12/15/93

To Power: Paid 11/10/93, $98.00 to the Institute for Advanced Legal Studies. Thank you for the reimbursement.

THE 1993 ANNUAL WATER LAW and WATER POLICY CONFERENCE

Water Reallocation and the Public Interest in Colorado

presented by

The Institute for Advanced Legal Studies
University of Denver College of Law
and
Stratecon, Inc.

November 13, 1993

David Ladd
765 Lafayette Street
Denver,CO 80218

Langdon
orado State Parks
1313 Sherman Street, Room 618
Denver, CO 80203

Stephen H. Leonhardt
Fairfield and Woods, P.C.
1700 Lincoln Street, #2400
Denver, CO 80203

Carol Levine
4545 E. 17th Avenue
Denver, CO 80220

Samuel J. Light
Leavenworth & Lochhead, P.C.
P.O. Drawer 2030
Glenwood Springs, CO 81602

Donald F. McClary
Epperson, McClary, Zorn & McClary
317 Ensign P.O. Box 597
Fort Morgan, CO 80701

Elizabeth Gail McGarry
D.U. Law Student
570 Josephine St.
Denver, CO 80206

ady McNeill
Colorado Division of Wildlife
6060 Broadway
Denver, CO 80216

Desiree Marchman
Denver Water Department
1600 West 12th Avenue
Denver, CO 80254

Tony Mayne
Metropolitan Water Board
P.O. Box 276
Santa Fe, NM 87504

Patricia A. Mercer
Colorado Division of Wildlife
6060 Broadway
Denver, CO 80216

Mike Mickelson
CH2M Hill
150 No. County Manor Lane
Alpine, UT 84004

Dale Mikelson, Bd. Member
Metro Dist. 1 & 2-Castle Rock
7 Castlewood Drive
Franktown, CO 80116

Bill Milenski
Milenski Ag Consulting Service
P.O. Box 767, 308 Columbia Avenue
Swink, CO 81077

Frank Milenski
Catlin Canal Company
SE Colorado Water Conservancy Dist.
23064 Rd. BB
La Junta, CO 81050

April Montgomery, Esq.
San Miguel County
333 W. Colorado
Telluride, CO 81435

Bill Myers
Attorney at Law
930 Logan St., #309
Denver, CO 80203-3009

Stephanie Neitzel
DU Law Student
9057 E. Mississippi Ave.,#1-205
Denver, CO 80231

William A. Paddock
Carlson, Hammond & Paddock
1700 Lincoln Street, #3900
Denver, CO 80203

William B. Paynter, Jr.
Washington County Attorney
P.O. Box A
Akron, CO 80720

Robert S. Phillea
Baca Grande Water & Sanitation Dist.
P.O. Box 84
Crestone, CO 81131

Edward E. Pokorney
Denver Water Dept.
1600 W. 12th Avenue
Denver, CO 80254

Herrick S. Roth
Chair, Water Policy
Colorado Forum
1512 Larimer Street, #30
Denver, CO 80202-1613

David Sage
Sage & Vargo, P.C.
1300 Carr Street
Lakewood, CO 80215

Mark A. Scharfenaker
American Water Works Assn.
6666 W. Quincy Avenue
Denver, CO 80235

Larry Schluntz
Bureau of Reclamation
P.O. Box 25007, D-5120
Denver, CO 80225

DeWayne Schroeder
Division of Water Resources
State Engineers Office
1313 Sherman Street, Suite 818
Denver, CO 80203

Jeffrey R. Seul
Chrisman, Bynum & Johnson
1401 Walnut St., #500
Boulder, CO 80302

Sharon A. Streich
3257 S. Parker Rd.,4-209
Aurora, CO 80014

Bill Thompson
Rocky Mountain Farmers Union
10800 E. Bethany Drive, 4th Floor
Aurora, CO 80014

Charles L. Thomson
SE Colorado Water Conservancy Dist.
905 Highway 50 West, P.O. 440
Pueblo, CO 81002

Chris Treese
Colorado River District
P.O. Box 1120
Glenwood Springs, CO 81602

Alice Elizabeth Walker
Greene Meyer & McElroy P.C.
1007 Pearl St. #220
Boulder, CO 80302

Ray Walker
Water Referee - District 5
3125 Highway 13
Rifle, CO 81650

Beckie L. Wieting
Texaco
Alternate Energy & Resources Dept.
P.O. Box 5568 TA
Denver, CO 80217

Carolynne White
Watson Nathan & Bremer
7148 S. Vine Cir. E.
Littleton, CO 80122

Eric W. Wilkinson
No. Colorado Water Conservancy Dist.
P.O. Box 679
Loveland, CO 80539

Cheryl C. Willis
US Fish & Wildlife Service
P.O. Box 25486
Denver Federal Center
Denver, CO 80225

Thyria Wilson
Bergen Ditch & Reservoir Co.
100 Jefferson County Parkway
Littleton, CO 80419

Hank Worley
MacDougall Law Office
102 N. Cascade. #400
Colorado Springs, CO 80903

1993 Annual Water Law and Water Policy Conference
University of Denver College of Law
November 13, 1993

Brian Ahrens
Division of Water Resources
State Engineering Office
1313 Sherman St., #818
Denver, CO 80203

John Akolt
Farmers Reservoir & Irrigation
80 So. 27th Avenue
Brighton, CO 80601

Darwin E. Asper
Rural Appraiser
P.O. Box 9009
Woodland Park, CO 80866

Melanie Kopperud Backes
Carlson, Hammond & Paddock
1700 Lincoln Street, #3900
Denver, CO 80203

Daniel E. Beckett
Texas Water Development Board
611 S. Congress Ave., Suite 305
Austin, TX 78704

Lin Billings
DU Law Student
Water Court Reporter Staff
16 Minnehaha Avenue
Manitou Springs, CO 80829

William Bohlender
No. Colorado Water Conservcy Dist.
1250 North Wilson Avenue
Loveland, CO 80537

Heidi Hild Boyer
Rocky Mountain Farmers Union
10800 E. Bethany Drive-4th Floor
Aurora, CO 80014

Michael D. Boster
Sims and Boster
1775 Sherman St., #2015
Denver, CO 80203

William H. Brown
No. Colorado Water Conservcy Dist.
1917 Pawnee Drive
Ft. Collins, CO 80525

Gina L. Bulloch
Cyprus Minerals Company
9100 E. Mineral Circle
Englewood, CO 80112

Will Burt
Division of Water Resources
State Engineer's Office
1313 Sherman St., #818
Denver, CO 80203

Todd R. Caldwell
Attorney at Law
950 Marion Street
Denver, CO 80218

Jeff Clark
Centennial Water/Sanitation Dist.
62 West Plaza Drive
Highlands Ranch, CO 80126

Tom Clark
Rangeview Metropolitan District
5650 York Street
Commerce City, CO 80022

Bill Condon
1025 9th Avenue, #407
Greeley, CO 80631

Tamera Cunningham
Division of Water Resources
State Engineer's Office
1313 Sherman St., #818
Denver, CO 80203

Henry Mather Dusenbury, Esq.
P.O. Box 408
Norwood, CO 81423

Evan Ela
1265 Gaylord #1
Denver, CO 80206

Ramon M. Escure, Esq.
Law Office of
Peter A. Ricciardelli
126 W. Colorado Avenue
Telluride, CO 81435

James G. Felt
James G. Felt, P.C.
319 North Weber
Colorado Springs, CO 80903

David Gillilan
Colorado State University
RMFRES, 3825 E. Mulberry
Ft. Collins, CO 80524

Roseann Gonzales
Bureau of Reclamation
P.O. Box 25007, D-5120
Denver, CO 80225

Sally Groves
2128 E. 12th Avenue
Denver, CO 80206

Mark Harding
Rangeview Metro. District
5650 York St.
Commerce City, CO 80022

Betty Haynes
EG&G
Denver, CO

Jonathan W. Hays
District Judge
19th Judicial District
9th Street and 9th Avenue
Greeley, CO 80632

Cindy Hickert
County Commissioner
Washington County
16047 Rd. EE
Akron, CO 80720

Terry Holzworth
Central Utah Water
Conservancy District
355 W. 1300 S.
Orem, UT 84058

Dennis D. Hovel
U.S. Forest Service
2250 Highway 50
Delta, CO 81416

David F. Jankowski
White & Jankowski
511 16th Street, #500
Denver, cO 80202

Erin Johnson
Clarion Associates
1700 Broadway, Suite 323
Denver, CO 80290

Scott E. Johnson
Baca Grande Water & Sanitation Dist.
P.O. Box 84
Crestone, CO 81131

Jerry Kenny
Boyle Engineering Corporation
165 S. Union Blvd., #200
Lakewood, CO 80228

Walter I. Knudsen
Division of Water Resources
State Engineers Office
1313 ShermanStreet, Suite 818
Denver,CO 80203

Dale Kralicek
City of Northglenn
11701 Community Center Dr.
Northglenn, CO 80233-1099

Judy Anne Kriss
Colorado Water & Power Authority
1580 Logan Street, #620
Denver, CO 80203

1993 Annual Water Law and Water Policy Conference
Water Reallocation and the Public Interest in Colorado

AGENDA

Saturday, November 13, 1993

8:30 am **Registration**

9:00 **Welcome**
Susan Ewing Barber
Director, Institute for Advanced Legal Studies
University of Denver College of Law

9:05 **Introduction to Conference**
Rodney T. Smith
Co-Editor, *Water Strategist* and *Water Intelligence Monthly* and
Senior Vice President - Stratecon, Inc.

9:20 **Session I:**
Water Transfers and the Changing Public Interest: Perspectives from the Water Courts
Moderator: Rodney T. Smith

Speakers:

The Honorable Robert W. Ogburn
Water Court - Division No. 3
Alamosa, Colorado

The Honorable Robert A. Behrman
Water Court - Division No. 1
Greeley, Colorado

David W. Robbins, Esq.
Hill & Robbins, P.C.
Denver, Colorado
Attorney for Rio Grande Water Conservation District

10:45 **Break**

11:00 **Session II:**
The Reallocation of Water From Agricultural to Municipal Use: Addressing the Concerns
Moderator: Roger J. Vaughan
Co-Editor, *Water Strategist* and *Water Intelligence Monthly* and
Vice President - Stratecon, Inc.

Speakers:

Michael D. White, Esq.
White & Jankowski
Denver, Colorado

Gregg Campbell
President
Kiowa Resources, Inc.
Golden, Colorado

Robert Trout, Esq.
Hobbs,Trout & Raley, P.C.
Denver, Colorado

12:15 pm **Lunch**

1:45 **Keynote Address: The Bureau of Reclamation's Role in Resolving Future Water Management Issues**
Donald R. Glaser
Deputy Commissioner
U.S. Bureau of Reclamation
Denver, Colorado

2:15 **Session III:**
The Colorado Legislative Agenda
Moderator: Roger J. Vaughan

Speakers:
Ken Salazar
Executive Director
Colorado Department of Natural Resources

Senator Don Ament
District 1
Colorado State Legislature
Iliff, Colorado

Representative Jeannie Reeser
District 32
Colorado State Legislature
Thornton, Colorado

3:15 **Break**

3:30 **Session IV:**
The Federal Agenda
Moderator: Rodney T. Smith

Speakers:
Peter Evans
Deputy Director
Colorado Water Conservation Board
Denver, Colorado

Tom Pitts
Tom Pitts & Associates
Consulting Engineers
Loveland, Colorado

Eleanor S. Towns
Director or Lands
U.S. Forest Service
Lakewood, Colorado

4:45 **Water and the Public Interest: In Summary**
Rodney T. Smith

5:00 **Adjourn**

TABLE OF CONTENTS

1993 Annual Water Law and Policy Conference
Water Reallocation and the Public Interest in Colorado

WATER TRANSFERS: SPEEDING UP THE PROCESS

Robert W. Ogburn C
Water Judge
Water Division No. 3
Alamosa, Colorado

Contents

November 13, 1993
University of Denver College of Law
Denver, Colorado

WATER TRANSFERS: SPEEDING UP THE PROCESS

by

Robert W. Ogburn

"For every difficult and complex problem, there is an obvious solution that is simple, easy and wrong."
--H. L. Mencken

I. The Need for Change and Improvement.

A. Most everyone seems to recognize that litigation today is too long, too time-consuming and too expensive. The question then becomes, "What can be done to speed up the process?" Today, the sought for solution seems to be in the area of pre-trial litigation practice rather than in the trial of cases.

Today's almost unlimited discovery and pre-trial motions practice has resulted in "discovery abuse" and the felt need for reform. For an expression of judicial frustration with our present motions practice, see the attached Order of April 6, 1990.

B. Amendment of the Federal Rules of Civil Procedure.

C. Proposed amendment of the Colorado Rules of Civil Procedure. For a complete text of the proposed rule changes, see 22 Colorado Lawyer 2165 (October 1993). The Colorado Supreme Court Ad Hoc Committee has recommended a complete revision of Rule 16, C.R.C.P. which would create a new system of case management.

D. Revisions of C.R.C.P. 26, 29, 30, 31, 32, 33, 34, 36 and 56 together with the new Rule 16 are an attempt to provide a pro-active judicial case management system, early disclosure, limited discovery and an "improved" motions practice.

E. Rule 16(a) states that the rule will not apply to "water law" unless otherwise ordered by the court or stipulated by

the parties. Note that the Uniform Local Rules for all State Water Court Divisions provides as follows.

> Except as expressly provided in theses rules, the C.R.C.P., including the statewide practice standards in C.R.C.P. 121, shall apply to water court practice and procedure.

F. Some of the proposed rule changes and how they might apply in water litigation.

1. Automatic disclosure except...
2. Problems inherent in the exceptions.
3. Disclosure precedes discovery.
4. The forthcoming battle between disclosure and discovery.
5. The pros and cons of early intervention by the court.
6. Early case management orders.
7. Trial management orders.
8. Limited discovery and complex litigation.
9. Sanctions.

G. If proposed rule changes are an effort to speed up the litigation process and to otherwise "simplify" it and thereby keep the cost of litigation down, then we should also be aware of a countervailing trend to increase the cost of litigation to the losing party.

1. AWDI assessment of costs pursuant to Rule 41(a)(2),C.R.C.P.: $2,603,612.50
2. Expanded taxing of costs (discovery depositions) in **Anderson v. Brinkhoff**, P2d , 17 BTR 1414 (Colo 1993).

3. Abolishment of "Frey" rule by U.S. Supreme Court in **Daubert v. Merrell Dow Pharmaceuticals, Inc.**, No. 92-102 decided June 1993.

H. If you don't like the proposed Colorado rule changes, keep in mind what the Arizona Supreme Court did with its rule changes effective July 1, 1992:

1. One expert per issue per side.
2. Four hour maximum on depositions without prior court approval.

I. Speeding up the trial process

1. Litigants employment of contract court reporters in the AWDI case as compared to the Union Park Project case.
2. Limiting the use of experts at trial. Run of the mill automobile P.I. cases as opposed to truly complex cases.

J. Use the Manual for Complex Litigation Second.

1. It provides a different management philosophy than the original manual.
2. Less mechanistic; more flexible.
3. Compendium of procedural devices with comments describing strengths and weaknesses.

II. Enhancing the Predictability of Water Court Litigation

A. Are we that hard to predict?

B. Check the judge's reversal rate.

C. Predictability is a function of preparation.

D. Water "law" is not that complicated.

E. It's the application of the facts to the law that is confusing.

F. Become less adversarial. Learn how to create win-win situations; not just winner take all.

G. Study the behavorial side of the dispute resolution process.

III. CONCLUSION

Whether the proposed rule changes will speed up the litigation process as intended or add another nightmarish legal hoop or two to jump through, only time will tell. Hopefully, the proposed changes will not prove to be another "simple, easy and wrong" solution to a very "difficult and complex problem" facing litigants and lawyers alike.

DISTRICT COURT, WATER DIVISION NO. 3, COLORADO

CASE NO. 86 CW 46

ORDER

CONCERNING THE APPLICATION FOR WATER RIGHTS OF AMERICAN WATER DEVELOPMENT, INC., THE BACA RANCH COMPANY, AND THE BACA CORPORATION IN SAGUACHE COUNTY.

This Court heard argument telephonically on January 18, 1990 on the Rio Grande Water Conservation District and Rio Grande Water Users Association's Motion Re: Contempt and to Stay Further Discovery and for Other Rule 37 Sanctions, and Motion for Protective Order ("Objectors' Motion") and on the Applicants' Motion for Order Compelling Discovery and Imposing Sanctions Against the Rio Grande Water Conservation District and the Rio Grande Water Users Association ("Applicants' Motion").

