and accountability to those people who pay taxes. We have a proud tradition in this country that started in the very early days of the rebellion against taxation without representation and Great Britain. We feel that those who are taxed should have something to say about how those tax dollars are spent.

The tax base of the conservancy districts produces a very large share of the revenues those districts depend on for their functions, but it is certainly true that the election process, whereby representatives are elected, they formulate policies, give guidance to the managers of districts, our states, or the nation as a whole, can go awry. We elect some turkeys from time to time. We elect people who turn out not to be so great, but there is in fact a recourse. There is recourse. You can vote them out if they do not do what seems to be responsible or if they fail to respond to the evolving values of society. You can vote them out if that process exists. We certainly trust this process for major political and social issues right across the board.

An argument that is often heard is that we need expertise on these boards. We need people who really know water resources. We need people with experience, an interest, and a long lived interest in water resources. Well, that is true. I think it is highly desirable to have people with expertise and experience governing the conservancy districts of this state, but there is no reason why those ladies and gentlemen who do have the expertise cannot run for election. And there is no reason to believe that the public would not give credence to their qualifications if indeed they do have that expertise. One could look at boards of two of the districts and find people who do not have any particular expertise, but they may still be valuable members in terms of representing certain values and groups, in addition to whatever water expertise they may offer.

The judges who do the appointing are not required or expected, by law or by the terms of their appointments, to keep in touch with the values, aspirations, and objectives of the populations of their districts. The people sitting on the bench have responsibilities that involve judgment about the law and what the law says. The law is basically based on precedent and backward looking. There is nothing that

says a judge has to or ever should be abreast of the actual feelings of people in his or her district concerning the use of water and the way water is administered.

There is nothing in the appointment process that suggests that the evolving values of society will in fact be reflected in the appointments made by judges. It is not that they are malicious. It is not that they are uninformed in their area of expertise. It is just that they are not intended to be political beings who are in total touch with their constituencies or with relevant constituencies.

The present system has no direct avenue of accountability to the taxpayers. Let us look at the Northern District. The Northern District is big business. It has annual revenues something in the area of \$8.5 million. Of this, more than half comes from tax dollars, tax on real estate values in the district. All owners of real estate in the district contribute to this flow of revenue to the district. Those funds that are used by the district in carrying out their program comes from the tax payer. Well, that is a lot of money. A very small part of it, a surprisingly small part of the revenue, comes from fees that are actually paid by water users. The tax payers provide the majority of revenues for the district and yet they have no direct say on how those tax dollars are going to be used.

Of course the Colorado Constitution says that the water belongs to the people of the state, whatever that means. It has never been totally clear to me exactly what that means. Obviously private ownership in the use of water is the basis of the appropriation system and the Constitution notwithstanding is a little hard to understand what we mean when we talk about water belonging to the people of the state.

Let me give you just a few examples of the conflicts that I see occurring between the broader public interest and the activities and decisions of water conservancy districts, in particular, the Northern District under the current system of governance. I am not trying to say who is right and who is wrong. But if you look at the constituency of tax payers within the Northern District, say looking at my own home town of Boulder, I would bet that 90 percent of the people in Boulder do not even realize they pay taxes to the Northern District. Maybe it is 85 percent, but it is a very high number that are simply not aware. You say, "Well, okay, it is only \$20 a household, \$15 a household." But add that up over Greeley, Fort Collins, and Boulder, and you are talking big bucks, over \$5 million a year.

The Northern District was a backer of Two Forks. Maybe Two Forks is a good idea. I have my own opinions, but we are not here to debate Two Forks. A lot of people in the district are strongly against Two Forks. There is no need to emphasize that point, and yet their tax dollars were actively used to back the Two Forks dam, to fight for the Two Forks dam. A lot of people would be angry if they knew that. Well, maybe they should be angry, but again there is no representation of their views on the issue of Two Forks.

The Northern District has further plans for damming the Poudre. A lot of people who want natural river instream flow protection are not going to be happy in learning that the Northern District is actively planning, putting money into plans for a pump-back storage project on the Poudre. Perhaps in some far-off time

there will be a need for that pump-back storage. My assessment of the power market on the East Slope is that there is no need for it now, why are we planning for it so far in advance?

The Northern District, through their legal counsel, has actively fought the strengthening of instream flow protection. Some of the issues mentioned by Bruce Driver were: (1) the question of whether instream flow protection as it now exists through the water conservation board is protected against the impoundment of water; and (2) if it is protected against the building of dams and reservoirs on those reaches which are presumably protected by the registration of instream water rights with the conservation board. The Northern District has requested an absolute ruling that there is no interference with instream rights in terms of building a dam that would inundate part of the stream for which those rights are held.

And there are other issues, too, on which the district has sought to weaken instream flow provisions. I think a lot of electors in the district would not like to see their tax dollars going for that purpose. The district has lobbied against public representation through election and so on. Well, one could raise particular questions about some of the financing as to how the district is using its money.

It does have an excess of money over operating costs. The operating costs are maybe in the neighborhood of \$6 million a year. They have revenues of \$8.5 million a year, far in excess of what is needed for federal repayment, the repayment of their debts to the federal government and for bond repayment. How are those extra dollars being used? Are the projects that are being sought and identified and planned for really the kinds of things the electorate would want the district to be doing? Those are reasons I think why the election of the members of the board of directors would make sense.