The Court asked counsel for objectors to prepare an order memorializing the Court's verbal orders and other matters discussed on that date. Old "what's his name", one of the myriad attorneys for the objectors was asked/told/directed to prepare the order at the request/direction of senior member(s) of the objector "team", presumably because he was not a "senior member" of the team. I don't know/recall, and it doesn't matter.

This "simple" request has resulted in a "Proposed Order" (2 pages); an Objection to Proposed Order with exhibits attached (10 pages); and two further Proposed Orders (2 pages); a Response to Applicants' objections to Proposed Order with exhibit (13 pages); and applicants' Motion to Strike "immaterial and impertinent" Allegations with brief (12 pages). If there is a response to the Motion to Strike, I didn't find it.

I can't believe clients are paying attorneys at least a zillion dollars an hour (hyperbole) to argue about things like this. If there is light at the end of the tunnel, I do not see it.

If it is a lawyer's duty to indulge in obfuscation, then I must inform the litigants that they are definitely getting their money's worth out of their lawyers. For those of you who don't know what the word "obfuscate" means, I will tell you. It means to "confuse", "bewilder", "obscure" and "cloud", just to mention a few synonyms.

So much for the prologue! Here are the Orders!

1. Motion to strike is denied. The motion to strike should be stricken. This is one of the most superfluous motions ever invented by a lawyer -- particularly when the matter is being tried to the Court -- no delicate sensibilities here!

2. Objection to use of single order for a single hearing is denied. Separate paragraphs within a single order is acceptable. Separate orders (on separate sheets of paper) instead of separate paragraphs is not required. I know of no rules of grammar or form that impose such a requirement.

One may as well argue that an appellate court must write a separate decision on each "issue" raised in an appeal. I'll bet no one will make that argument/suggestion in an appeal.

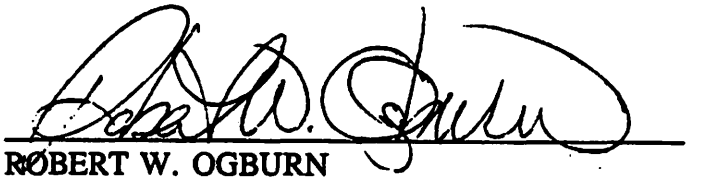
3. A request to prepare an Order is not simply a request to "regurgitate" the spoken remarks of a judge. A court reporter has a record of that including any "ungrammatical" utterances of the judge. If that's all I wanted, I could let the loser of the Motion, etc., pay for the full transcript of the hearing and that would be the order of the Court. Needless to say, there are obvious problems with that approach.

4. After reviewing all the above documents, including all the proposed orders, I modify the original proposed order submitted by the objectors. Paragraph 2 should read " . . . both parties have violated this Court's July 7, 1989 Order . . . ." With that slight modification, the original proposed order is the order of this Court without further submission, resubmission, or rewriting.

5. Both sides are further ordered "to get with it"![1]

Done this 6th day of April, 1990.

BY THE COURT:



ROBERT W. OGBURN
DISTRICT JUDGE

---

[1]I recognize that his last order is:
(1) too much to hope for,
(2) vague, and
(3) unenforceable.

DISTRICT COURT, WATER DIVISION NO. 1, STATE OF COLORADO

Case No. W-8439-76 (W-8977-77, W-9052-77, W-9064-77 and W-9065-77)

MEMORANDUM OF DECISION AND ORDER

IN THE MATTER OF THE AMENDED APPLICATION OF THE UNITED STATES OF AMERICA FOR RESERVED WATER RIGHTS IN THE PLATTE RIVER IN BOULDER, CLEAR CREEK, DOUGLAS, EL PASO, GILPIN, JEFFERSON, LARIMER, PARK AND TELLER COUNTIES (ARAPAHO, PIKE, ROOSEVELT AND SAN ISABEL NATIONAL FORESTS)

These cases are brought by the applicant to determine and quantify its claims for reserved water rights for the purpose of channel maintenance in the Arapahoe, Pike, Roosevelt and San Isabel National Forests.

In *United States v. Jesse*, 744 P.2d 491, 500 (Colo., 1987), the Supreme Court of the State of Colorado concluded as follows:

> (1) that *Denver I* [*United States v. Denver*, 656 P.2d 1 (Colo. 1982)] does not foreclose the United States from asserting a claim that the Organic Act implicitly reserves appurtenant water necessary to maintain instream water flows in the national forests, and (2) that the United States is not barred by the doctrines of collateral estoppel and stare decisis from claiming instream flow rights to achieve the purposes of the Organic Act.

A lengthy trial was held and a vast number of exhibits were introduced. After considerable effort the court has concluded that it will be impossible to summarize and analyze in this memorandum all of the vast amount of material which has been provided to this court for its guidance. The court will therefore limit its discussion to the main points which underlie its decision.

This case involves the interpretation of two federal statutes, the Creative Act of March 3, 1891, (26 Stat. 1103, as amended, 16 U.S.C. § 471, repealed 1976), and the Organic Administration Act of June 4, 1897 (30 Stat. 34, 16 U.S.C. §473, *et seq.*). The Creative Act authorized the president to reserve portions of federal public lands for forest purposes. The Organic Administration Act was in response to certain actions and

11

policies under the Creative Act which were deemed to be excessive. It included limitations on the lands which could be reserved and defined the purposes for which the reservations could be made.

The acts themselves are largely silent on the specific issues which are before the court in these cases. Accordingly, the court must attempt to divine their intent from any indications which are found in the statutes, the circumstances surrounding the adoption of the statutes, and the approaches which would best achieve their underlying purposes.

The applications for reserved water rights for fire-fighting purposes and for administrative purposes are on a different footing from the remaining claims. In this memorandum, except where the context requires otherwise, reference to applications means applications other than those for fire-fighting or administrative purposes.

I. PURPOSES OF THE NATIONAL FORESTS.

The purposes of the national forests have been authoritatively established by a decision of the Supreme Court of the United States.

United States v. New Mexico, 438 US 696, 57 L Ed 2d 1052, 98 S Ct. 3012 (1978), defined the "relatively narrow purposes for which national forests were to be reserved." This decision contained the following observations:

> The legislative debates surrounding the Organic Administration Act of 1897 and its predecessor bills demonstrate that Congress intended national forests to be reserved for only two purposes -- "[t]o conserve the water flows and to furnish a continuous supply of timber for the people." [citations omitted.] National forests were not to be reserved for aesthetic, environmental, recreational, or wildlife-preservation purposes.
>
> "The objects for which the forest reservations should be made are the protection of the forest growth against destruction by fire and ax, and preservation of forest conditions upon which water conditions and water flow are dependent. The purpose, therefore, of this bill is to maintain favorable forest conditions, without excluding the use of these reservations for other purposes. They are not parks set aside for nonuse, but have been established for

economic reasons." 30 Cong Rec 966 (1897) (Cong. McRae).

Administrative regulations at the turn of the century confirmed that national forests were to be reserved for only these two limited purposes.

United States v. New Mexico, supra, at 438 US 707.

On the subject of possible reservation of water the Supreme Court of the United States concluded as follows:

> Congress intended that water would be reserved only where necessary to preserve the timber or to secure favorable water flows for private and public uses under state law. This intent is revealed in the purposes for which the national forest system was created and Congress' principled deference to state water law in the Organic Administration Act of 1897 and other legislation.

United States v. New Mexico, supra, at 438 US 718.

The claims of the United States must be evaluated in the light of these overall principles.

II. WHAT ARE "FAVORABLE WATER FLOWS."

The question of the true meaning of the term "favorable water flows" was a considerable focus of the trial in this case. In considering what is meant by this term the basically utilitarian purposes of the national forests must be kept in mind.

On this question the majority opinion in *United States v. New Mexico* is also instructive.

In that opinion the Supreme Court had occasion to discuss the effect of the Multiple-Use Sustained-Yield Act of 1960 on the question of possible reserved rights for the Gila National Forest in New Mexico. This discussion is enlightening on the question of what is meant by favorable conditions of water flow. The court said:

> As discussed earlier, the "reserved rights doctrine" is a doctrine built on implication and is an exception to Congress' explicit deference to state water law in other areas. Without legislative history to the contrary, we are led to conclude that Congress did not intend in enacting the Multiple-Use Sustained-Yield Act of 1960 to reserve water for the *secondary* purposes there established. A reservation of additional water

could mean a substantial loss in the amount of water available for irrigation and domestic use, thereby defeating Congress' principle purpose of securing favorable conditions of water flow.

United States v. New Mexico, supra, at 438 US 715.

The Supreme Court thus considered that irrigation and domestic use was the principal purpose of maintaining "favorable conditions of water flow."

This view is amply supported by the record in the present case. An exhibit in the present case quotes Congressman Shafroth of Colorado as follows:

> The original purpose of the enactment of the law of 1891 which authorized the President by proclamation to set aside portions of the public land as forest reservations was to conserve the waters for irrigation, so that the snow which falls in that region during the winter will have shade to protect it from melting until midsummer, until late in the summer, until water is most needed for irrigation in the valleys and on the plains below.

30 Cong. Rec. 982 (1897), Ex. A-147.

A leader of congressional supporters of the 1897 legislation stated:

> Common sense and science, I think, will agree that the forest cover will hold both the rainfall and melting snow, so they will not rush to the streams in torrents in the spring and early summer. We all know that in a well-timbered country the water goes more gradually into the streams and gives a steadier flow, with fewer overflows and less low water.
>
> As long as the forest stand, the branches, fallen leaves, and roots will hold much of the rain and snow until summer, and thus furnish water not only for the navigation of our rivers, but also for the irrigation of the deserts. Without forests we may expect our rivers to be swollen as thy are now in the springtime, but shallow or dry in the summer and autumn.

30 Cong. Rec. 966 (1897) (Cong. McRae). Ex. A-147.

The applicant appears to argue that desire to promote the development of the west had little or no part in the creation of the national forests. This court -- and, it is submitted, the Supreme Court of the United States -- disagree with that view.

Irrigation is of concern primarily in the west which does not enjoy the copious natural precipitation which characterizes the eastern portions of the country. Much of the then current legislation had as its unquestionable purpose the development of the west. Significant legislation to promote irrigation in the West was passed the same year as the Creative Act. Congress in creating national forests must have considered the effect those forests would have on western development.

Just as the forests themselves were created for use, the water flows which are engendered and protected by the forests are intended to be used. One of the principal intended uses was irrigation.

The other principal purpose which the Supreme Court recognized was domestic use. As the areas below the national forests have urbanized, domestic use has largely been merged into municipal use. Municipalities and water districts have come to supply domestic needs for most persons. The observation of the Supreme Court must be viewed in that context. A reasonable interpretation of that observation is that the concern of Congress would extend to those supplies.

III. POTENTIAL IMPACT OF THE FEDERAL CLAIMS.

The applicant is asserting in these applications its claims for reserved water rights in the national forests of Water Division No. 1.

> Division 1: Division 1 consists of all lands in the state of Colorado in the drainage basins of the South Platte river, the Big Laramie river, the Arikaree river, the north and south forks of the Republican river, the Smokey Hill river, Sandy and Frenchman creeks, and streams tributary to said rivers and creeks.
>
> C.R.S. §37-92-201(a)

The applications in these cases primarily affect the basin of the South Platte river and its tributaries. They also affect the Big Laramie river (more commonly know as the Laramie river).

The basin of the South Platte contains more than seventy percent of the population of the state. It includes the City and County of Denver and all of its suburbs, and such other major population centers as Boulder, Longmont, Loveland, Fort Collins and Greeley. The 1989 population of the basin was estimated to be about 2.3 million people. Within less than fifteen years the

basin population is expected to grow to about 3.3 million people[1]. Thus there is a large and growing water demand for municipal and domestic uses.

The South Platte basin also supports a vibrant agricultural economy, most of which is based on irrigation. There are estimated to be from 1.3 to 1.8 million acres of irrigated land in the basin.

The South Platte river itself and most of its major tributaries arise in the national forests. Over the years a complex and efficient system of diversions for irrigation and other uses has been developed. Much of the effectiveness of that system is dependent on storage of water in the numerous reservoirs which have been developed, not only in the plains but also in the areas of the national forests. These reservoirs are vital to both the municipal water systems and the irrigation systems which serve the area.

Although the great bulk of consumptive use of waters of the South Platte and its tributaries is on the plains below the national forests, many points of diversion are within the forests. There is also substantial storage of water in reservoirs located in the mountainous areas including the national forests.

A number of advantages accrue from storage in the mountainous and national forest regions. There are geologic formations which make construction of reservoirs easier and less expensive. The rock underlying many of those reservoir sites is more impervious to seepage than the porous soils of the plains areas. Cooler temperatures reduce the amount of evaporation. So does the greater depth of typical mountain sites, since the proportional amount of exposed surface area is reduced. Delivery of water may be done by gravity, and the additional money and energy costs of pumping may often be avoided.

In addition storage higher up in the system makes the use of water more flexible than does plains storage. Colorado is dependent on use of water by successive diverters as the return flows pass down the river system. It is estimated that on the average water originating at the headwaters of the South Platte is used four and one half times before it leaves the state at Julesburg. The possibility of such reuse is maximized by storage as high in the system as possible. In addition the possibility of upstream exchanges is increased.

---

[1] Parenthetically it may be stated that recent news releases by the federal census bureau show Colorado to be the third most rapidly growing state in the nation and there can be no doubt that most of that growth is in the South Platte basin.

Additional important flexibility has been achieved by certain policies which are dependent on upstream storage. Those policies permit out-of-priority diversions to storage by junior reservoirs upstream with the understanding that if the downstream seniors do not subsequently fill, releases will be made to them by the upstream juniors to make up the deficiency. This allows maximum storage and use of spring runoff.

The importance of storage higher up in the system is likely to increase as rights which have historically been decreed for irrigation are changed to municipal use to serve the growing communities of the state. Many of those communities are near the foot of the front range. Such rights can only be delivered to those communities by gravity feed if the necessary storage sites are located at higher altitudes.

Storage higher in the system is also important in maintenance of equable flows throughout the season of use. As has been noted above, persons who spoke on the subject at or about the time of the Creative and Organic Acts stressed the importance of discouraging flood flows at the time of spring runoff and encouraging flows later in the season.

Municipalities need water all year long, and agriculturists generally have better supplies of water in the spring but are particularly in need of irrigation water later in the growing season. Storage of water in the upper part of the watershed promotes these equable flows. Such equable flows were sought by those whose ideas are reflected in the creation of the national forests, and are exactly what they meant when they referred to "favorable water flows."

IV. EFFECT OF RESERVED RIGHTS CLAIMS.

Applicant makes much of the fact that the same amount of water would be available for use below the national forests as before because the claims of the applicant are essentially nonconsumptive. This is largely true but it overlooks the importance of timing in making those waters useful.

Much of the importance of timing results from the fact that a high percentage of the waters available for storage is in the streams at the time of the spring runoff.

A former state engineer explained the matter as follows:

> Generally speaking, what we look for, and I think it is evidenced by the degree to which we rely on storage reservoirs in this state, we have a hydrologic system climate that produces the bulk of the surface runoff in one or two months, May and June.

> To meet the year around needs of cities, to meet the sustained demands during the summer for irrigation, we try and reduce the peaks on those spring runoff hydrographs so that water can be stored either underground or in the surface reservoirs for later use.
>
> So I guess, generally speaking, stream conditions that are ideal or approach the ideal are ones that produce a long duration of flow commencing, say, in April or May when the runoff period begins, which are not flashy or have high peaks or low peaks but a broad and sustained sort of hydrograph.

It is interesting to note that the last paragraph of the quotation immediately above, which is from testimony before the court taken in 1990, is exactly parallel to the quotations from leading congressmen at the time of the enactment of the Creative and Organic Acts almost one hundred years ago, as quoted in part II of this memorandum.

The general effect of granting the claims of the applicant would be to accentuate the flood flows in the springtime. This is the exact opposite of what was desired by people whose thoughts on the subject were influential at the time of the enactment of the Creative and Organic Acts.

The federal claims would be in direct competition with rights for storage high in the system. Reservoirs below the national forests may well receive a bonanza, but overall the flexibility and efficiency of the system would be seriously decreased. The inflexible law of gravity would mean that once water had bypassed the upstream reservoirs to meet the requirements of the applicant's claims, it could never be recovered even though the downstream reservoirs were filled. Thus many advantages of storage high in the system would be greatly diluted or lost entirely.