There is another side of the argument. I wish Larry were here to present it and he could present some of the historical reasons why the Legislature of this state chose to go with the appointment process as it now exists. Undoubtedly there were good reasons. I suspect there were quite good reasons why that process was adopted at the time the conservancy district act was passed, but times change. And it is not at all clear that what was appropriate in 1937 remains appropriate in 1990.

But in addition, why might one argue in terms of the contemporary scene, why we should not have board members? A commonly heard argument is that you are not going to get very many people interested, depending on the type of election you might have, if it is in conjunction with say a general election. Not many people are really going to pay attention to the issue and as a result, maybe only a small percentage of people will vote.

Certainly if you look at school board elections and other special elections, one has to admit that on special elections not many people turn out. There are, indeed, some real horror stories. I can think of some conservancy districts, not in this state, where because of a lack of general interest, a special clique has been able to control the board of a conservancy district and bend it to the interests of that group. And it is because people do not turn out and the small group of people who have a special interest in the



functioning of the district are able to keep control of the district. That is not a district in this state, but it does happen and one has to be aware of that.

What alternatives are there? I mean, we are not faced simply with two alternatives, one of sticking with the appointive system as it now exists and the other going to election by all qualified electors whoever they would be -- taxpayers, maybe everybody in the district. What is the intermediate ground? Are there alternatives that might be effective or perhaps more effective than either one of the extremes?

One that has been suggested by a number of people at the water conference in early June was that you might have an appointment, but an appointment by say the Governor. The Governor's elected. You do not like the people he appoints, boot him out. You have indirect responsibility, or accountability, but it is still accountability. If you feel that the Governor or whomever that happens to be is not making appropriate appointments to various boards, vote the bloke out. Well, that is one possibility and I am sure there are others.

**Question:** Concerning the Northern Colorado District water users paying only a small part, the tax payers paying most, do any of the tax payers in the Northern District drink the water that is supplied by northern Colorado, including the citizens of Boulder?

**Charles Howe:** Do any of the tax payers drink the water? Certainly, we all drink the water.

**(Discussion Inaudible)**

**Charles Howe:** Well, if one looks at the source of revenues, that is true, of course. I am a water user because I, part of the year, drink Northern District water in the City of Boulder.

**Question:** The only people that benefit are those water users and I believe the tax payers also benefit from the Northern Colorado Conservancy District.

**Charles Howe:** Well, certainly there are city users that benefit, there are rural users that benefit, and indirectly the argument generally goes, everybody in the district benefits. It is a little hard always to know how far one can stretch that argument, but it is certainly true that those of us who pay tax in the cities of the district do benefit from the availability of that water.

**Question:** About the district judges being out of touch with the community or the values and so forth, what is your opinion? It seems to me they do a great deal of legislating on their own, so certainly they are in touch with something.

**Charles Howe:** Well, I see no reason why we would expect judges as they are currently appointed in the State of Colorado to be abreast of a broad range of public values. I mean, one can agree or not on the active stance the judges do or do not take, but district judges within the State of Colorado really are not appointed because of their ability to represent a broad spectrum of interests. They are appointed, I assume as a layperson in the field of law, because of their knowledge of the law, their knowledge of legal precedence, and their ability to pass on current legal matters in light of that legal precedent.

**Question:** This has been somewhat of a dilemma for me because I always like to believe in elected conservancy board members, but I cannot help making the analogy to the rural electric associations where we face a failed system and a situation where, as Professor Howe alluded to, we have a clique, a club of elected board members of the rural electric associations. Have you looked into that analogy and do you have any observations about how or why that has failed?

**Charles Howe:** No, I am afraid I have not. It is an interesting analogy. Another analogy that has been suggested, though I am not prepared or equipped to address it, is the analogy with the Regional Transportation District (RTD) in the Denver area. I mean, some people are very displeased with the governance of the RTD and feel that the elected RTD board has not done what they would like them to do. I will not try to bring up what those points are, because I am not sure. But I think there are some analogies here. I believe you are right. One can point to cases within the water conservancy district area, although my example was taken from outside the state, where the same thing has happened with the water conservancy district. A small group gets control and most of the public does not care. It is \$20 a year for them, why should they bother? And then some major things go wrong with the district. I certainly would not deny the possibility of this happening.

**Question:** A very interesting situation. I am on both sides of that fence. I am a director elected to a special district and an appointed member of a county conservancy district. You are absolutely 100 percent right. Most of the people did not even realize that they were paying any taxes at all to the conservancy district, but the thing is, for a conservancy district person to be elected, they must have some sort of a platform. And what can they really promise to their constituents as an elected representative, versus appointed. Now the judge who appointed me said that he was unaware of that part of his responsibilities when he took the job as a district judge.

**Charles Howe:** Well, I can imagine, as could each of you, platforms that could be presented by candidates for election to boards of the conservancy districts. One, a representation of environmental values that many people feel are being neglected by current policies. Questions of whether the mill levy as it now exists should be maintained. It is generating excess revenues. Do we really want conservancy districts going out and looking for new projects, or do we want them to stick to the historical charge of the issues and projects for which they were originally established? I think we would find that if we had elections, there would be some rather sharply defined planks that people would put into their platforms.