Applicant contends that Congress in creating the national forests was not concerned with the development of the west and the necessities of western domestic and irrigation use of the waters from the forests If this is true, this section of this memorandum is totally irrelevant. But this court believes such development was a primary aim of the forest legislation, and the Supreme Court of the United States has determined that domestic and irrigation use was the principal purpose of Congress in securing favorable water flows. If this court's interpretation is correct, these considerations are highly significant in determining what, if any, water rights Congress intended to reserve in creating the national forests.

V. NECESSITY FOR RESERVED RIGHTS.

Most of the national forest lands in the Arapaho, Pike, Roosevelt and San Isabel National Forests run to the continental divide. Since this is true, the headwaters of most of the streams in the forests lie in forest lands. Thus for the most part there is no possibility of diversions above the national forests. There are, of course, some areas in which this is not true and where streams run into the national forests from privately held land above the forests. There are also a number of privately held in-holdings traversed by streams which then run through forest lands.

The Forest Service has broad powers to regulate the construction of irrigation structures within the national forests and, as a practical matter, to control the ability of others to make diversions within the forests. Permits are required to establish such structures and these permits must be renewed from time to time.

Over the years the permit system has proven adequate to control development to an extent consistent with the purposes of the national forests. The forest hydrologist of the Pike and San Isabel National Forests was unable to think of any existing structure in those forests which would have to be shut down at any time to preserve channel integrity in those forests. Testimony of Lela Chavez Feb. 5, 1990, pages 142 and 143.

The testimony of Gary Edward Cargill, Regional Forester of the United States Forest Service for the Rocky Mountain Region, contains the following:

> Q With regard to the permitting process, is it possible to use the permitting process to maintain stream channels in Water Division 1 in lieu of claiming reserved water rights for instream flows?
>
> A In the short run, we can achieve the same practical effects on the ground by requiring as a term and condition the same regimen of instream flows for which we are asserting our claim. However, that certainly is not a preferred method. And in the long run, it is inferior to the claims which we are asserting in this court. It is a mechanism which would be used under the policy, but it is not our preferred mechanism under the policy nor is it one which has the many benefits of the adjudicated claim.
>
> Q Now you said that it was inferior and didn't have the benefits, what makes the permitting process inferior to the recognition of reserved water rights?

A Permits are typically occupancy driven, which is to say that neither the general population nor the Forest Service knows very much in advance when an application for occupancy and use is going to be filed. If our only recourse were to secure favorable conditions by virtue of terms and conditions, neither we nor the general public nor other water users would have advance notice of what those uses were to be for, which permits were to be issued, nor the terms and conditions that were going to be affixed to them.

There would be no systematic advance public notice of the government's needs, and there would be no certainty to the amount of water which the government requires for securing favorable conditions of water flow.

It would be derived on a case by case basis as those applications were acted upon, and it would require the Forest Service to then administer those terms and conditions to virtually set up a duplicate system for monitoring and evaluating instream flows which the state already has established under their process and administered by the state engineer. It is simply not in the public interest to duplicate to that degree, and in the long run, it would not serve the general public nor the water developers.

Testimony of Gary Edward Cargill, January 22, 1990, at pages 35-37.

The exact meaning of the foregoing testimony is not completely clear to the court. To the extent that the court understands it, the testimony suggests that without the reserved water rights the Forest Service would have to make a case-by-case evaluation of claims and make its decision on that basis.

In cross examination Mr. Cargill manifested some degree of unfamiliarity with the requirements of the state regulatory system. This cast doubt on his conclusion that federal monitoring would be unnecessary under a system of state administration. It is likely that even if the application herein is granted, much of the monitoring would have to be done by the applicant.

The applicant's claims will have a sweeping effect on many long-standing water rights. There are admitted inaccuracies in applicant's quantifications and it would entail great difficulty and expense to make them more accurate. Under these circumstances it would seem that the case-by-case approach might be the preferred one. It has apparently been successful over the years since the national forests of Water Division No. 1 were established.

Gray Francis Reynolds, Director of Watershed and Air Management of the Forest Service, put the matter quite succinctly. His testimony included the following exchange:

> Q Well, what I'm trying to understand is why do you need to assert a reserved right as opposed to managing this minimum stream flow problem using the other tools?
>
> A Well, can I use an analogy, too?
>
> Q If you need to, to answer the question, go ahead.
>
> A Most carpenters I know carry more than just one hammer, because there are different jobs to be done. They have big hammers and little hammers, and it is part of the toolbox that the Forest Service land manager has at his discretion to use.
>
> Q Yes. So the Forest Service is just trying to get one more hammer, so to speak?
>
> A No, I asked if I could use an example. Would you agree with me that most carpenters carry more than one hammer?
>
> Q Frankly, I don't know.
>
> A Now we are going to have a hard time with this.
>
> Q For purposes of this, I'll agree.
>
> A How about mechanics, they have two or three screwdrivers. What we are trying to say is that the federal right is there, and we would exercise that right on federal land. I have agreed with you, we also have the right to condition the permits when they are issued.
>
> Testimony of Gray Reynolds, January 18, 1990, at page 81-82.

In a somewhat parallel case the United States Forest Service apparently recognized the adequacy of regulation and the lack of necessity for reserved rights. *Sierra Club v. Yeutter*, 911 F.2d 1405 (10th Cir. 1990), is a case involving reserved water rights in wilderness areas. The need to preserve pristine channels in wilderness areas would seem clearly to be greater than in national forests, yet the opinion in that case contains the following:

> One aspect of the question presented by Sierra Club -- whether the Wilderness Act creates federal

> reserved water rights -- is undoubtedly legal. [citations omitted]. The other aspect of the question presented to us -- whether federal reserved water rights are necessary to preserve the wilderness characteristics of the wilderness areas -- is either a question of fact or a mixed question of law and fact. Although Sierra Club submitted affidavits alleging that federal reserved water rights are necessary to preserve the wilderness characteristics of the Colorado wilderness areas, the Forest Service's second report generally denies the existence of any threat to the wilderness areas, *see* second report, at 5-10, apps. II, III, and asserts that other administrative measures could adequately address the preservation of wilderness characteristics.

Witnesses for the applicant thus concede that they have effective means at their disposal to control harmful diversions, but they desire a recognition of reserved water rights as another method of such control.

The Supreme Court of the United States has pointed out that "many of the contours of what has come to be called the 'implied-reservation-of-water doctrine' remain unspecified." *United States v. New Mexico*, 438 US 696,700, 57 L Ed 2d 1052,1057, 98 S Ct. 3012 (1978). This court is without a great amount of guidance by the appellate courts as to the effect of alternative, but less disruptive, methods of achieving the purposes of the national forests.

The applicant insists that alternate methods of control are totally immaterial; however, in another but somewhat similar situation the Colorado Supreme Court stated the following:

> It is also significant that the federal government has complete control over access to federally held geothermal resources and can therefore fully regulate water appropriation.
>
> *United States v. Denver [Denver I]*, 656 P.2d 1, 34 (Colo. 1983).

The alternate method of control has been effective without resort to quantification of reserved rights. This fact is attested to by the history of the national forests in Water Division 1 since their inception, by their present condition, and by the abundant "favorable water flows" which emanate from them. The hydrologist for the Pike and San Isabel National Forests also testified that the Forest Service could live with all absolute rights presently existing in her national forests, but perhaps not with certain conditional rights. Presumably the unacceptable conditional rights cannot be made absolute without consent, or at

least acquiescence, by the Forest Service.

It is noteworthy that there was little evidence of actually observed ill effects of the long existing diversions in the national forests of Water Division 1 which had interfered with the recognized purposes of the national forests.

The Colorado Supreme Court has also said:

> Because the reserved rights doctrine is implied, rather than expressed, and because of the history of congressional intent relating to the federal-state jurisdiction of water allocation, reservations must be strictly limited to the minimum amount of water needed to ensure that the purposes of the reservation will not be entirely defeated.

United States v. Jesse, 744 P.2d 491 (Colo. 1987)

Although this court recognizes that the above quotation from the *Jesse* case does not strictly apply to the point under consideration here, it would seem that the policy of strict construction of reserved water rights would prohibit the quantification of those rights where there is no vital need to do so.

The quantification of those rights is substantially at odds with efficient use of the waters from the forests for irrigation and domestic purposes. Providing water for irrigation and domestic uses is a principal mission of the national forests. It is strange indeed if quantification is required where there is no real necessity for it, and where such quantification impairs those purposes.

Different considerations may apply to cases where there is a potential for diversions at points above the national forests or in inholdings. Those matters should be resolved in applications limited to such circumstances. In this way the matters can be resolved in a manner suited to the specific requirements of each situation.

In one of its briefs the applicant asserts, "The Organic Act gave the federal government a broad management mandate to administer and regulate the national forests...." The court agrees with that statement. The federal government has exercised that mandate in the national forests in Water Division No. 1 for most of a century without resort to the doctrine of reserved rights. That doctrine also has a history of almost one hundred years. Regulation has been successful and the "favorable water flows" remain intact.

The applicant has taken the position that availability of

alternate, less restrictive, methods of control is not relevant. It has also taken the position that the question of injury to other water users is also immaterial. These rather legalistic views seem at odds with the pragmatic views expressed by the early exponents of the conservation movement. For example the writing of Gifford Pinchot, one of the high priests of the conservation movement, contains the following:

> The first great fact about conservation is that it stands for development. There has been a fundamental misconception that conservation means nothing but the husbanding of resources for future generations. There could be no more serious mistake. Conservation does mean provision for the future, but it means also and first of all the recognition of the right of the present generation to the fullest necessary use of all the resources with which this country is so abundantly blessed. Conservation demands the welfare of this generation first, and afterward the welfare of the generations to follow.
>
> ***
>
> Conservation advocates the use of foresight, prudence, thrift, and intelligence in dealing with public matters, for the same reasons and in the same way that we each use foresight, prudence, thrift, and intelligence in dealing with our own private affairs. *** Conservation demands the application of common sense to the common problems for the common good.
>
> ***
>
> The application of common-sense to any problem for the Nation's good will lead directly to national efficiency wherever applied.
>
> Gifford Pinchot, *The Birth of "Conservation"* quoted in Nash, *American Environmentalism*, Exhibit A-6 at pages 76-79.

This statement, particularly the first paragraph, seems very conservative today; however, in attempting to ascertain legislative intent in the creation of the national forests and the reservation of those in Water Division No. 1, the court must look at the views prevailing at the beginning of the twentieth century, not those in vogue at its end.

Those persons who were influential in the passage of the legislation leading to the creation of the national forests were motivated by pragmatism. They sought practical results. What would their answer have been to the question, "Should the

appropriators of the 'favorable water flows' arising from the national forests be inhibited in their efficient use of those flows if there are alternate methods of protecting them?" The evidence in this case leads the court to believe that answer would have been a resounding, "No!"

VI. NATURE OF STREAMS IN THE NATIONAL FORESTS.

The parties disagree as to the nature of the streams in the national forests. The applicant contends that the streams are adjustable in nature and that their channels are formed by fluvial processes which were explained in a complete and scholarly manner. These channels, they contend, are controlled by bankfull[2] discharges -- essentially the same as "channel forming" discharges -- which occur at fairly frequent internals.

Dr. Luna Leopold, a recognized expert in the field of fluvial geomorphology, testified as follows:

> As we said previously , the channel forms and maintains its own -- the river forms and maintains its own channel, and it maintains and forms a channel not large enough to carry the maximum floods or flow which it will receive over a period of time. It carves its channel and maintains it at some intermediate size both in a cross-sectional area and depth.
>
> ***
>
> The reason is the very largest flows that occur; only one, for example in many years, is so infrequent that it doesn't have as large a role in channel formation as does the intermediate sized flows. And it turns out that the flow that is most important in carving and maintaining the channel is a flow that occurs approximately once or twice a year, and it is

---

[2] The use of the term "bankfull" is one of the somewhat confusing aspects of this case. The applicant and its experts use it in the sense employed by Dr. Leopold. In their usage bankfull flow is essentially the same as the channel forming flows. It is frequently attained when water reaches a point somewhat below the top of the physical bank of a stream. On the other hand the objectors and their experts use "bankfull" in the sense of reaching the top of the physical bank of a stream.

In this memorandum the term "bankfull" is used in the sense employed by the applicant. When used in that sense the term does not necessarily reflect channel capacity, as the physical bank may be -- and frequently is -- capable of containing flows in excess of the "bankfull" flows.

called the channel forming discharge. It has been given many terms, but channel forming discharge is one way to express it.

Testimony of Luna Leopold, January 24, 1990. Page 31.

Again he testified:

So to summarize this part, the adjustment process involves much more than the adjustment of width and the building of the point bar, it involves the alternation of deeps and shallows, both related to channel width. It includes the actual form of the curve that the river takes, whether it be a high amplitude bend or a low amplitude bend, it involves the actual radius of curvature of the bends and the wave lengths of the bends, all being some aspect of river channel width. And remember that river channel width is the function of the square root of the discharge and therefore the fluvial geomorphologist can say the square root of the discharge is one of the most highly important relationships in the manner of how streams form themselves and maintain themselves; that is, the wave length is related to the square root of the discharge, and thus since the square root of the discharge is also related to the length of the curve and to the pool and riffle sequence, they are all highly tied together through the interaction of hydraulic and sediment variables.

***

Yes, but let us make sure that we understand that not all of these things are present at any one place or any one time. You can have, for example, a channel particularly when it is bounded on one or both sides to a narrow width by a terrace or by bedrock, the channel therefore may be prevented from making a wide flood plain, but it will attempt to do so, and if you look carefully you can usually find some little remnant of an incipient flood plain being formed by the channel.

Secondly, the adjustment process may not include such things as the pool and riffle sequence, it may not be able to adjust vertically, because it happens to be flowing over some very large boulders that perhaps were excavated out of the glacial material on a moraine, and therefore adjustment vertically often does not take place. But that does not prevent adjustment of the remaining verticals. A river is often prevented from exercising or realizing the tendency the physical processes lead toward, but the river will attempt to

adjust those parameters that are adjustable under the circumstances.

***

In many cases the tendencies for adjustability are masked or subdued and become extremely subtle or even absent.

Testimony of Luna Leopold, January 24, 1990. Pages 85-87.

The objectors, on the other hand, contend that those streams flow in channels cut in materials which are large in size and are not easily moved, even by the sort of flows contemplated by the applications herein. They emphasize that the circumstances which inhibit normal fluvial processes, referred to by Dr. Leopold, are particularly prevalent in the national forests in Water Division No. 1, and in many, if not most, of the quantification points designated by the applicant.

Dr. Stanley A. Schumm, also an eminent fluvial geomorphologist and a member of the faculty of Colorado State University, testified as follows:

Q How would you characterize the mountain streams in Water Division 1?

A I characterize them as steep, very highly variable in their morphologic characteristics. In a very short distance you find that the channel changes character; it is influenced greatly by factors other than hydrology and hydraulics.

***

Q Would you please explain what you meant when you said they are influenced greatly by factors other than hydrology and hydraulics?

A Well, as one walks along these streams and observes their morphology, you see the effect of bedrock, you see the effect of very large boulders that clearly are not transported by the stream at the present time, colluvial boulders or boulders brought into that reach of the valley by glacial activity. We see the effect of log jams, timber in the stream, and, of course, beaver dams, beaver activity are important.

Testimony of Stanley A. Schumm, March 21, 1990, at pages 64-66.

The objectors contend that those channels are resistant to

the usual processes of fluvial geomorphology associated with fully adjustable streams, and are controlled by much larger and less frequently occurring floods.

The parties are also in disagreement as to the nature of sediment in the streams in the national forests. The applicant contends that the full bankfull discharges are necessary to carry the sediment which comes into the streams from various sources. The objectors claim that the sediment coming into the streams is small in amount and in size. They assert that the streams have sufficient energy to carry much more than their present load. Even if the flows of those steams are significantly reduced, objectors contend that they would be able to carry the sediment load.

The court concludes from the evidence and from the field trips which were a feature of this case that a great diversity of stream types exist in the national forests. Quantification points are placed in locations manifesting varying stream characteristics. It is fair to say, however, that a very high percentage of quantification points lie on streams located in areas which would be highly resistant to changes based on alterations of stream flows in the range applicant seeks in these cases.

VII. NECESSITY OF CHANNEL MAINTENANCE.

The parties also disagree as to whether channel maintenance is implicit in the stated purpose of the national forests to secure "favorable conditions of water flow." Objectors, or at least some of them, appear to maintain that the maintenance of channels is totally irrelevant. The applicant maintains that Congress intended that the stream channels must be maintained totally unimpaired.