## **Commentary by Conference Observers**

Moderator: Brenda Mitchell

**Brenda Mitchell:** Our last panel is our conference observers and they will give us some insights on what they have seen over the last two days. Bill Cleary is our first observer. He is a graduate of the University of Minnesota, spent 14 years in radio and television, and 21 years in Washington, D.C., as an assistant to Congressmen Wayne Aspinall, Jim Johnson, and Hank Brown. He returned to Colorado in 1983 and served six years as the president of Club 20, an organization of western Colorado government and business interests. He is officially retired now and he spends a lot of time on the State Highway Commission.

**Bill Cleary:** I look at our dwindling crowd and I remember a mining conference I attended in Leadville about four or five years ago. The final speaker of the day stood up and confessed to being very nervous. He said I just realized I am the last person standing between 400 miners and a drink. I am going to just hop and skip through the two days of speakers, tell you what I heard, a little sampling of it or at least what I thought I heard, you may or may not agree with me.

Valuable traditions and new frontiers, I think that is not only an excellent title for this particular conference, but Lucy, you picked people and subjects that stayed with it whether they intended to or not. Valuable traditions and the new frontiers right on through, and I congratulate you on that.

Wes Hirschi of the Bureau of Reclamation got off to a good start Sunday night. He observed that the conference title was most timely for he and the Bureau of Reclamation, because they stood at a kind of threshold where they were still living off of the valuable traditions. But they too, as a federal agency, were faced with a current mission of finding new frontiers. He used the simile of Laslow's (he means Maslow's) pyramid to depict our present status. Basics at the bottom with new additional needs in the upper levels. But if you start yanking out the building blocks, he pointed out, down at the bottom on the basic foundation, then the whole structure is in trouble.

Yesterday morning, Professor Patricia Limerick gave you the value of your tuition in just three little words: "Stay in touch." When you get home and someone asks what did you get out of the conference, you can reply, "A place in history." All I have to do is take a limited resource and spread it equitably among an unlimited number of users and we have our place in history. "Good intentions," said Professor Limerick, "do not always result in good water development. Early water developers were courageous, enterprising, determined, and persistent, but she said they made a mess."

"Hold on," said Dr. Gene Gressley. "Water challenges of the past may not be part of the future, but our design for the future should leave behind criticism of the past. After all," he pointed out, "exploitation is not a western phenomenon. This takes courage."

There once was a professor from CU,  
Who on water matters had a different view.  
She gave ranchers much stress,  
When she said they made a mess,  
But she, they said, hasn't a clue.

I said it took courage. It took more nerve than courage. The two history professors once heard the definition -- a professor is someone who looks like a foreigner no matter what country they are in. And while these professors expressed mutual respect, they were well matched and did get the debate underway.

And Sarah Bates and Mark Pifer gave it additional momentum. "Water is a public resource," said Sarah. "Therefore the public interest must be considered. Water law does not provide for the public interest, so it must be changed."

"What is the public interest?" asked Mark. "Agriculture, municipal and industrial, aren't they public interests?" Sara argued that there are many publics, but only a few have been heard. Mark objected. He said, "The courts have been very generous in giving standing to the public." Someone said, I forget which one, the public trust doctrine is an attempt to right past wrongs and if they can pull that off, the millennium will have arrived.

The debate between the old and new, between valuable traditions and new frontiers continued the pace. Neil Grigg put it very plainly, "Don't dump the appropriation doctrine. But a balance is needed, a creative balance." In fact, he called the finding of a creative balance the number one issue of the future. The consequences of no balance are too severe. He called for regional water management, for the state institutions to serve as a broker, and I stayed right with him. That is, right up until he called for a study commission. I just do not know if the world is ready for another one of those. I will talk about our luncheon speaker a little bit later.

In the afternoon, the panel of users made the case for Laslow's (Maslow's) pyramid. Some coming down hard for the basic uses, others dragging us up into the future. "Industry wants certainty," said Connie King, "as provided by the appropriation doctrine." Ken Spann insisted that decisions must be made close to the resource. Ranchers are stewards of water rights that make our valleys green.

"Look at the bigger picture," Ken urged, "not just the specific projects." Keith Propst is not worried about selling agricultural water rights, he is worried about having them stolen, saying we need a new water system. He said that simply means someone wants water without paying for it.

Kevin Coyle rightly observed that the strength of the environmental movement lies largely in the urban areas, a fact that elected officials ignore at their peril. Recreational use of our rivers, he agreed, should carry a reasonable fee. Lee Merkel gave us some dramatic figures describing the special problems of the headwater counties. "Half of all the water originating in Grand County," he said, "is diverted to eastern Colorado."

Several years ago, I was on a panel with Bill Miller of the Denver Water Board and he said, "Bill Cleary, don't worry about the water we divert, we'll send it back to you." He says, "Of course, it will have to evaporate and rain, evaporate and rain, evaporate and rain, all the way around the world, but you will get it back." I took little comfort in that.

Carmine Iadarola made the case for the home builders -- high tap fees but no assurance of a water supply. Now if I were a banker, that would give me a problem. It just seems to me he may not have shopped around enough. I have heard there are bankers that were betting on the come, and I do not mean to minimize the problem of trying to supply water that you do not have.

The case study involving instream uses of the Arkansas River was a good exercise. We were given a clean division of opinion, as David Sarton and Denzel Goodwin maintained, the existing system is working well. Bill Dvorak asking for just two more weeks of high flow and Vern Rutherford and Mark Emmer asking that fisheries and natural ecosystems be given prime consideration. Steve Clark, Ron Holliday, and Eddie Kochman representing federal and state agencies viewed the current multiple use of the Arkansas as a good experiment. It should be watched carefully and there should not be any problems that will not be amenable to cooperation among users and maybe a few extra dollars.

Mike Hammon of the Bureau of Reclamation and Tom Mottl started us off with a look at our sister states, so to speak. And an interesting tour it was from New Mexico to Montana to Wyoming to Idaho. It was interesting to hear about the Chama River and its similarities to the Arkansas River.

Richard Moy in Montana told us about some very highly developed activities going on in that state, legal and otherwise, with respect to instream flows. Jeff Fassett, I think left a number of people feeling either dismayed or green with envy at the powers that he was able to exercise and still does in his state. And then Professor Charles Brockway, in a delightful, humorous presentation told us how things are changing in Idaho. He did catch my interest in something that has intrigued me for a number of years since I first heard about it. That is the Water Bank. And maybe in another conference, Lucy, we might have some additional discussion of the Water Bank idea.

And this noon, we had four candidates for Governor. We would change our Constitution and permit four Governors at one time, they just all had something to offer us. Don Ament, he is going to get our act together and protect existing water law. Margy Masson, she is going to overcome the divisiveness and if that does not satisfy you, why, Matt Jones said he would make us nervous and we would be back where we started. He wanted to get rid of our lawns, which was his principle message as I remember. Senator

Bob Pastore as Governor would educate us and he would do that as a movie script writer. I think that was what he was going to do.

Ed Sparling and Bruce Driver gave us a good rundown on the study of the Taylor River. Well, I am not going into a lot of what they had to say, but I think this is a most valuable thing because we just toss these things around, things like, "Well, you're ignoring the value of this or you are ignoring the value of that." Well, it will serve us all very well if we can find out what that value is.

And finally, Professor Howe, well, you very articulately presented your position and I promise not to tell any of the judges in Mesa County that you find them out of touch with the public interest. And you can feel safe traveling in and through Mesa County.

Now, about Hubert Farbes. I want to tell you that I first met him, believe it or not, about six years ago in Browns Canyon on the Arkansas River. Neither of us were there for diversion purposes. We were there to experience not just the rafting experience, but the crowded conditions. After lunch, we were on a sandbar, sort of, it was on the bank. To get back into the river we had to wait and watch for an opening. There were that many rafts coming down. Well, I am really an unabashed admirer of Hubert Farbes. He is articulate; his arguments are reasoned. I guess I will long remember his on-point use of the Remington print to make the case for defenders and attackers of a water supply. "An attack on protected water rights is expected," he said, "but leaving water in streams was an expected attack." Such attacks lead to desperation and desperation, he pointed out, most recently leads to what he called good faith sacrifice. Now, he urged all to break with past positions and to show courage and engage in some of this sacrifice. He thought that the Western Slope should have the courage to sacrifice compensatory storage. On the Eastern Slope, well, I listened closely but it got kind of fuzzy, I could not tell what courage they are going to show over there. I must ask him the next time.

Well, I am going to close with this. You know, time and again over these past two days we have heard that the old does not have to be at odds with the new. The existing system, the appropriation doctrine, is still working according to many of the speakers. At the same time, other users are finding ways to work with, not against, that system. Communication and cooperation are replacing conflict. And as we are starting the 1990s, some call it the decade of the environment. And as we become environmentally aware, we know that there are substitutes that come into play. If we do not want to use a styrofoam cup, we do not have to. We can take a substitute glass of whatever. If we do not want to eat tuna that swim with dolphins, we can substitute. But when it comes to water, you can change all the social values you want, but we are still going to need water to quench our thirst and water to grow our food. My friends, there simply is no substitute.

**Brenda Mitchell:** Our next speaker is Barbara Green. She is a general counsel to the Northwest Colorado Council of Governments. Barbara graduated from the University of Colorado and Northwestern

University. She has been an assistant to the City Manager of Steamboat Springs, acted as the town manager of Oak Creek and Yampa, and also has acted as the assistant to the City Manager of Thornton.

**Barbara Green:** When people stand at a podium, the first thing they say is can you hear me. I always have to say can you see me. I also took some notes as people were speaking and I guess the point of having three different observers is you are going to have some different observations.

What I was thinking as I was listening to the speakers yesterday was, if they were to design some kind of a process that would deal with the problems they were facing what would it be? And I think Keith Propst would have a system that upholds the prior appropriation doctrine absolutely without any changes, but somehow limit the right to transfer out of the basin of origin to protect agriculture. That would be very difficult to do.