This court thinks that the truth is somewhere in between. At the time of adoption of the Creative and Organic Acts and at the time the national forests in Water Division No. 1 were reserved, there was widespread appreciation in both scientific and legislative circles that forests were vital to the maintenance of favorable water flows. The importance of maintaining a reasonable degree of integrity for the water courses was implicit in this understanding.

But this is not to say that the stream channels were to be totally maintained in their pristine condition as in the national parks. Congressmen and administrators alike were unanimous in their assertions that the forests were for use. The waters generated in those forests were also for use, particularly for irrigation and domestic purposes.

The Organic Act itself included the following provision:

> All waters on such reservations may be used for domestic, mining, milling, or irrigation purposes, under the laws of the State wherein such forest reservations are situated, or under the laws of the United States and the rules and regulations established thereunder.
>
> 30 Stat. 36 (1897), Ex. A-5.

Use of waters for domestic, mining, milling, or irrigation proposes all require diversions. The applicant argues that this section refers only to use on the reservation itself; however, this court does not see such a limitation in the act. Diversion for use outside the forests seems clearly to be anticipated.

The knowledge of fluvial processes was sufficiently advanced that Congress and the early administrators of the national forests no doubt were aware that diversions in the national forests for purposes of irrigation and domestic use would have some effect on stream channels. Indeed it is the heart of the applicant's case that such knowledge was widespread.

Yet diversions were countenanced, indeed encouraged, by those early administrators, including Gifford Pinchot himself. The interpretations by early administrators charged with the duty of carrying out legislation is entitled to great weight in interpreting the intended purposes of such legislation. Unquestionably, some alteration in the stream channels was anticipated.

Indeed, by implication the applicant seems to recognize that the total maintenance of the stream channels in their condition at the time of the reservation of the various forests was not what Congress had in mind. By these applications and by its policy of subordinating its claims to certain junior uses, what the applicant seems to be trying to do is to maintain the channels in their present condition -- close to a century after the reservations were made.

Complete perpetuation of existing steam channels unchanged, is in any event impossible if the policy of making national forests available for use, including recreational purposes, is to be continued. Fluvial processes are dynamic processes. As one expert testified on a field trip overlooking a broad alluvial valley, the stream at one time or another had been over every foot of that valley.

Many natural and artificial forces other than stream flows contribute to changes. The activities of beavers in particular are a substantial factor. In addition activities of the forest service itself and those engaging in forest service work lead to substantial erosion. Seemingly innocent activities such as the

maintenance of horse trails for recreational purposes have their effect. Testimony of Lela Chavez, February 5, 1990. On a field trip the devastating effects of use of motorized recreational vehicles in the forests was clearly evident.

Timber cutting itself has the great potential of affecting stream flows. The forest service has employed administrative techniques to control these effects. An expert in forest service policy testified as follows:

> Well, in the basic design of the timber sale in deciding which streams are going to be harvested and the location relative to streams and our ability to harvest those trees without adversely affecting or creating additional erosion or without adversely affecting streams, they are protected by specific provisions of the timber sale contracts and through administration of those contracts to insure that they are carried out.
>
> Testimony of George E. Leonard, January 17, 1990, at page 18.

Unless the forests are converted to outdoor museums rather than places for use, work and recreation, processes which alter the natural environment will continue.

Change is inevitable. The creators of the national forests knew that and knew that diversions would contribute to that change. Even so, diversions in the national forests were contemplated and encouraged.

It is this court's view that channel maintenance is necessary to effectuate a purpose of the national forests. But such maintenance is required only to a reasonable degree consistent with both the requirements of stream flows and the necessities of efficient irrigation and domestic use. Intelligent administrative regulation can achieve such maintenance in the future as it has for nearly one hundred years, while flexibility of use of the national forests and their resources can be maintained.

It appears to the court that the weight of the evidence and the legislative history is that Congress, in creating the national forests, intended that the purposes of the forests would be achieved through intelligent regulation. It is inconceivable that it was intended that water rights were to be reserved to an extent that they would interfere with efficient use of the "favorable water flows" for irrigation and domestic purposes.

VIII. PRESENT CONDITIONS OF THE NATIONAL FORESTS AND OBSERVATIONS ON FIELD TRIPS.

Part of the presentation of evidence in this case took the form of field trips to sites selected by the parties to illustrate the processes which had been testified to, and to show the effect -- or lack of effect -- of diversions. These field trips were both interesting and highly enlightening. It is appropriate here to set forth the court's observations and conclusions from such field trips.

It is fair to say that at most of those sites there was some evidence of channel differences above and below diversions. But those differences generally were subtle and would probably not have been noticed by the court had not experts been present to point them out[3]. The experts disputed whether those differences were caused by the diversions, or by the omnipresent differences in geology, slope, and other natural circumstances above and below the diversions. The court concludes that the diversions had some effect, but so did the other natural circumstance.

With one possible exception at no point was the flow of the stream in question seriously impeded by the accumulation of sediment or by encroachment of vegetation. The possible exception is the site visited on the Laramie River.

This is a very complex location. The area near the river is a marshy plain with evidence of beaver activity. There are a number of diversions in the area, one being the Larimer-Poudre Tunnel which diverts at that point. Other water was directed to satisfy obligations to Wyoming. One dry channel was pointed out by experts for the applicant as the natural channel of the Laramie River, and it is clearly too small to carry the entire flow of that river now. The applicant's experts attributed that to the effects of the diversions.

The objectors' experts, however, disputed the assertion that the channel in question had ever been the entire channel of the

---

[3] This court does not wish to suggest that even the hundred odd days of testimony in this case has converted it into an expert in the field of fluvial geomorphology. But in reviewing the testimony of Dr. Leopold, quoted at length in part VI of this memorandum, the court was struck by his statement, "and therefore the fluvial geomorphologist can say the *square root* of the discharge is one of the most highly important relationships in the manner of how streams form themselves and maintain themselves." [emphasis supplied]. Since the square root of the discharge is the key relationship, this court is bold enough to conclude -- at least in a footnote -- that even substantial changes in flows are likely to produce much smaller changes in the channel.

Laramie River. They contended that because of the flat, marshy terrain and the beaver activity, the river had divided into numerous channels of which the example was only one. This theory was hotly contested by applicant's geological expert who contended that there was no geological evidence of such numerous concurrent channels.

This court does not know which set of experts is correct in regard to the Laramie River site. What is most significant to the court is the fact that of the numerous sites visited, this was the only one which may have shown the grievous effects predicted by applicant. And even here the question was a matter of dispute which this court is unable to resolve.

The totality of the evidence in this case is consistent with the court's observations on the field trips. The preponderance of the evidence is that there are differences in the stream channels above diversions and below diversions. It is unclear to what extent those differences are caused by the diversions themselves, and to what extent they are caused by changes in the natural typography, particularly slope. It appears to the court that, for the most part, those changes which appear to have been caused by diversions affect relatively short stretches of the streams involved. Natural forces usually soon take over as the dominant control.

The preponderance of the evidence did not show nor was observation made of the accumulation of sediment in the stream in excessive quantities below diversions. This appears to be explained by the fact that the majority of the streams in the national forests in Water Division No. 1 are capable of transporting larger sediment loads than they are currently called on to carry. Thus a lowering of the stream flow does not necessarily result in the deposit of sediment under current conditions.

Likewise the court did not observe specific examples of the incursion of vegetation into a stream below a diversion to an extent that the free flow of the stream was impeded. There was pictorial evidence of growth of vegetation in dry channels, but overall the court does not conclude that those examples constitute any real threat to the purposes of the forests.

In summary, it is the court's view that although the field trips and the evidence showed some changes in stream characteristics which may be as a result of the diversions in question, those changes did not seriously impair the integrity of the stream channels. Such changes, even if they were caused by diversions, are well within the bounds which a reasonably informed person must have contemplated when diversions in the national forests were allowed in the first place. Considering that some of those diversions are a century or so old, they

cannot be viewed as a threat to the purposes of the national forests.

The applicant has devoted considerable attention to its contention that the claimed rights are required as a flood-control mechanism. No evidence was introduced of any substantial additional flood damage caused because of presently existing diversions. Floods are to be expected for, as Dr. Leopold pointed out in testimony quoted at length above, the stream "maintains and forms a channel not large enough to carry the maximum floods or flow which it will receive over a period of time." During one field trip, a group of homes built in a flat area closely adjacent to the stream was visited. Because of their location they are no doubt at risk for flooding whether or not the applications herein are granted.

Catastrophic floods will no doubt continue from time to time. Neither the granting or denial of these applications will substantially affect the damage which will result from such floods. Such flood flows are simply of a different order of magnitude from those which the channels are capable of containing.

Necessity is the sine qua non for reserved water rights. The history of the national forests in Water Division No. 1 and their present condition is a powerful argument that applicant has failed to show that necessity.

IX. THERE IS NO DANGER THAT THE STREAMS IN THE NATIONAL FORESTS IN WATER DIVISION NO. 1 WILL BE TOTALLY DRIED UP.

The underlying assertion of the applicant seems to be that if the streams in the national forests in Water Division No. 1 were totally dried up, that their channels would ultimately be destroyed and the purposes of those forests would be defeated as far as favorable water flows are concerned. The court is inclined to agree with the applicant in this regard, but is unable to see a real possibility of any such dire occurrence.

As pointed out above, the applicant has a wealth of administrative remedies to prevent this. But in addition the nature of Colorado water law is such as to make it a practical impossibility.

The most senior water rights in the South Platte system are for direct flow irrigation on the plains. Many senior storage water rights are for reservoirs on the plains. Such water rights will naturally require that the flows of the streams in the national forests be transmitted through the forests and to the plains below. These legal requirements would keep any greedy upstream juniors from drying up those streams.

Hydrographs in evidence tend to show that this is what has happened, as it appears that in actuality the streams in the national forests generally have had the benefit of peak flows despite lack of quantified reserved water rights. This may account in substantial part for the good condition of the streams shown by the evidence and observed on field trips.

If actual rather than theoretical necessity is the test, then necessity has not been shown in this case.

X. THE METHODOLOGY EMPLOYED BY APPLICANT FAILS TO IDENTIFY THE MINIMUM FLOWS NECESSARY FOR CHANNEL MAINTENANCE.

Regardless of the question of whether or not there are reserved water rights for the purpose of channel maintenance as claimed by the applicant, the applications herein must be denied for failure of the applicant to identify those flows.

> While many of the contours of what has come to be called the "implied-reservation-of-water doctrine" remain unspecified, the Court has repeatedly emphasized that Congress reserved "only that amount of water necessary to fulfill the purpose of the reservation, no more."
>
> *United States v. New Mexico*, 438 US 696,700, 57 L Ed 2d 1052,1057, 98 S Ct. 3012 (1978).
>
> Because the reserved rights doctrine is implied, rather than expressed, and because of the history of congressional intent relating to federal-state jurisdiction of water allocation, reservations must be strictly limited to the minimum amount of water needed to ensure that the purposes of the reservation will not be entirely defeated.
>
> *United States v. Jesse*, 744 P.2d 491,503 (Colo. 1987).

In a footnote on the same page the Colorado Supreme Court issued the following instructions to the water court:

> For each federal claim of a reserved water right, the trier of fact must examine the documents reserving the land from the public domain and the Organic Act; determine the precise federal purposes to be served by such legislation; determine whether water is essential for the primary purposes of the reservation; *and finally determine the precise quantity of water necessary to satisfy such purposes*. [emphasis supplied].

The court has found that the methodology employed by

applicant fails to define "the precise quantity of water necessary to satisfy such purposes" even assuming that the theories of the applicant regarding the necessity of the claimed flows is correct. Throughout the trial serious problems regarding the applicant's quantification process became evident.

It is beyond the scope of this memorandum to reproduce in full the elaborate methods employed by the applicant in its attempt to measure its claimed reserved water rights. The court will briefly discuss only those aspects which have convinced the court that those methods signally fail to produce a reliable quantification.

1. *The method used to estimate bankfull at the quantification points is fatally flawed.* The flow which constitutes bankfull discharge at the quantification points is crucial to the plan advanced by applicant for quantification of its claimed reserved water rights. This bankfull discharge is the flow the applicant claims to be necessary to maintain the integrity of the channels, and is what is sought to be secured by these applications.

This discharge was not measured at the quantification points by the applicant. It was calculated on the basis of four equations. These equations were termed the Leopold D84 equation, the Leopold D50 equation, the weighted Water Division No. 1 equation, and the Limerinos equation.

The Leopold equations were based on research done by Dr. Leopold and have scientific basis if they are used in circumstances to which they are intended to apply. Unfortunately, in the applicants studies they were from time to time applied under other circumstances.

The weighted Water Division No. 1 equation was apparently developed solely for the purpose of this litigation, and does not appear to be based on scholarly research. In this court's view it has little if any scientific basis, as it assumes a water velocity of approximately four feet per second in all cases. Even Dr. Troendle, a well informed expert called by the applicant, testified that it would have the tendency to overestimate bankfull discharge.

When applied to a given quantification point, the four equations frequently gave widely differing results. The applicant chose the result it deemed most appropriate. The highly suspect weighted Water Division No. 1 formula result was selected in about a third of the cases.

In the court's view this exercise in essence gave a scientific tone to what was essentially speculation.

This is not to denigrate the efforts of the Forest Service. It was confronted with a monumental problem, one that is perhaps insurmountable.

As Dr. Troendle stated:

> There is no question we found, as the watersheds become smaller in size, you go to a step-pool system or whatever, the ability to predict bankfull discharge rate or velocity becomes a problem.
>
> Testimony of Charles A. Troendle, November 29, 1990, at page 58.

Yet it is exactly small watersheds and step-pool system streams that characterize the national forests in Water Division No. 1. This raises the question if it is even practically possible to quantify the minimum amounts of water needed to accomplish channel preservation under applicant's theories. Applicant has clearly not done so here.

2. *The method used to predict average annual runoff at quantification points is inaccurate.* The calculation of average annual runoff at the quantification points is also a highly important aspect of the methodology utilized by the applicant. This calculation is important in determining the total volume in acre feet of water claimed at each quantification point. Again these figures were not measured at each quantification point but rather were extrapolated from twenty gauging stations. These stations varied greatly from the quantification points, in size, altitude, aspect and other respects. The gauging stations were related to the quantification points by two equations -- the North equation and the South equation. There is dispute and admitted error in the assignment of stations to each equation.

Particularly problematic is the fact that the North equation and the South equation are averages of the gauging stations. Application of the formulas to the individual gauging stations themselves would not correctly predict the runoffs at those stations.

Mr. Jon Altenhofen, an expert for the objectors, testified as follows:

> For example on the north equation, the South Fork of the Poudre, the actual equation gives 28 percent more than the actual runoff at the South Fork of the Poudre. Little Beaver near Idelwild, this average relationship gives 26 percent more than the actual runoff that occurred at that gauge. This gauge point that is below the average line, Little Beaver near Rustic, it was 21 percent.

> Correspondingly for the south, the Goose Creek station, the regression gave 26 percent more than what actually ran off and was measured at the Goose Creek gauge and the Michigan Creek gauge which is the extreme of all of them, was 47 percent, the actual regression when applied back to that gauge, sort of a calibration step, as I might call it, was 47 percent greater than the actual flow.
>
> Testimony of Jon Altenhofen, August 8, 1990, at page 37.

In making its extrapolations from the gauging stations to the quantification points a principal criterion which was adopted by the applicant is that of mean elevation. In fact, extrapolations from a single gauging station were made to quantification points the altitude of which varied greatly. Proximity was also claimed to have been considered, but in fact the extrapolations were made over very substantial distances.

A number of other aspects were given less consideration than they deserved in determination of the propriety of extrapolations. These included particularly the question of whether mean annual runoff was dominated by rainfall or by snow melt. It appears that the mean annual runoff at certain of the gauging stations was dominated by rainfall, yet extrapolations from those stations were made to quantification points where the runoff was controlled by snowmelt.

In addition the aspect of the drainage basins -- the direction they face -- appears not to have been given due weight. The runoff from a slope facing south and exposed to direct sunlight may be expected to be substantially different that from a slope which faces north and is shielded from the sun.

3. *The methods used by applicant to estimate bankfull and mean annual runoff at quantification points give hydrologically inconsistent results.* The objectors made analyses to serve as cross checks regarding the question of whether or not these extrapolations gave results which were consistent with generally accepted principles of hydrology.