Patricia Limerick's system would be a system where there was no more cockiness, no more complacency or smugness on the part of water developers, and all documents would be drafted in gender neutral language.

If Mark Pifer was running the state, local considerations and determinations would guide the process, but the City of Colorado Springs would dictate what the local interest was for the entire state.

I also thought about how interesting a system Carmine Iadarola and Rich Ferdinandsen would have together. Basically, Uli Kappus would be head of a group of environmentalists sitting on a metropolitan water authority while houses were built from Grand Junction to Kansas with subsidized tap fees.

If Bill Dvorak and Vern Rutherford had their chance, I think the commercial outfitters, the Bureau of Reclamation, the Southeastern Water Conservancy District, and the Division of Wildlife would try to float down the Arkansas every August in boats that were properly identified while fishermen stood on the banks showing their belly buttons.

Today, I was interested in some of our legislators' responses. Margy Masson would overturn the United States Supreme Court decision upholding federal reserve rights while drafting a resolution on a mattress. And if Lee Merkel were running the world, the Denver Water Board would have to call him every day before they ever exercised their right to divert.

Finally, if Ken Spann had his way, I think the Gunnison County ranchers would be given the state's responsibility for maintaining wetlands and open space, while all of the water attorneys in Colorado were given shovels and were told to dig irrigation ditches.

More seriously, or maybe even less seriously, what I really heard yesterday was stories of rampant conflict that was driven by fear. Many, many people used the word fear or scared or afraid. The conflicts that I



heard about were East Slope/West Slope conflicts, urban/rural conflicts, Denver/suburban conflicts, agriculture/recreation conflicts, state/local conflicts, and federal/state conflicts. The fear I heard was the fear of loss of water rights, fear of a loss of lifestyle, fear of loss of canyons and white water, fear of the federal government, fear of change, and everyone was afraid of the kayakers because they all look alike.

So what do we do about all this conflict? I think first of all you have to address the fear. We have to recognize other people's fears. You cannot just say that fear is really silly. You have to deal with it and you have to accept it. In order to deal with people's fears you have to have a system that allows them to express those fears openly. That just is not available in the water courts or in front of the Legislature because there is cost associated with being open. It weakens your position. So what do we do?

I have the pleasure and privilege of representing a group of locally elected officials in northwest Colorado from Grand, Summit, Eagle, Gunnison, and Pitkin counties, as well as the towns within those counties on water matters. They are idealistic and some people say naive, but nevertheless they are very courageous. They honestly believe that a collaborative consensus building approach is not only possible, but absolutely necessary in terms of state water policy. The process model that they have in mind is similar to the Montana process that was described today. And as you heard from Rich Moy, it does work even in over appropriated basins. Please do not hold it against him that he looks a lot like Dick Lamm; he can't help it.

On your program today you may note that one of the sponsors of this conference is the Colorado Water Forum Conveners. This is a group that has been identified by the Northwest Colorado Council of Governments as individuals and organizations who share the conviction that there are better ways to resolve conflicts among competing interests other than in the courts and in the Legislature. These odd bedfellows may be on Margy's mattress, I am not sure. They are the Denver Water Board, the City of Aurora, the City of Glendale, the Colorado Water Quality Control Commission, the Natural Resources Law Center at CU, the Colorado City Managers Association, the Colorado Water Resources Research Institute at CSU, Representative Sam Williams, Dennis Donald from the Department of Natural Resources, the Vail Valley Foundation, Northwest COG, and Chuck Howe, who has provided a lot of energy and knowledge to our efforts.

On a side note, one very important entity that we would have loved to have participate with us, which we have been unable to convince that there is any point in working with us, is the Colorado River Water Conservation District. I hope that we will be able to approach them again and allow them to exercise the leadership in state water policy that they are statutorily designed to exercise.

If any of you believe that a collaborative consensus building process does make sense in Colorado, we welcome your suggestions and we welcome your participation in our efforts. We have to get out of this quagmire of conflicts that threatens to drown us all and I can guarantee you that the Colorado Water Forum Conveners will be in Patricia Limerick's book.

**Brenda Mitchell:** Our next speaker is Edward Dauer. He is a professor of Law at the University of Denver, College of Law. Ed studied law at Brown University, Yale Law School, and was admitted to practice in Connecticut and Colorado. He has held faculty appointments at the University of Toledo, the University of Southern California, and DU Law School. He presently serves as a commissioner of the Colorado Commission on Higher Education and as a commissioner to the Colorado Advanced Technology Institute.

**Edward Dauer:** I have, as many other speakers did before me, some disclaimers I need to make and in spite of that introduction, or maybe because of it, I need to tell you that my views do not represent the positions of the University of Denver or the College of Law. Neither do I speak for the Bush administration, nor for the Denver Broncos, or for Imelda Marcos, Pete Rose, or the defense team of Marion Barry. I am completely on my own this afternoon. No one wants me.

The second disclaimer is that I have never been on the handle end of a ditch shovel as somebody suggested that anybody who speaks to these issues really has had to be. As the public point man of an institution that is made up of 45 lawyers and 1,100 law students, I have been on the delivery end of a ditch shovel more often than probably anybody in the room and have had enough of that to last a lifetime.