One cross-check was to determine the ratio between Qa, the mean annual runoff estimated at the quantification points expressed in cubic feet per second, and Qb, the extrapolated bankfull flow also expressed in cubic feet per second. Hydrologists and fluvial geomorphologists, including Dr. Leopold, have discovered a general rule of fluvial geomorphology that at sites which are snowmelt dominated there is a consistent ratio between Qa and Qb. There is a similar consistency at sites which are rainfall dominated; however, the ratio is different there.

Examination of the ratios of the estimates derived at the quantification points by the applicant fails to show the expected hydrological consistency. It therefore appears that the quantifications are wrong. Mistakes in these quantifications result in incorrect claimed flows. The preponderance of the evidence in this case is that the errors apparent here would tend to exaggerate the claimed flows.

An additional cross check was to compare the ratio of Qa to Qb at the quantification points to the same ratio at the base stations from which the extrapolation was made. The theory behind this check is that if the quantification point is truly hydrologically similar to its related base station, the ratios should be similar. In fact these ratios turn out to be much different in many cases. This casts further doubt upon the accuracy of the extrapolations.

4. *The chapter 30 procedure was used in situations to which it was not intended to apply.* The applicant purports to be applying the principles set forth in Chapter 30 of the Forest Service Manual. That chapter contains at page 31.11 the following caveat:

> At present the procedures can only be applied to watersheds or stream flow that is perennial and dominated by snowmelt runoff. Methods applicable to rainfall dominated perennial and ephemeral and intermittent streamflow have not yet been developed.[4]

The low elevation of certain gauging stations and analysis of their Qa:Qb ratios lead to the conclusion that certain of the gauging stations are rainfall dominated rather than snowmelt dominated. As discussed above, a certain range of ratios is expected at rainfall dominated sites which is different from that expected at snowmelt dominated sites. In at least two or three of the gauging stations the ratios indicate that rainfall predominates. Extrapolations to numerous quantification points were made from those stations. Chapter 30 itself casts doubt upon the propriety of that procedure.

5. *The claimed water rights would fail to give applicant the flows it desires.* Despite the elaborate calculations made by applicant it appears clear that the applicant's procedure would not capture the flows desired. The applications are stated in a manner which claims a particular flow at a precise time and for a specified period. In short it is inflexible.

---

[4] The text as set forth above is taken from a brief. Exhibit A-203 contains a reproduction of page 31.11 which differs from this reading but which appears to be erroneous.

Nature, unfortunately, does not produce results which are sufficiently consistent to fit the pattern prescribed by these applications. Matching the flows claimed by the applicant with the historical hydrographs applicable to the streams in question shows that in most years the applicant would have failed to capture the bankfull flows it desires.

The affected appropriators would be handicapped in diverting during the time the claims of the applicant were in priority, yet the applicant would not secure the benefit it seeks. This is an irrational result.

6. *The applicant inferentially admits the inaccuracy of its quantifications, and that the amounts claimed in its present applications are not the minimum amounts required.* The applicant freely admits that there is a substantial range of error in its quantifications.

Applicant's reply brief to objector's opening technical brief contains the following revealing passages at pages 17 and 18:

> An enormous amount of effort, time and money would be required to improve the basis upon which the claimed quantities were determined under the 1989 and 1990 procedures.
>
> For example, in order to improve the estimate of the mean annual flow, it would be necessary to put a gaging station at each quantification point and operate it for a number of years. Five years of actual measurements at a quantification point are not as good as a regional relationship based upon 15 or 20 years of record at many different gages. If the Forest Service wanted to know the mean annual flow to plus or minus 10%, in Colorado one would need roughly 12 to 15 years of record before that determination could be made. If greater accuracy were desirable, plus or minus 5%, then the gaging stations would have to be operated for 20 to 25 years. This would have to be done at every quantification point at which the mean annual flow was to be obtained. *** To obtain an accuracy of plus or minus 5% would require a period of 20 years and more than $50,000,000.00.

This court is not suggesting that the applicant should spend $50,000,000.00 to make these determinations. But quantifications which admittedly do not reach the plus or minus 10% level of accuracy do not permit this court to "determine the precise quantity of water necessary" to fulfil the purposes of the national forests even as viewed by the applicant.

The court is considering only the 1989 quantifications. At page 164 of its technical brief the applicant says:

> Comparisons of the 1990 and 1989 claims to the U.S.G.S. gaging stations demonstrate that, on average, the 1990 claim would reduce the amount of water claimed over the long-term, or at least it would remain the same.

This is virtually an admission that the 1989 claims are not the minimum amount required, at least in certain years and perhaps overall.

XI. CLAIMS FOR FIRE FIGHTING.

The purposes of the national forests cannot be fulfilled if the forests are not protected from fire. This court concludes that the applicant is entitled to a reserved water right unlimited in amount as may be necessary for the purpose of fighting fire.

Mr. Cargill, whose background with the forest service includes much experience in the field of fire protection, testified as follows:

> I may have stated earlier that without the capacity to protect the forest from fire, we would be unable to fulfill either of the purposes for which they were reserved; a continued supply of timber to meet the needs of the American people would be in jeopardy, and certainly favorable conditions of water flow couldn't be secured were we denied the use of water as a fire-fighting tool.
>
> Testimony of Gary Cargill, January 22, 1990, at pages 37-38.

He also stated:

> It is virtually impossible to predict with any degree of certainty the type of fire season to be experienced from one year to the next. Therefore it is virtually impossible to predict the amount of water that will be used from one fire season to the next, and it can vary tremendously.
>
> Testimony of Gary Cargill, January 22, 1990, at pages 24-25.

This court agrees completely with these observations by Mr. Cargill.

The objectors ask for a determination that if water in reservoirs is required for fire fighting, then the applicant must pay for it. That is beyond the scope of these applications and must await decision if and when circumstances require. Perhaps the use of water placed in storage would constitute a taking of private property requiring compensation. On the other hand it is perhaps not impossible that such water will be viewed as impressed with a sort of "lien" allowing recapture by applicant if it is needed for fire-fighting purposes.

As in most cases, it is preferable that the question be decided in the context of an actual dispute if one should ever arise.

XII. ADMINISTRATIVE SITES.

No matter what the ultimate outcome of these cases, the national forests in Water Division No. 1 must be administered. Such administration requires administrative sites. It is reasonable to assume that Congress intended to reserve sufficient water to serve those sites.

The applicant recognizes the impossibility of quantifying its requirements at present. It has suggested that the court decree such reserved water rights exist, and that quantification of those rights be postponed until the actual need arises.

This appears to be a reasonable solution. A decree should enter determining that reserved water rights for administrative sites in the national forests exist. Those rights are for not more than one site for each 100,000 acres of national forest, and not more than ten acre feet per site. The actual amount reserved for each site shall be determined as the need may arise, and the court should retain jurisdiction for that purpose.

The applicant suggests that the limitations imposed should be subject to revision in the event of "unforseen circumstances or Congressional action which might require additional sites." This court thinks such a provision is not proper. The theory of reserved water rights is that the rights were reserved at the time of the reservation of the forests. It can hardly be credited that water was reserved then for purposes which are not evident even now, many years later.

XIII. THE PROPOSED AMENDMENT FOR 1990 CLAIMS.

The court refused to allow the applications to be amended to reflect the 1990 claims and is being asked to reconsider its decision in that regard.

At the time of its original ruling the court fully explained its reasons. These included the fact that the request came after

many months of trial and involved a very substantial change in the applicant's proposal. To have allowed the amendment would no doubt have triggered a new round of investigations by all parties and several more months of trial. This would have been unfair to the objectors who had already spent much time and treasure in connection with this case.

The court will adhere to the views expressed at the time of its ruling on the motion and briefly summarized above, but will also add another thought.

The applicant developed its 1989 claims after about fourteen years of study using the vast resources in personnel and money of the Forest Service, yet its conclusions were successfully challenged. To avoid this challenge the 1990 claims were devised by a small team, and all or nearly all of the members were involved in this case. They were operating under the hurried time constraints imposed by the pending litigation. This would not seem to be the ideal environment for careful scientific study.

This court has come to the conclusion that the applicant has not shown the claims for reserved water rights to be necessary, but is under no apprehension that its word will be the final one on this question. If on appeal this court is reversed on the question of necessity but affirmed in its findings that the methodology employed was faulty, a new trial will be required and a new proposal will be necessary.

In view of the importance of this claim to the future of the inhabitants of Water Division No. 1, a proposal developed under calmer and more scholarly circumstances would be appropriate.

XIV. CONCLUSION.

The court has concluded that the applications herein must denied except insofar as they request determination of reserved water rights for fire-fighting purposes and for administrative sites. This denial is based on two determinations, each of which is sufficient independently to support the denial. These are:

1. The applicant has failed to show that the reserved water rights claimed are necessary to preserve the timber or to secure favorable water flows for private and public uses under state law.

2. The applicant has failed to establish the minimum amount of water needed to ensure that the purposes of the reservation of the national forests in Water Division No. 1 will not be entirely defeated.

The court has concluded that the applications for reserved

water rights for fire-fighting purposes and for administrative sites should be granted. The granting of the applications is based on the following determinations:

1. The applicant has demonstrated that reserved water rights for fire-fighting purposes and for administrative sites are necessary to preserve the timber and to secure favorable flows of water for private and public uses under state law.

2. Applicant has established that the minimum amount of water for fire-fighting purposes needed to ensure that the purposes of the reservation of the national forests in Water Division No. 1 will not be entirely defeated is whatever amount is necessary to fight fires.

3. Applicant has established that the minimum amount of water for administrative sites needed to ensure that the purposes of the reservation of the national forests in Water Division No. 1 will not be entirely defeated is not more than ten acre feet of water for each of not more than one site for each 100,000 acres of national forest. The court may reserve jurisdiction make the exact quantifications as needed.

The court will adhere to its previous ruling denying the amendments requested by the applicant.

ORDER

For the reasons set forth above, it is

ORDERED by the court as follows:

1. A decree will enter granting the applications to the extent that they provide for water for fire-fighting purposes. That decree will be unlimited in amount.

2. A decree will enter granting the applications to the extent that they provide for water for administrative sites. That decree will provide for reserved water rights for not more than one site per 100,000 acres of forest land, and not more than 10 acre feet of water per year for each site. The court will reserve jurisdiction for an indefinite period to quantify the precise amount of water for each site.

3. Applicant's request that the court reconsider its denial of the 1990 amendments to the applications herein is denied.

4. A decree will enter that, except as hereinabove provided, the applications in this case are denied.

5. The parties shall submit for the court's approval proposed forms of decrees in accordance with the foregoing instructions.

Dated February 12, 1993.

BY THE COURT:

Water Judge

DISTRICT COURT, WATER DIVISION NO. 1, STATE OF COLORADO

Case Nos. 86 CW 401, 86 CW 402, 86 CW 403, 87 CW 332

MEMORANDUM OF DECISION

CONCERNING THE APPLICATION FOR WATER RIGHTS OF THE CITY OF THORNTON,

IN LARIMER, WELD AND ADAMS COUNTIES.

I. SCOPE OF MEMORANDUM

In these cases the applicant has invested large sums of money in a laudable effort to improve its water supply. Huge additional expenditures will be required to bring the plan to completion over the next half century or so.

In view of these large expenditures it is only natural that the applicant seeks to reap the maximum benefits from its investment. The result has been a proposal which to this court's experience is of unparalleled complexity.

Because of the magnitude of the proposal, applicant is in numerous instances testing the extreme limits of Colorado water law. In many -- if not most -- of these areas there is little or no direct guidance from statutes or decided cases.

The applicant is entitled to the full benefit of its investment which was made in accord with Colorado concepts of free marketability of water rights. On the other hand the magnitude of the transfers proposed by applicant has the potential of causing substantial adverse effect to a principal agricultural area of the state and to the growing cities and industries located there. Thus, it is essential that the decrees herein be carefully crafted to permit proper transfers but to avoid injury.

This memorandum is intended to set forth the conclusions the court has reached concerning a number of the novel legal issues raised by the applications. It is hoped that the memorandum will be of assistance in drafting a decree which will harmonize the legitimate rights and interests of both the applicant and the objectors.

II. NATURE OF APPLICATIONS

These cases involve the application of the City of Thornton for changes of water rights attributable to the sizable number of shares of the Water Storage and Supply Company owned by that city. The city proposes to change the use of the water from agricultural uses in Weld and Larimer Counties to municipal use in the city and in its present and anticipated future service areas. The project as envisioned by the applicant is summarized in the Project Completion Study Report, Draft Report, Addendum [Exhibit A-649], as follows:

> The City of Thornton Northern Water Supply Project (Northern Project) is a large-scale water diversion project which will deliver high-quality raw water from the Poudre River to the City of Thornton for municipal use. Thornton's entire currently existing municipal water supply, including future facility improvements, will provide a dry year yield of approximately 26,100 acre-feet per year, which is adequate to meet Thornton's water demand only through the year 2000. Future shortages in the quantity of Thornton's water supply are compounded by increasing problems in complying with the standards set forth by the Safe Drinking Water Act due to gradual deterioration in the quality of its existing raw water supplies. Although Thornton has historically employed an aggressive water conservation program, resulting in its per capita water use being one of the lowest in the Denver metropolitan area, it is now forced to acquire additional water supplies and to construct new water facilities. Ultimate development of Thornton's service area will require a dependable annual supply of 93,300 acre-feet by the year 2056.
>
> At a total cost of approximately $426,984,000, the Northern Project will dramatically improve the City's water quality and, together with existing supplies, will meet system demand through approximately the year 2031. Construction will begin in the year 2000, and at full development, the project will provide an average of approximately 67,000 acre-feet of water per year to Thornton. With the cooperation of Water Supply and Storage Company (WSSC), a large mutual ditch company serving shareholders' lands from Fort Collins to north of Greeley primarily through the Larimer County Canal, Thornton's project will be developed in three

construction phases. *** A summary of each phase of the Northern Project is as follows:

> **Phase I.** In the year 2000, construction will begin on a pumping station at WSSC Reservoir No. 4, a 48 inch pipeline to carry water 56 miles to Thornton, and numerous related facilities. Initially, the Northern Project will deliver a minimum of approximately 1800 acre-feet during the year 2002, and will increase deliveries in annual increments of 500 to 1,300 acre-feet, matching Thornton's increasing need for water. Phase I deliveries will level off at an average of approximately 33,200 acre-feet per year in 2028. Water delivered to Thornton in Phase I will be derived primarily from the gradual retirement of approximately 14,500 irrigated acres served by WSSC and owned by Thornton and from new (1986) appropriations of water by Thornton from the Poudre.
>
> **Phase II.** In 2026, to meet Thornton system demands over and above those satisfied by Phase I, construction will begin on a parallel 48 inch pipeline to Thornton from WSSC Reservoir No. 4, together with a variety of other facilities, including return pipelines from the Poudre and South Platte River to the Larimer County Canal near Elder Reservoir and south of Cobb Lake. Deliveries of water to Thornton through Phase II facilities will begin in the year 2029 and combined deliveries from Phase I and Phase II facilities will average approximately 56,900 acre-feet per year. Additional water delivered to Thornton in Phase II will be derived primarily from a "ditch exchange" under which Thornton will withdraw water from the WSSC system and, in exchange, return an equivalent amount of water from other sources owned by Thornton. The return water, or "substitute supply," will be pumped to the Larimer County Canal from various locations along the Poudre and South Platte Rivers.
>
> **Phase III.** In 2034 construction will begin on a parallel 72 inch return pipeline to deliver water back to the Larimer County Canal, thereby increasing the yield of the "ditch exchange" with the WSSC system. Additional deliveries from these Phase III facilities will begin in the year 2036 and will increase each year to help meet Thornton's increasing need. New water delivered during Phase III will be derived from the use of Thornton's WSSC shares for irrigation under the WSSC system to allow a ditch exchange on nearly the entire

flow of the WSSC system. The yield of the project at full development, utilizing Phase I, II and III facilities, will average approximately 67,000 acre-feet per year.

The above summary gives only a partial idea of the complexity of this proposal. It is, however, sufficient background for the purposes of this memorandum.

The engineering concepts are very intricate and final action concerning them is postponed to a future day. This memorandum will be limited to the following concerns:

1. Reuse of transmountain water.
2. Waste water returns.
3. Return flow replacements.
4. Maintenance of groundwater levels.
5. Proposed use of Colorado-Big Thompson project water.
6. Conditional water rights.
7. Water quality.
8. Claim of speculation.