The third thing is that I, like you, am wondering why I am here and because water law and water policy have not been subjects of my professional expertise. I am sort of the equivalent of a first year law student and am beginning to understand some of these. But maybe it was that Lucy had in mind something that has been said about another very venerable legal institution, and that is the American civil jury. It has been said that it is a collection of 12 people of average ignorance and perhaps Lucy thought that ignorance could be the mother of neutrality in this case. I will try to do that.

In any case, despite those disclaimers, I am delighted to be here because I understand that everybody that speaks at this conference gets a free ticket in the Professor Patty Limerick Living Legend Lottery and that is certainly worth while and that is why I came.

Now, although I have asserted a certain innocence in matters of water law, I do have a point of view about some things that might be related. My professional work, as a consulting lawyer, practicing lawyer, and law teacher, has been in an area that is not really substantive but rather procedural. It has to do with conflict management.

Now you may have heard of that, some of you, under a set of initials that are going around. That is, ADR, which stands for Alternative Dispute Resolution which means that whole kit bag of processes, some very old and some fairly new, for dealing with people's conflicts in ways that do not take advantage of courts. It is an alternative to courts and to litigation and adjudication generally. I will say more about that in just a minute, but one of the things I think I need to say at the outset is that not everybody in the legal profession agrees that ADR is such a wonderful thing.

I do not know if this is true with water lawyers, but some lawyers in other specialties still think that litigation is still the most fun you can have standing up, so they have told me. And one trial lawyers association, which is a group of people who make their living by litigating, a couple of years ago honored my own opinions about the benefits of ADR and the evils of litigation by voting me the winner of their annual Salmon Rushdie Literary Friendship Award.

Now, from my point of view, which is the point of view of an ADR gospel thumper, the Colorado system for administering water law is really enough to make somebody bare their fangs and begin to salivate. Colorado, so I have begun to understand, is the only state, at least is the most in this regard, that both administers its system of water rights almost wholly through its courts and simultaneously has no administrative agency, at least none that I am aware of. It has state-wide authority to both regulate and to plan on any kind of a comprehensive basis.

To be fair and very serious about it, and forgive me but I do have a couple of things I want to suggest seriously, I am not suggesting here that courts are always bad things and ADR or anything else are always good things, nor the other way around. Institutions, like courts, are just tools that our society or economy uses to get a job done and some kinds of jobs require one kind of tool and some kinds of jobs require another kind of tool. So courts, just like every other tool, are really great for some things and just really not so great for others.

I guess the same thing is probably true in water law, although I need to look at it a little more closely to be confident in that opinion. But the opinion in which I do feel confident is that I just do not think we need to begin by presuming that the court-based system, the court-centered system that we now have is necessary or the best. Maybe what we ought to do is to analyze the things we want to accomplish in the future, where we want to go, and then think about choosing the tools that have the best fit with those particular kinds of jobs. And that brings me back to the major points of this conference.

On Monday, we heard mostly about problems and today we heard mostly about solutions. The problems won by about 650 to 9, I think. But as I heard it, the problem areas are the wish list, or rather, the areas where we need to go can be boiled down to five or six principal kinds of themes. And what I would like to do is just summarize those very quickly as I saw them and then make a couple of comments about the sorts of institutional arrangements that might be useable in helping us accomplish those. In other words, put the jobs on one side of the page and the tools on the other and see if we can come up with some kind of match.

Point one, change. Connie King tells us it is a given in the 1990s. Whether the cause of that change is like Patty Limerick's theory that we are only now beginning to shake off our complacent adoption of an eastern vision of western water law development or whether it is like Wes Hirschi's ideas that now that we have satisfied our basic needs, we have the luxury or the at least we have the opportunity to begin thinking beyond needs and looking into things like quality of lifestyle. Change will happen. But whatever the cause,

it was interesting to hear even some of the very traditional water interests thinking about the changes, good or bad, that they see coming down the road.

Keith Propst, for example, recognizes that water flows uphill toward power, and fears that the agricultural community are looking at are erosions of their traditional place in the political hierarchy which may result in changes that they need to adjust to or at least meet in the near future. And a rancher, Ken Spann, notes that aesthetic values which were an important part of what he said are not yet found as being a protected beneficial use, suggesting or implying that either they will be or they ought to be at some point in the future. So regardless of where we look, change seems to be a given for the decade of the 1990s.

Point number two. There are additional uses that are beginning to seek a recognition in the hierarchy of claims on available water and are making a pretty persuasive case in favor of it. They are claims of the economic contribution that they make, not only to local areas but the state as a whole. A good example of that being rafting on the Arkansas River about which we heard such an excellent presentation.

Third point. Additional public interest dimensions are straining to achieve some standing, maybe some legitimacy in the policy process. And while there may not be any consensus about the scope of what those public interests ought to be when they are protected, not everyone I take it would agree with Sarah Bates. The source of those interests are really wide and diverse. Just consider one example -- local governments. They may care about the consequences both for tax base and for other long-term kind of effects in their areas of allowing free market transfers of water which result in the withdrawal in formerly green agricultural lands away from that use and into something else. That would then have implications for lands around them and the community around them, and that is a public interest as well. New conceptions of the public interest are not yet finding, as Bruce told us, any protection with the existing law.

The fourth point that I heard in the course of the couple of days is that if we do not consciously address these issues, they are going to be addressed for us. The public trust doctrine, for example, may be elitist and fearsome, but the courts, both state and federal, I can tell you from a knowledge of other areas, have been known to take control of major public controversies when they do not receive sufficient statutory guidance and contemporary attention in the positive law itself. And the federal judicial role is not likely to contract very much if the state does not take control of its own future. I think it is fair to say that law abhors a vacuum and consequently we may be in a position where we will probably have more eastern influence than we want unless we take it on ourselves.

The fifth point is that we need to achieve a new creative balance as Neil Grigg said. He also pointed out that we have too many conflicts, too many things that divide us, but more important from my point of view is that we have no process in place to work them through. One of my colleagues once said that in Colorado, water policy is not planned for, it erupts. And I think Neil may have captured one of the problems. The bottom line of all of that is that while we are willing to respect the need for the security of historical uses and traditional interests, it is simply the fact that we have an irresistible need to figure out what kinds of institutions we can apply to address these changes which are sort of inevitable.

At the present time, the water law system in Colorado is pretty well dominated by a system of water courts. We cannot rely on the court-based system to do much more than it is doing and certainly not much more by way of comprehensive planning. Here my bias shows, but perhaps we ought to ask the courts to do even less. The courts have a number of advantages that work well when policy guidelines are clear. And people are disputing, not in a terribly technical way, about how those clearer guidelines are to be applied to some particular kind of problem, and they do have other advantages.

For example, courts are, forgive the word, non-majoritarian. What that means is that they are not subject to be swayed by the fads or fancies that may go on from time to time. And with that, you cannot get gang-rolled if you are an interest that has a minority position in the queue of interests. And that is what non-majoritarian means.

I have the image of that guy in Tianenmen Square and on occasion, we see courts do that but as a measure to protect something contrary to where the gang may be going. Moreover, by doing that, the courts create and respect rights. I think it is very important that we not undercut that, the reason being that even voluntary cooperation of the kind that Barbara was describing really cannot go on unless there is a clearly established system of rights from which people can begin to bargain. On the other hand, there are some drawbacks in using courts and particularly in a policy area. One again, it is a disadvantage of the same thing that is an advantage -- that is non-majoritarian. They are not necessarily in touch with where the evolving values are in a society. So they are both good and bad.

Secondly, the courts are great at deciding questions and not good at all at solving problems. So if what we are looking at is the question of win-lose, who gets, who doesn't, then the courts are wonderful. If what we are trying to do is to get integrative solutions where you can have win-win, courts are not very good; lawyers are, courts are not. Courts also operate in an adversary kind of climate and they force everybody to take adversary stances. And anybody who has been involved in litigation may know what happens in an adversary environment. What happens is that what used to be your interest becomes your position. It is real hard to negotiate positions. You can really only negotiate interests. This is a phenomenon you might think of as hardening of the arguments. But the fact is that an adversary system does create barriers to voluntary solutions and even those negotiations that go on around it.

More to the point, courts act in spurts. They cannot sit down and think about a comprehensive way of thinking through a great big problem. The case for controversy requirements is that they can only act when some narrow case comes to them. They have to keep their decision within the confines of the facts presented by that case. It is not necessarily that each time a set of litigants comes to the court that they will be presenting all of the issues connected with a more comprehensive plan that really ought to be considered. So judicial determinations are spotty, narrow. After a few years you can look back and see what kind of a policy they have clung to, but while they are going on, they lack comprehensiveness.

Courts also have problems with standing, that is not everybody can come. You have to have an interest that is legally cognizable and I can go on insulting them. The fact is that they are wonderful for some sorts

of things. There really is nothing better in our system, but for getting at the kinds of problems that I heard our speakers talk about, I am not sure that we ought to expect much out of a system that is as court-focused as this one is.

Mark Pifher made the point that making law is how we make policy and legislators are the folks who ought to make law. And so let us put policy to the Legislature, and there are some real advantages to asking the Legislature to do all of this. One is that they are capable of sitting back and taking a broad and comprehensive view of a whole area. They do not have to decide little issues the way courts do that are brought to them in the context of some dispute. They can grab the whole, big thing and try to make some sense out of planning on as comprehensive basis as they want. And they can be responsive to new ideas without the baggage of judicial precedent. So their advantages and disadvantages are kind of reciprocal, the opposite of the courts.

There are some disadvantages in asking the Legislature to do all of what needs to be done, if my list is correct. One is that legislatures are generally overworked and limited in time. We do not allow our Legislature to stay in session longer than a certain period of time. Mindful perhaps of Lincoln's phrase that neither man nor dog is safe while the legislature is in session. But the fact is that they are overworked and extremely limited in the time and resources they have; they are terribly understaffed. I wish I could tell you about every occasion on which I received a request from a member of the Colorado General Assembly for assistance from law students. As a result of this under staffing, legislators tend to become dependent for their information on the well organized efforts by people who tend to be partisans, lobbyists. So that the cost of an entry ticket into a legislature can be even higher than the cost of an entry ticket into a court, which means that not all interests are always going to be represented in the legislative process just because of the way the thing is structured.