III. REUSE OF TRANSMOUNTAIN WATER

A considerable portion of the supply of water represented by applicant's shares in the Water Supply and Storage Company consists of water imported from the basin of the Colorado River. Reuse of that water is proposed by applicant. The extent of applicant's right to such reuse is one of the principal questions in these cases.

Four of the ditches which form part of the collection system of the Water Supply and Storage Company divert water from outside the Poudre River-South Platte Basin. All of these supply water to the Larimer County Canal, the backbone of the distribution system of the Water Supply and Storage Company.

The Grand River Ditch diverts water from the basin of the Colorado River. That water is stored in Long Draw Reservoir, owned by the Water Supply and Storage Company. Water is released from that reservoir to La Poudre Pass Creek, a tributary of the Poudre River. It is carried in the Poudre River to the headgate

of the Larimer County Canal, at which point it enters the distribution system of the Water Supply and Storage Company. The decree of the Grand River Ditch bears an appropriation date of September 1, 1890, and an adjudication date of August 11, 1906. It is a direct flow right for 524.6 cubic feet of water per second of time. From 1950 to 1979 the diversions through the Grand River Ditch averaged 20,100 acre-feet per year.

The Cameron Pass Ditch diverts water from the Michigan River, a tributary of the North Platte River. The Michigan River is in Water Division No. 6. Water diverted from this ditch is delivered to the headgate of the Larimer County Canal via Joe Wright Creek and the Poudre River. The ditch has two direct flow decrees, one with an appropriation date of July 30, 1882, for 10 cubic feet of water per second of time, and the other with an appropriation date of July 7, 1898, for 18 cubic feet of water per second of time. Both decrees have an adjudication date of July 1, 1908. From 1950 to 1979 the diversions through the Cameron Pass Ditch averaged 118 acre-feet per year.

The Skyline Ditch, which also has been known as the Laramie River Ditch, diverts water from the North Fork (or West Branch) of the Laramie River, a tributary of the North Platte. The ditch discharges into Chambers Lake, a Water Supply and Storage Company reservoir. Water released from Chambers Lake travels by way of Joe Wright Creek and the Poudre River to the Larimer County Canal headgate. The Skyline Ditch has a direct flow decree for 300 cubic feet of water per second of time, with an appropriation date of August 7, 1891, and an adjudication date of October 30, 1896. Average annual diversions were about 2,000 acre-feet per year.

The Rawah Ditch[1] diverts from Rawah Creek, a tributary of

---

[1] The court is unclear as to the distinction between the Rawah Ditch (No. 72 in the decree of February 20, 1914, granted Ditch Priority No. 71) [exhibit A-668] and the Rawah & Lower Supply Ditch (No. 73 in that decree, granted Ditch Priority No. 72). The court is unsure which is referred to as the Rawah Lower Supply Ditch in exhibit A-115, upon which this portion of the memorandum is largely based. The direct flow amount stated in exhibit A-115 for the Rawah Lower Supply Ditch is the same as appropriation amount of the Rawah & Lower Supply Ditch in the decree, so it is the likely choice. The adjudication date appears to be incorrect in exhibit A-115. The decree states that although different priority numbers are assigned to the structures decreed therein, which include the two ditches referred to above and the Laramie River Tunnel (also known as the

the Laramie River. Its water is discharged into the Laramie-Poudre Tunnel, which in turn empties into Tunnel Creek. Tunnel Creek is a tributary of the Poudre River, and water is transported by the Poudre to the Larimer County Ditch headgate. The Rawah Ditch has a direct flow decree for 275 cubic feet of water per second of time with an appropriation date of August 25, 1902, and an adjudication date of February 20, 1914. The Laramie-Poudre Tunnel has a direct flow decree for 300 cubic feet of water per second of time, also with an appropriation date of August 25, 1902, and an adjudication date of February 20, 1914. For the period 1950 through 1979 the average annual diversions through the Rawah Ditch/Laramie-Poudre Canal combination was approximately 15,600 acre-feet.

Recent improvements in the Water Supply and Storage Company system, particularly a substantial enlargement of Long Draw Reservoir, have made it possible for the Water Supply and Storage Company to utilize its transmountain decrees to a greater extent than was formerly possible. This enlarged supply was the subject of Case No. W-9322-78, *In the Matter of the Application of Platte River Power Authority, Water Supply and Storage Company, and the City of Fort Collins, Colorado.* In that case the right of reuse of the enlarged supply was conceded, and, indeed, formed the basis of the plan decreed.

The parties here do not dispute that the enlarged supply is available for reuse as determined in Case No. W-9322-78. The objectors contend, however, that the original supply of the transmountain ditches may not be reused.

Although conceding that the issue has never been settled in Colorado, applicant contends that certain Colorado cases tend to show that its right to reuse the original transmountain supply would be recognized here.

The starting point for determining this question must be the following cryptic remark by Justice Groves in *Denver v. Fulton Irrigating Ditch Co.*, 179 Colo. 47, 58, 506 P.2d 144 (1972):

> The trial court, as quoted earlier, found Denver had abandoned the foreign water upon delivery of sewage and effluent to the Metro plant. As we interpret the findings and conclusions, the court limited itself to a

---

Laramie-Poudre Tunnel), all are to be viewed as having the same priority.

finding of abandonment solely by reason of such delivery to the Metro plant. The briefs contain some argument concerning abandonment in a broader sense. We are asked to adopt the following interesting observations in *Stevens v. Oakdale Irr. Dist.*, 13 Cal. 2d 343, 90 P.2d 58 (1939), mentioned earlier in this opinion:

"Waters brought in from a different water shed and reduced to possession are private property during the period of possession. When possession of the actual water, or corpus, has been relinquished, or lost by discharge without intent to recapture, the property in its [sic] ceases. This is not the abandonment of a water right but merely an abandonment of specific portions of water, i.e., the very particles which are discharged or have escaped from control."

We neither accept nor reject this California ruling.

The applicant argues that the right to reuse foreign water is not subject to the doctrine of abandonment. Even if it is subject to abandonment, applicant asserts that no intent to abandon has been shown. Certain objectors contend that at the time of appropriation and for many years thereafter Water Supply and Storage Company had no intention to reuse the original supply of water they imported. In any event, they say, the right to reuse that water was abandoned.

Much of the dispute among the parties regarding this issue centers on interpretations of the law of the state of California, the state of Wyoming, and certain other states. For this reason some consideration of the law of those states is in order.

A. California Law

Since the decision of the *Stevens* case, the Supreme Court of California has had occasion to decide two principal cases involving the right to reuse water. These are *City of Los Angeles v. City of Glendale*, 142 P.2d 289 (Cal. 1943) and, most recently, *City of Los Angeles v. City of San Fernando*, 123 Cal. Rptr. 1, 537 P.2d 1250 (1975).

Both of the latter two cases deal with the right of the city of Los Angeles to reclaim and reuse water which it infiltrated into a large "valley fill" area underlying the Upper Los Angeles River Area. The "valley fill" area is divided into four subareas, by far the largest of which is under the San Fernando Valley. The municipal limits of the city of San Fernando include a portion of the San Fernando Valley, but by far the greater

portion of the valley lies within the corporate limits of the city of Los Angeles.

This "valley fill" area has been found by the California courts to act as a huge underground reservoir. The city of Los Angeles imports the bulk of its water from Owens Valley and Mono Basin, California, and deposits portions of that water in the "valley fill" area or areas in two manners. Chiefly, it intentionally spreads water on the surface to recharge the underground aquifer. A smaller amount of water comes from returns of water supplied to customers in the valley by the city of Los Angeles.

The city of Los Angeles contended in both actions that its right to recover water from the "valley fill" area was superior to the rights of the other cities involved. It was largely successful in both cases.

Both cases involve the pueblo water rights which California courts have found belong to the cities of Los Angeles and San Diego. This was a doctrine thought -- perhaps mistakenly -- to have been inherited from Spanish and Mexican law. The doctrine has no application in Colorado, even in the portions of the state which were formerly part of the Mexican republic. The *San Fernando* case also discusses in detail the doctrine of "mutual prescription" which is another facet of California water law that has no counterpart in Colorado. These inapplicable doctrines do not particularly affect the determinations of the California court regarding reuse.

Both the *Glendale* and *San Fernando* cases involved the reuse of foreign waters, and it is that portion of the cases which is of interest here. The *San Fernando* case is particularly instructive, not only because it is the most recent, but also because it explains the *Stevens* and *Glendale* cases. The Supreme Court of California stated:

> In City of Los Angeles v. City of Glendale, supra, 23 Cal.2d 68, 142 P.2d 289, this court affirmed a judgment which declared that plaintiff had prior rights, as against defendants Glendale and Burbank, to "return waters" beneath the San Fernando Valley. These return waters were described as those which were imported by plaintiff and "sold to the farmers of the San Fernando Valley, and which settle after use beneath the surface and join the mass of water below, as anticipated when sold." (23 Cal.2d at p. 72, 142 P.2d at p. 292.) It was held that plaintiff had a prior right to the water when it was imported (23 Cal.2d at

p. 76, 142 P.2d 289) and that "[t]he use by others of this water as it flowed to the subterranean basin does not cut off plaintiff's rights." (23 Cal.2d at p. 77, 142 P.2d at p. 295.)

This holding had a dual basis. One basis for the holding was the trial court's finding that before commencing the importation of Owens water, plaintiff had formed an intention to recapture the return waters used for irrigation in the San Fernando Valley whenever such return waters were needed for its municipal purposes and the use of its inhabitants, and that the Los Angeles Aqueduct had been planned and located to facilitate the availability and recapture of such return waters. Under these circumstances, plaintiff retained its prior right to the return waters whenever they might appear. (*Id.*, (23 Cal.2d at p. 78, 142 P.2d 289); Ide v. United States (1924) 263 U.S. 497, 506-507, 44 S.Ct. 182, 68 L.Ed. 407; United States v. Haga (D. Idaho 1921) 276 F. 41.)

The other basis for the *Glendale* holding, found in the reasoning of Stevens v. Oakdale Irr. Dist. (1939) 13 Cal.2d 343, 90 P.2d 58, did not depend on the existence of an intent to recapture return waters *before* importation began. In *Stevens*, water brought from the Stanislaus River into the defendant district's irrigation system reached Lone Tree Creek as seepage, waste and spill from irrigation uses. Lone Tree Creek was in a different watershed from the Stanislaus. After an owner of land traversed by Lone Tree Creek downstream from the district's territory had commenced irrigating with the water, the district for the first time manifested an intention to recapture the water from the creek within its own boundaries for irrigation uses, thereby cutting off the lower user's supply. The district's right to do so was upheld. Even though the district had abandoned the particular quantities of water it had allowed to flow downstream, it retained the right to recapture a subsequent flow as long as it did so within its own irrigation works or on its own land.

City of Los Angeles v. City of San Fernando, 123 Cal. Rptr. 1, 44, 537 P.2d 1250, 1292 (1975).

The *San Fernando* case makes a strong point about the importance of recapture "within its own irrigation works or on

its own land." The opinion has the following additional statement in this regard:

> From the beginning of plaintiff's delivery of imported water to users in the San Fernando basin up to the present time, a return flow from such deliveries has augmented the basin's ground supply. From an even earlier time up to the present, plaintiff has relied and regularly drawn upon that same basin supply for its municipal water distribution system and has claimed the native waters of the basin under its pueblo right. All these deliveries of imported water have been inside plaintiff's city limits and all plaintiff's extractions and diversions from the basin have occurred either within the city or in areas long since annexed to the city. Since the deliveries and withdrawals were thus "within plaintiff's reservoir" (City of Los Angeles v. City of Glendale, supra, 23 Cal.2d at p. 78, 142 P.2d 289), the allegation of an intent to recapture the return waters in the present complaint, filed in 1955, was sufficient for purposes of the present case to establish whatever rights would have arisen from plaintiff's manifestation of such an intent before commencing importation in 1915. (Stevens v. Oakdale Irr. Dist., supra, 13 Cal.2d 343, 90 P.2d 58.)

Applicant relies on the quotation from *Stevens v. Oakdale Irr. Dist.*, 13 Cal. 2d 343, 90 P.2d 58 (1939), contained in the above excerpt from *Denver v. Fulton Irrigating Ditch Co.*, 179 Colo. 47, 58, 506 P.2d 144 (1972). It must be concluded, however, that if this aspect of the present case were decided on the basis of California law, the applicant would not prevail. Applicant meets neither of the tests set forth in the *San Fernando* case.

The preponderance of the evidence clearly indicates that the original developers of the transmountain diversions involved here had no intention of recapturing or reusing the water. No such plans were developed for over fifty years after the initial appropriations. There were numerous improvements in the collecting system to increase the yield of the system, but no efforts to establish a reuse plan. Indeed, the whole question does not seem to have been broached until the 1960's.

Applicant asserts that such inaction should be excused because the developers did not know they had the right to reuse the transmountain water. This assertion is hardly credible. The doctrines allowing the reuse of transmountain water and reuse of developed water are closely related, or perhaps identical.

It seems unlikely that the early developers of the Water Supply and Storage Company system were unaware of the possibilities of reuse. The right of a developer to recapture flows which have been added to the natural flow of a stream by artificial means appears in both the first and second editions of Weil, *Water Rights in the Western States*, a leading text of the era. Those editions were published in 1908 and 1911, respectively. The doctrine is hinted at in §187 in the first addition and clearly stated in §234 in the second edition. Although the statute which became C.R.S. § 37-82-106 was passed in 1969, our Supreme Court has held that the right of reuse has existed independently of the statute. *Denver v. Fulton Irrig. Ditch Co.*, 179 Colo. 47, 506 P.2d 144 (1972)

The conclusion is inescapable that at the time the original western slope diversions were initiated, no intent to reuse was present. Thus, the applicant would not meet the first prong of the *San Fernando* test.

There is also no showing of compliance with the second test of the *San Fernando* case. The application shows no intent to actually recapture the return flows from the transmountain water on its own land, within its corporate boundaries, or elsewhere. The whole exercise will be solely an accounting matter.

In the *Stevens* case the court made particular point of the recapture within the district boundary. As pointed out above, it said, "Even though the district had abandoned the particular quantities of water it had allowed to flow downstream, it retained the right to recapture a subsequent flow *as long as it did so within its own irrigation works or on its own land.*" [emphasis supplied].

The *Stevens* case has been understood to announce a rule of California law contrary to Colorado water law. It has been taken to apply to all water, not merely to transbasin diversions. Tarlock states the following:

> The initial question which must be answered is whether the water is tributary to a natural stream or not. If the water is a tributary, in effect, the first user gets one crack at the water and then it is open to new appropriations. This is the rule in Colorado which has a strong presumption that all waters are tributary to a natural stream, but it is easier for the first user to capture the water in most other western states. Colorado and Utah are unique in the presumption that all water is tributary to a natural stream. In Colorado, an appropriator must make a separate

> appropriation to reuse water. Most other states allow the first user to capture seepage water from both fields and canals that *originates on his land before the water leaves his land.* [emphasis supplied].
>
> Tarlock, *Law of Water Rights and Resources*, §5.05[3][b].

Stevens v. Oakdale Irr. Dist., 13 Cal. 2d 343, 90 P.2d 58 (1939), is the sole authority cited by Tarlock for the italicized portion of the above quotation. It is apparent that he considers *Oakdale* applicable to tributary waters in general.

This also appears to be the view taken by California commentators on the question. O'Brien, *Water Marketing in California*, 19 Pacific Law Rev. 1165 (1988)[2]; Moskovitz, *Quality Control and Reuse of Water in California*, 45 California Law Rev. 586 (1957).

As Tarlock points out, the *Stevens* view, if applicable to all tributary waters, is clearly contrary to established Colorado law. *Pulaski Irrigating Ditch Co. v. Trinidad*, 70 Colo. 565, 203 P. 681 (1922). The *Pulaski* case itself takes note of the fact that Colorado law in this area is materially different than California law.

If these cases were being tried under California law, the application for the reuse of the return flows from the original transmountain diversions of the Water Supply and Storage Company would likely be denied.

B. Wyoming Law

Applicant also relies on *Thayer v. Rawlins*, 594 P.2d 951 (Wyo. 1979), as establishing a principal that the right to recapture imported water is not subject to abandonment. The Wyoming court's discussion of the matter is as follows:

> Defendants seem to want this court to declare that the City has abandoned its right to make a change in the point of discharge of these imported waters. We indicated in *Binning v. Miller*, [55 Wyo. 451, 102 P.2d

---

[2] The court recognizes that O'Brien, a Colorado trained lawyer, indicates in a footnote that the matter is not completely clear in California, as the decided cases all involve transbasin water. This court's impression is that O'Brien believes, along with Tarlock, that the same principle would be applied generally to tributary water in California.