With respect to legislatures, they cannot administer what they decide. That is, they can make judgments about what the law ought to be or policy ought to be, but they have no capability of fine-tuning it, applying it to the field down at the appropriate level where it needs to work.

Finally, a suggestion made by a couple of people, particularly Mr. Moy, about a state-wide planning process that had elements both of leadership, as well as consensual participation. I think this process is really very promising. Montana has one. The Montana process at least is based on the experiences that have been accumulated in an area called environmental mediation, which has gone on in a variety of places around the United States with greater or lesser degrees of success, mostly greater. We need to look at the 12 to 15 year history of environmental mediation before we place all of our chips on that particular bet. There are four or five things that need to be in place for a mediation effort, a voluntary planning effort of a broad scope, to work.

First, everybody has to be frustrated. Every party needs to think or have a desire to find another way of doing things. One water lawyer said to me in describing the present system, "We fight until we lose and then we negotiate." There needs to be a concern on the part of every interest that the present system is

simply not meeting their needs or else you will have some who will not either voluntarily or willingly participate in that kind of process.

Second, you need to have a relative balance of power among all of the interests, namely the existence of rights. No one mediates either voluntarily or successfully unless they have the clout to guarantee that they are not going to have their interests rolled over when the public process gathers a head of steam and begins to carry on toward some grand plan for the universe.

Third, and I can only tell you this on the experiences of others, is that these voluntary kinds of things seem not to work if the sides that are present at the table see the issues as right versus wrong. They tend to work better when everybody who is at the table sees the problem as right versus right. So I would ask the question, here in Colorado, do we have a preliminary step to go through before we can achieve success through the kind of mostly voluntary process such as Montana's?

The final point about these voluntary things is that they require a shift away from a culture of advocacy, a step away from the systems of adjudication. We need to begin to think in an integrative fashion.

Now, that leaves one final thing on my list -- one final set of institution tools that I would like to suggest. I do so tentatively. This falls under the heading, "If I were the Legislature in the 21st century, what would I do?" And the first thing I would do is think seriously about creating some significant administrative agency with authoritative role-making and adjudicative power in the state. Whether we create a new agency, whether that is the state engineer that ought to become more like Wyoming's, I would want to do that for a couple of reasons.

Administrative agencies have two functions: they decide things, that is adjudicative; and they issue rules and those rules are issued to implement much more general kinds of notions that a legislature has laid out for them. So we think about administrative agencies in a sandwich. The legislature creates an enabling statute which gives the kind of broad guidelines within which the agency must behave. It is not on its own.

Most of the time in the area of administrative agencies, when an agency makes the decision, that decision may be subject to judicial review. But unlike our present system where you start all over again, in most administrative procedure systems the decision of the administrative agency can be final unless the agency has violated the statute or otherwise engaged in some abuse of the process. So one of the advantages of vesting a lot of authority in administrative agencies is that it cannot go off on its own. Courts do not necessarily do this, but could. Secondly, courts are not entirely subject to democratic influences or majoritarian influences because rights still get protected by the system of appellate review even though it is not a *novo* or administrative agency action. Additionally, agencies can develop expertise that can look at problems comprehensively.

Bad things about administrative agencies? Well, we were asked during the course of the last two days not to add another layer of bureaucracy and not to dictate policy from the top down. That is, we ought to have

people who have been on the handle of the ditch shovel rather than have somebody some place else. I think that means Denver issuing rules by which other people need to live.

There is, at least in the federal system, an experiment going on. This experiment goes by a couple of different names, either REGNEG or NEGREG which stands for regulatory negotiation or negotiated rule-making. What this amounts to, and there have been some very interesting experiments here, is a little different process than the normal process. In a normal agency process the agency comes up with a rule, puts it out for comment called the notice for proposed rule-making, people send in their comments, they get ignored, the rule becomes final, somebody sues to challenge it under the enabling statute, and off you go. And so that is kind of top-down dictating or at least top-down management of policies and implementing rules.

Negotiated rule-making is a little different. In negotiated rule-making the agency serves as the forum to which it invites representatives of all of the interests that it regards as both useful and important in the development of some rule or some plan. The advantage that this has over standard rule-making is that it gets down to the local level. The rule is in fact negotiated by people who have the interests and the experience, as well as the expertise to be able to determine what makes the most sense. Moreover, it has the advantage over purely voluntary kinds of processes by giving somebody a hammer to make sure that the participants from all of those affected interests in fact take it seriously and behave in a way that is likely to reach or lead to some appropriate kinds of conclusions. The agency has the authority to issue the rule if negotiations fail.

Now there is a good deal more to be said about this NEGREG or REGNEG, but I would recommend those who want to think about the institutional frameworks which we need created in order to go forward with our substantive agenda to consider these. Essentially it is an alternative dispute resolution technique operating under the authority of the administrative agency which itself has the authority to engage in state-wide planning. As I said, there is much more to be said, but time forbids it.

As to the question of whether it would actually work, will something else work? Well, all I can say is only time and Patty Limerick will tell.





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**15TH ANNUAL  
COLORADO WATER WORKSHOP**

**(Updated July 19, 1990)**

**July 22-24, 1990**

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