54 (1940)], that if the senior appropriator had allowed the lower landowner to use waste water for 35 years, but then legitimately began to use it himself, the lower landowner would have no right to complain -- "The water is always different from year to year." 102 P.2d at 62. See, also, *Stevens v. Oakdale Irrigation District*, 13 Cal.2d 343, 90 P.2d 58 (1939). This question, in its broad sense, was raised but not answered in the *Fulton Irrigation Ditch* case, [179 Colo. 47, 506 P.2d 144 (1972)]. See, gen., Williams, "Optimizing Water Uses: The Return Flow Issue," 44 U.Colo.L.Rev. 301, 318-321 (1973). We hold that in the imported-water context -- which gives the importer the unrestricted right to reuse, successively use and make disposition -- the importer's right to do these things is not subject to abandonment insofar as these defendants are concerned. It must be remembered that any other holding would be inconsistent with the fact that the defendants depend entirely on the City's sufferance -- it is always free to terminate the importation. Under such circumstances, we are reluctant to declare an abandonment. This is particularly true in light of the fact that the City, as early as 1922, recognized its right to convey its rights in the effluent by deed. We would suggest that such a transaction places the user in a much more solid position. See, Williams, supra, at 321; and *Wyoming Hereford Ranch v. Hammond Packing Co.*,[33 Wyo. 14, 236 P. 764 (1925)].

The *Thayer* case is equivocal on the question under consideration here. It is unclear whether the decision is based on a principle that the right to reuse imported water is not subject to abandonment, or instead is rooted in the particular circumstances of that case. The citation of *Wyoming Hereford Ranch v. Hammond Packing Co.* is interesting, as that case announces a rule concerning disposition of sewage in Wyoming which is very different than that adopted in Colorado by *Pulaski Irrigating Ditch Company v. Trinidad*, 70 Colo. 565, 203 P. 681 (1922).

All told, the *Thayer* case is not convincing authority that a rule denying the possibility of abandonment of reuse rights for imported water should be adopted in Colorado.

C. Law of Other States

The objectors rely on a Nevada case, *Schulz v. Sweeney*, 19 Nev. 359, 11 P. 253 (1886), and two Montana cases, *Galiger v.*

McNulty, 80 Mont. 339, 260 P. 401 (1927), and *Rock Creek Ditch & Flume Co. v. Miller*, 93 Mont. 248, 17 P.2d 1074 (1933), in support of their view that the right to reuse foreign waters may be abandoned. These cases do support that position. It may be noted that the *Rock Creek* case cites at length and with clear approval a federal district court decision in which a canal company "'after several years of open abandonment'" of foreign water was held to have lost the right to reclaim it and sell it to third persons as against "'one who in good faith had appropriated it and was using it for beneficial purposes.'"

D. Colorado Law

No Colorado case has directly answered the question of whether the right to reuse, successively use or dispose of foreign water may be abandoned. The applicant concedes that point but detects a clear tendency in this state toward a position that such rights are incapable of abandonment. It finds this tendency in certain provisions of Colorado statutory law and certain Colorado cases.

The statutory provisions relied upon by applicant are found in C.R.S. § 37-82-106, which are as follows:

> **37-82-106. Right to reuse of imported water.** (1) Whenever an appropriator has lawfully introduced foreign water into a stream system from an unconnected stream system, such appropriator may make a succession of uses of such water by exchange or otherwise to the extent that its volume can be distinguished from the volume of the streams into which it is introduced. Nothing in this section shall be construed to impair or diminish any water right which has become vested.
>
> (2) To the extent that there exists a right to make a succession of uses of foreign, nontributary, or developed water, such right is personal to the developer or his successors, lessees, contractees, or assigns. Such water, when released from the dominion of the user, becomes a part of the natural surface stream where released, subject to water rights on such stream in the order of their priority, but nothing in this subsection (2) shall affect the rights of the developer or his successors or assigns with respect to such foreign, nontributary, or developed water, nor shall dominion over such water be lost to the owner or user thereof by reason of use of a natural watercourse in the process of carrying such water to the place of its use or successive use.

Paragraph (1) of the foregoing statute was enacted in substantially its present form in 1969. As far as the right to reuse water is concerned, it has been held to have restated previously existing Colorado law. *Denver v. Fulton Irrigating Ditch Co., supra.* Paragraph (2) was enacted in 1979 in response to the Huston claims.

This section cannot really be interpreted as answering the question of whether or not the right to reuse can be abandoned.[3] In particular it is not helpful in determining the status of any right to reuse the "old" Water Supply and Storage Company transmountain diversions. If any such right had been abandoned prior to 1969 and put to beneficial use by other appropriators, the final sentence of subsection (1) would prevent a revival of that right.

The *Fulton* case, relied on by applicant, is not authority on the question of the possibility of abandonment of the right of reuse. Our Supreme Court specifically declined to consider that issue. In addition it noted at page 58 of the official report that "Denver made quite a good record to the effect that it has never intended to abandon any imported water and that, possibly since its first transmountain diversion, it has had in mind for the future the re-use, successive use and disposition after use of foreign water."

Brighton Ditch Company v. Englewood, 124 Colo. 366, 237 P.2d 116 (1951), involves transmountain water only in a peripheral manner. Some of the water supply of Englewood was water which had been imported by Denver. But here again the Supreme Court found that there was "ample evidence in the record" to negate any abandonment.

The only issue before the Supreme Court in *Florence v. Board of Water Works of Pueblo*, 793 P.2d 148 (1990), was whether the mandatory retained jurisdiction provision of C.R.S. §37-92-304(6) was applicable to the decree which had been entered in that case. Here again at the Supreme Court level the question of reusability of transmountain water was at most peripheral. But the Supreme Court specifically noted the trial court finding of no abandonment.

The applicant suggests that because no abandonment was found in any of these cases, a tendency toward the view that the right to reuse transmountain flows cannot be abandoned was indicated.

---

[3] Maynard, *The Reuse Right in Colorado Water Law: A Theory of Dominion*, 68 Denver University Law Review 413, 419 (1991).

It might be contended with equal force that because in each case the Supreme Court was careful to rule it out, abandonment was a possibility. It can only be concluded that the question is a completely open one in Colorado.

It appears to this court that the basic rationale for the doctrine of allowing reuse, successive use and right of disposition for developed and imported water must be to provide a reward to a developer of such water, and thus to encourage such development. The idea of enlarging eastern slope water supplies in Colorado by diverting western slope water may perhaps not be as popular as it once was, but the underlying idea remains the same.

This court can see no utility in a rule granting the right of reuse for the first time to the remote successors of developers who a century or so ago initiated transmountain diversions with no idea of making such reuse. There is no public interest which such a rule would advance.

Also significant is the importance of successive uses of water as it passes down the stream. As will be pointed out in more detail below, as long ago as 1913 our Supreme Court has noted the importance of return flows in supplying successive appropriations from Colorado rivers such as the South Platte. It has been estimated that the waters of the South Platte are used at least five times before they exit the state.

"The Colorado law governing the right to reuse or make successive use of return flows after a first use of water has been made is relatively strict compared to that in other western states." Maynard, *The Reuse Right in Colorado Water Law: A Theory of Dominion*, 68 Denver University Law Rev. 413 (1991). This stringency is no doubt the result of the importance of making successive use of water in the Colorado scheme of water use and irrigation.

In view of the strictness of Colorado law in the area, it would indeed be surprising if reuse of foreign waters were to be permitted under circumstances in which it would be denied in other western states.

If the California dictum in *Stevens v. Oakdale Irr. Dist., supra*, is to be adopted in Colorado, it should at least be done subject to the conditions imposed by California law.

Requirements may vary depending on the particular circumstances of each case. This court believes, however, that in cases similar to the present application a showing should be

required that reuse was intended at the time of the original appropriation and diversion. That showing was made in the *Fulton* case, and is required under California doctrine as enunciated in the *San Fernando* case. This is also the classic view. Weil, *Mingling of Waters*, 29 Harvard Law Review 137 (1915). Such intent was present at the time of initiation of the "new" transmountain diversions of the Water Supply and Storage Company. The preponderance of the evidence is that it was lacking when the "old" diversions commenced.

In addition this court believes that the right to recapture should be held subject to abandonment. Again, this is the classic view. Weil, *Mingling of Waters, supra.*[4] Long periods of nonuse should be considered sufficient evidence of abandonment except where, again as in the *Fulton* case, the record shows that there was not an intent to abandon. The long period of nonuse -- even prior to the enactment of C.R.S. § 37-82-106 -- is sufficient to raise the presumption of abandonment of the right to reuse the original Water Storage and Supply Company transmountain diversions. There is no satisfactory explanation of such nonuse, or other evidence negating the intent to abandon.

The decree in these cases will deny the right to reuse the "old" transmountain diversions of the Water Supply and Storage Company on two separate grounds, each of which is sufficient to support that denial:

1. The Water Supply and Storage Company had no intent to reuse at the time of the original appropriation of the "old" transmountain waters.

2. The Water Supply and Storage Company had abandoned the right to reuse the water diverted as a result of the "old" transmountain diversions.

---

[4] One of the attorneys in this case, Ward H. Fischer, Esq., has written an excellent article on this subject, *Reuse of Foreign Waters*, 7 Colorado Lawyer 523 (April, 1978). He indicates a different conclusion concerning California law than that arrived at by this court. The disagreement may be based on the fact that it appears to Mr. Fischer that the *Oakdale* case is stating law specifically relating to the recapture of foreign water. This court thinks that more recent authorities are inclined to the view that the *Oakdale* case relates to recapture of waters in general and not limited to foreign water, and that the California law on the subject is simply different than that of Colorado.

IV. WASTE WATER, RETURN FLOWS AND WATER LEVELS

A number of issues in these cases relate to waste water, return flows, and maintenance of water levels. The amounts, if any, required to be replaced by the applicant and the place at which such replacements must be made are disputed. Also in issue is the right of the applicant to receive credit for inflows of these types of water into the Larimer County Ditch. These inflows originate primarily from the ditch of the North Poudre Irrigation Company which lies to the north and up-gradient from the Larimer County Ditch.

Also at issue is the obligation, if any, of applicant to maintain water levels in areas where water levels have been raised because of farm irrigation which applicant proposes to terminate.

These issues are interrelated, so it is appropriate that they be treated in one section of this memorandum.

A. Distinction between Waste Water and Return Flows

Both waste water and return flows arise as a result of irrigation. The distinguished predecessor of the present water judge was chastised by our Supreme Court for not being able to tell the difference so a review of Supreme Court pronouncements is in order. These statements not only clarify the distinctions between these types of flows, but also indicate the contrasting rights and obligations which arise from them.

> The basic fallacy in the ground of decision used by the water judge is his statement, "there is no distinction ... between waste water from irrigation and return flow water from irrigation ...." Waste water is, as its name implies, water wasted or not used by the irrigator. The typical example is that of the irrigator who turns into the individual furrows traversing his field from his head ditch more water than is needed to seep into the ground. That which is not absorbed into the earth remains at the end of the furrow and is collected in a waste ditch. The contents of the waste ditch is waste water. When this waste water so collected runs in the waste ditch to the stream, the law is that one who appropriates the waste water from the stream cannot assert a right to have the irrigator continue to discharge the waste water into the stream. In *Tongue Creek v. Orchard City*, [131 Colo. 177, 280 P.2d 426 (1955)], Mr. Justice Lindsley

aptly quoted from *Kinney on Irrigation and Water Rights*, 2nd ed., volume 2, page 1151, section 661: "'The authorities hold that while the water, so denominated as waste water, may be used after it escapes, no permanent right can be acquired to have the discharge kept up, either by appropriation, or a right by prescription, estoppel, or acquiescence in its use while it is escaping, and that, too, even though expensive ditches or works were constructed for the purpose of utilizing such waste water, unless some other element enters into the condition of affairs, other than the mere use of the water. In other words, the original appropriators have the right, and in fact it is their duty to prevent, as far as possible, all waste of the water which they have appropriated, in order that the others who are entitled thereto may receive the benefit thereof.'"

***

Return flow is not waste water. Rather, it is irrigation water seeping back to a stream after it has gone underground to perform its nutritional function. As already indicated, the law makes no distinction between change of point of diversion and change of place of use so far as the rights of junior appropriators are concerned. We made it clear in *Metro Denver Sewage* that the change of point of return of waste water or effluent is not governed by the same rules as changes of point of diversion and place of use.

We are here involved with the effect of a change of place of use because *return flow* results from *use* and not from water carried in the surface in ditches and wasted into the stream. Under the allegations of the complaint, therefore, this case should be treated as one of change of place of use and not under the rules of *Tongue Creek* and *Metro Denver Sewage*.

City of Boulder v. Boulder and Left Hand Ditch Company, 192 Colo. 219, 557 P.2d 1182 (1976).

The portion of the *Metro Denver Sewage* case referred to in the above quotation appears to be the following:

Changes of points of return of waste water are not governed by the same rules as changes of points of diversion. Conceivably, there may be instances

C4

(perhaps in the case of power water) in which a change of point of return may be enjoined, but this is not one of them. In *Green Valley Co. v. Schneider*, 50 Colo. 606, 115 P. 705 (1911), the Tegeler lateral carried waste water which plaintiff used. It was there held as follows:

"Plaintiff's rights were limited and only attached to the water discharged from the Tegeler lateral, whatever that happened to be, after the defendants and cross-claimants had supplied their own wants and necessities. This does not vest her with any control over the ditches or laterals of appellants, or the water following therein, nor does it obligate appellants to continue or maintain conditions so as to supply plaintiff's appropriation of waste water at any time or in any quantity, when acting in good faith. [Citations omitted.] We believe that it follows from this determination that there is no vested right in downstream appropriators to maintenance of the same point of return of irrigation waste water.

At least in the absence of bad faith or of arbitrary or unreasonable conduct, the same rule should be applicable to sewage waste or the effluent therefrom of a municipality or sanitation district.

Metropolitan Denver Sewage Disposal District No. 1 v. Farmers Reservoir and Irrigating Co., 179 Colo. 36, 42, 499 P.2d 1190 (1972)

The application of these principles to the cases at hand may now be considered.

B. Waste Water

(1.) Returns of Waste Water by Applicant.

Certain objectors contend that the applicant should be required to make replacements of waste water at locations where it has historically been returned. Applicant contends that such returns are not required.

The applicant adopts a somewhat unorthodox definition of waste water; however, in this section the definition used by our Supreme Court in *City of Boulder v. Boulder and Left Hand Ditch Company* will be followed. This court is convinced that water denominated waste water by applicant, but not falling within the definition used in the *Boulder* case, is in fact return flow which will be discussed below.

As noted above, *City of Boulder v. Boulder and Left Hand Ditch Company, supra*, states that "'no permanent right can be acquired to have the discharge kept up, either by appropriation, or a right by prescription, estoppel, or acquiescence in its use while it is escaping.'" This statement clearly supports the view that the returns of waste water to a particular location are not required, and the court will so rule. It is unnecessary to consider at this time the effect of certain stipulations regarding the matter of return of such flows.

(2.) Claims to Waste Water by Applicant.

The applicant correctly denies the rights of others to returns of waste water. But the applicant places itself in a different category. It asserts that it is entitled to credit for the waste water which has been historically generated at its farms and the waste water which arrives at the Larimer County Canal from outside sources, principally the North Poudre Irrigation Company.

The above quotation from *Kinney on Irrigation and Water Rights* deserves special attention as it appears both in the *Boulder* case and in the *Tongue Creek* case. It points out that original appropriators have the duty to prevent, as far as possible, all waste of their water. The effect of such waste prevention would be to leave the water in the stream.

Applicant argues that it is impossible to irrigate totally without waste. Its principal authority for this statement is Exhibit G-50, the *National Engineering Handbook* which is quoted as saying, "It is extremely difficult to have efficient furrow or corrugation without tailwater."[5]

The full quotation is as follows:

> Water-use regulations in many states now prohibit an irrigator from allowing irrigation water to leave his land. Runoff water frequently contains colloidal material, minerals, and pesticides that are detrimental to adjoining landowners or to surface water. Runoff water can also be detrimental if ponded on neighboring farms or public or private property. It is extremely difficult to have efficient furrow or corrugation irrigation without tailwater. Provisions must be made for recovery or safe disposal of all runoff resulting

---

[5] Thornton's Response Brief on Waste Water, page 2 footnote 4. Also referred at page 6 footnote 7.

from irrigation, regardless of the operating procedures used. Runoff from rainfall is not so easily regulated. However, the system design must include needed facilities for its safe disposal.

National Engineering Handbook, Section 15, "Irrigation," Chapter 5 (Second Edition), "Furrow Irrigation," Page 5-28.

"Extremely difficult" is not a synonym for impossible. The section from the *National Engineering Handbook* taken as a whole indicates that runoff from irrigation can be eliminated by a properly designed irrigation system. It is the duty of the appropriator to do so. A right to continue to waste water cannot be recognized.

Both parties take comfort in various dicta from *Farmers Highline Canal v. Golden*, 129 Colo. 575, 272 P.2d 629 (1954). It is only fair to say that the Supreme Court was not specifically considering the exact question being discussed in this section. It cites Justice Stone as saying, "... the owner of a priority for irrigation has no right, as against a junior appropriator, to waste water ...." Also it defined "Duty of Water" as including the element of "careful management and use, without wastage...." In the extensive catalogue of matters to be considered by the court in a change case, return flows were included but waste water or tailwater was not.

In cases before this court requiring a determination of consumptive use, it has not been customary to consider waste water in addition to the evapotranspiration requirements of the crops being analyzed.

The conclusion to be reached is that while there is no duty to return waste water at any particular point, likewise no right to divert water may be based thereon. The water constituting true waste water should be left in the river. To the extent that the water referred to by applicant as waste water constitutes return flow, it is governed by the principles set forth in the following sections of this memorandum.

C. Return Flows and Water Levels

1. Return Flows

Applicant recognizes that it must make returns to replace the return flows generated from the farms being removed from irrigation. It proposes to make those returns directly to the Poudre and South Platte Rivers.

Objectors complain that the historic return flows from the Thornton farms have benefitted numerous wells which are located in the areas between the Thornton farms and the Poudre and South Platte Rivers. These wells have been greatly dependent upon intercepting return flows from irrigation of the Thornton farms and the other farms in the area before those return flows reach the respective rivers. Failure to maintain those return flows will result in lowering the water table. Production of many of the wells will be severely reduced. Some wells may be rendered useless.

Applicant argues that the water table is artificially maintained and that it is not required to contribute to that maintenance. It has long been recognized that most decrees in the South Platte Basin are dependent on return flows, and in that sense are artificial. As long ago as 1913, our Supreme Court said:

> We take judicial notice of the fact that practically every decree on the South Platte River, except possibly only the very early ones, is dependent for its supply, and for years and years has been, upon return, waste and seepage waters. This is the very thing which makes an enlarged use of the waters of our streams for irrigation possible.
>
> *Comstock v. Ramsay*, 55 Colo. 244, 254, 133 P. 1107 (1913).

The applicant appears to distinguish water which is percolating underground from water which is located in the channel of the stream. This contention is not in keeping with long established Colorado law.

> In *In re German Ditch & Reservoir Co.*, 56 Colo. 252, 139 Pac. 2, we said, with reference to the natural streams of this state: "The volume of these streams is made up of rains and snowfall on the surface, the springs which issue from the earth, and the water percolating under the surface, which finds its way to the streams running through the watersheds in which it is found." One of our recognized authorities on irrigation law, Mr. A. W. McHendrie, stated in his article, "The Law of Underground Water," vol. 13, No. 1, The Rocky Mountain Law Review, page 1, at page 11, "It is true that in some of the earlier decisions, notably *Breuning v. Dorr* and *Medano Ditch Co. v. Adams*, there seems to have been some doubt as to whether or not a different rule might apply as between

> underground waters flowing in a well defined subterranean channel and those waters which were termed percolating waters. However, the subsequent decisions adopted and applied the same rule to all underground waters, which if not intercepted, would ultimately reach and become tributary to a natural stream. And as to all such waters the law is definitely settled that the doctrine of priority of appropriation as established by the Colorado Constitution and the subsequent statutes enacted in aid thereof, applied to such waters to the same extent and with the same force and effect as it did to the surface water of the stream: that is, first in time, first in right."
>
> *Safranek v. Limon*. 123 Colo. 330, 228 P. 2d 975 (1951).
>
> The law has been, however, that there is a presumption that all ground water finds its way to the stream, is tributary thereto, and is subject to appropriation as a part of the waters of the stream.
>
> *Sweetwater Development Corp. v. Schubert Ranches*, 188 Colo. 379, 383, 535 P.2d 215 (1975).

From this consideration it follows that appropriators of tributary percolating waters through wells are entitled to much the same protection from injury as are appropriators of surface waters. But applicant contends that well owners in these particular cases are unworthy of protection.

Some of the wells in question were decreed to be nontributary in a decree prepared by Judge Coffin and entered by his successor in 1953, shortly after Judge Coffin's death. Judge Coffin was a very able judge, and he was no doubt applying water law and the science of hydrology as he understood them at the time. As we understand matters today, there is little doubt that these are in fact tributary wells. Whether future developments with those wells will allow Judge Coffin's error to be corrected, cannot be said. In this court's view, however, that circumstance does not deprive those wells of the right to protection from injury.

A number of the wells are participants in a plan for augmentation or a plan of substitute supply the effectiveness of which is questioned by applicant. In this courts view, this also works no forfeiture of the right to protection from injury.

The replacement of return flows to the river itself will not benefit the well owners in question. This is not sufficient.

The returns must be made at locations which will provide such benefit. The replacements must be in amounts and at times and locations which parallel the historic return flows from the Thornton farms.

This principle has only recently been given a powerful restatement by our Supreme Court. In Case No. 92 SA 163, *State Engineer and Division Engineer for Water Division No. 1 v. Castle Meadows, Inc., et al.*, _____P.2d _____, 17 Brief Times Reporter 1154 (Colo. 1993), the Supreme Court stated:

> Even if we assumed, however, that the district court did not err in crediting the applicants with the increases in runoff projected to accrue as a result of the area's development, its judgment must be reversed on an alternate and independent basis. Specifically, whether the court's ruling is characterized as an approval of a plan for augmentation or as a determination of absence of injury, the court erred by failing to consider the relationship between the time replacement water will be needed and the time the runoff will be available. Under section 37-92-305(8),
>
> > "In reviewing a proposed plan for augmentation and in considering terms and conditions which may be necessary to avoid injury, the referee or the water judge shall consider the depletions from and applicant's use or proposed use of water, in quantity and in time, the amount and timing of augmentation water which would be provided by the applicant, and the existence, if any, of injury to any owner of or persons entitled to use water under a vested water right or a decreed conditional water right. A plan for augmentation shall be sufficient to permit the continuation of diversions when curtailment would otherwise be required to meet a valid senior call for water, to the extent that the applicant shall provide replacement water necessary to meet the lawful requirements of a senior diverter *at the time and location and to the extent the senior would be deprived of his lawful entitlement* by the applicant's diversion."
>
> (Emphasis added [by the Supreme Court]). These considerations are relevant regardless of whether a court is assessing injury or whether it is evaluating

> the adequacy of an augmentation plan. Thus, in considering whether it is necessary for applicants to compensate vested rights for stream impacts a court must evaluate whether, in light of the proposed withdrawals, holders of other water rights will be protected from injury with respect to the amount of water they are entitled to receive and the location and time at which they are to receive it. (Citations omitted.)

These applications cannot be approved without provision for replacement of return flows at a point or points which will provide compensation to the shallow aquifer supplying these wells.

2. Water Levels

Opponents demand that the applicant take steps to maintain the historic water levels in the aquifers which supply the water for the wells in the area. The determination of the court in the preceding subsection relating to return flows will have the effect of contributing to maintenance of historic water levels. The applicant, however, is not required to guarantee the preservation of a particular water level throughout an aquifer. Such water levels are dependant on many factors, some of which are beyond the control of the applicant.

The applicant must make replacements which parallel in amount, time, and location the return flows which have historically been supplied from the Thornton farms. When it does so, it will have fulfilled its obligation in this regard.

V. USE OF COLORADO - BIG THOMPSON PROJECT WATER

Part of the water supply of the Water Supply and Storage Company is received as a result of its allotments of water from the Colorado-Big Thompson project. The Water Supply and Storage Company has an allotment of 2,088 acre-feet of Colorado-Big Thompson project water.

The Colorado-Big Thompson project, except for its power-generation aspects, is managed and directed by objector Northern Colorado Water Conservancy District. The Northern Colorado Water Conservancy District is a quasi-municipal corporation. It was organized by a decree of the District Court of Weld County, Colorado, on September 20, 1937, pursuant to the Water Conservancy Act, which is now C.R.S. Title 37 Article 45.

The overall legality of the organization of the district and the constitutional validity of the Water Conservancy Act was

upheld by the Colorado Supreme Court in *People ex. rel. Rogers v. Letford*, 102 Colo. 284, 79 P.2d 274 (1938). Its principal function was and is the development and operation of the Colorado-Big Thompson project.

The Northern Colorado Water Conservancy District includes portions of Larimer, Boulder, Weld, Morgan, Logan and Sedgwick counties. Applicant city of Thornton is not located within the district.

The applicant recognizes that it cannot make direct use of its pro rata portion of the Colorado-Big Thompson project water allotted to the Water Supply and Storage Company. Applicant has a 47% interest in that company. It proposes to make indirect use of that water in two ways.

First, applicant proposes that starting in about 2002 it will leave in the Larimer County Canal the proportionate share of Colorado-Big Thompson project water associated with the farms Thornton will cease to irrigate. The purpose will be to satisfy its obligations to the Water Supply and Storage Company for system losses. This will allow applicant to divert more of the remaining water supply of Water Supply and Storage Company to Thornton.

Second, when Phases II and III come into effect in about 2026, Thornton proposes an internal ditch exchange. In that exchange all types of water constituting the supply of the Water Supply and Storage Company will be piped to Thornton. This will include Colorado-Big Thompson water. It will be replaced by exchange with other water -- of a lower quality -- belonging to Thornton.

Applicant justifies its first proposal on the basis that the Colorado-Big Thompson project water will remain in the Northern Colorado Water Conservancy District. It defends its second proposal on grounds that as a result of the exchange the water received as replacement will take the character of Colorado-Big Thompson project water. Applicant suggests that the provisions and conditions governing use of Colorado-Big Thompson project water may change by the next century. It recommends that the matter of deciding the propriety of such use be left until then.

Objector Northern Colorado Water Conservancy District claims that the proposed uses of Colorado-Big Thompson project water by applicant are improper under the provisions of the Water Conservancy Act. It also claims violation of the Contract between the United States and the Northern Colorado Water Conservancy District Providing for the Construction of the

Colorado-Big Thompson Project, Colorado. The rules and regulations of the Northern Colorado Water Conservancy District and the allotment contract between Water Supply and Storage Company and Northern Colorado Water Conservancy District are also said to prohibit such use.

The court recognizes that the situation may change by 2002 or thereafter. It is appropriate for the court to express its view concerning the present status of the Colorado-Big Thompson project water and the extent to which it may be used in the applicant's project under current legal conditions. The effect of future changes must be addressed if and when they occur.

The basic contention of the Northern Colorado Water Conservancy District is that the direct benefits of the Colorado-Big Thompson project must be limited to the boundaries of the Northern Colorado Water Conservancy District. It contends that by these applications the city of Thornton seeks to avail itself of those benefits despite its location outside the district. It also claims that the provisions granting to applicant benefits from the return flows of Colorado-Big Thompson project water are improper. Those flows are reserved to the United States for the benefit of irrigated lands within the district.

The following provisions are included in the Contract between the United States and the Northern Colorado Water Conservancy District Providing for the Construction of the Colorado-Big Thompson Project, Colorado, dated July 5, 1938, which is Exhibit G-166:

> 16. On payment of all construction repayments by the District as required by this contract, and compliance by the District with the covenants it is required to perform, the District shall have the perpetual right to use all water, excluding water made available by the Green Mountain Reservoir[6] and the water rights reserved in Articles 24 and 25 hereof[7], that becomes available through the construction and operation of this project, for irrigation, domestic, municipal, and industrial purposes, but excluding any

---

[6] Article 4 (A) of the contract provides that Green Mountain Reservoir shall be used for water replacement and power purposes.

[7] Section 24 relates to delivery of water to Rocky Mountain National Park, and Section 25 provides for the sale of water to the town of Estes Park, Colorado.

and all uses for power. It is agreed and understood that the use of water made available by the project shall be primarily for irrigation and domestic uses; and that the manner of delivery shall be to this end. ***

17. *** It is understood and agreed that the District may dispose of part of its water to parties desiring to use the project water for domestic, municipal and industrial purposes as permitted by the Act of February 25, 1920, (41 Stat. 451), within the limitations provided for in this contract. ***

19. The District will cause all water filings for the project made in its name or in its behalf to be assigned to the United States, and all water filings so assigned, or made by the United States for the project, shall be made and held subject to the provisions of Article 16, primarily for domestic, irrigation, municipal, industrial and recreational uses in the District and for such use in the development of hydroelectric energy by the United States as may be made of the waters thus appropriated in their storage, carriage, diversion and distribution to and for such domestic, irrigation, municipal, industrial and recreational uses.

There is also claimed and reserved by the United States for the use of the District for domestic, irrigation and industrial uses, all of the increment, seepage and return flow water which may result from the construction of the project and the importation thereby, from an extraneous source, to-wit, from the Colorado River watershed, of a new and added supply of water to average 320,000 acre-feet, or more, annually, into the streams of the South Platte watershed from which the irrigable lands within the District derive their water supply; and the right is reserved on behalf of the District to capture, recapture, use and reuse the said added supply so often and as it may appear at the stream intake headgates of ditches and reservoirs serving lands within the District.

Said captured, recaptured and return flow water shall be, by the Board of Directors of the District, allocated only to the irrigable lands within the District already being partially supplied with water for irrigation, using as a basis for such allocation the decreed priorities existing at the date of this

contract, and without other or additional consideration or payments by the owners of such lands therefor; provided no such captured, recaptured or return flow water shall be taken and held as supplying any appropriation or decreed priority of any such ditch or reservoir.

Any overplus of such captured, recaptured and return flow water shall be rented, sold or disposed of for domestic, irrigation and industrial uses within the District, at such times under such conditions, and upon such terms and the Board of Directors of the District may, from time to time, determine.

It is understood and agreed that the United States does not abandon or relinquish any of the increment or seepage or return flow water coming from the irrigation of lands or other uses supplied with water from or through the works constructed by the United States, but that the same is reserved and intended to be retained for the use and benefit of the district.

The Colorado Supreme Court considered certain of these provisions in *Concerning the Application for Water Rights of the Town of Estes Park in Larimer County, In the South Platte River and its Tributaries v. Northern Colorado Water Conservancy District*, 677 P.2d 320 (Colo. 1984). The Supreme Court affirmed this court's determination that under the terms of the contract Colorado-Big Thompson project water could not be used for augmentation purposes. The determination was based on a provision of the contract, not applicable here, which limited the use of water by Estes Park to domestic purposes.

By terms of the contract quoted above uses of the Colorado-Big Thompson project water are limited to "irrigation, domestic, municipal, and industrial purposes." It is perhaps doubtful that replacement would be within the authorized uses, although the court recognizes that after the replacements are made the water will in turn be used for permitted purposes.

The *Estes Park* case determined that terms of the contract which are applicable here prohibited the town from making use of return flows from the Colorado-Big Thompson project water. It confirmed that those flows were reserved to the United States in accordance with the contract. The credit for return flows requested by applicant would also be contrary to provisions of the contract.

As the Supreme Court noted in the *Estes Park* case, the matter of return flows is central to the concept underlying the Northern Colorado Water Conservancy District. The portions of the district in part of Morgan county and in Logan and Sedgwick counties do not receive direct allotments of Colorado-Big Thompson project water. The only benefits received by the inhabitants of those areas, who are district taxpayers, is from the augmented flows of the South Platte River resulting from those return flows.

Objector Northern Colorado Water Conservancy District argues forcefully that the uses of Colorado-Big Thompson project water proposed in these applications would constitute use of the water outside the boundaries of the district. It says such use is contrary to the contract which requires that the beneficial use of the water be limited to the district.

Also significant in this connection is the Water Conservancy Act which includes the following provisions relating to the powers of the board of directors for a water conservancy district:

> C.R.S. § 37-45-118. **General powers.** The board has power on behalf of the district:
>
> ***
>
> (b)(I)(B) To sell, lease, encumber, alien, or otherwise dispose of water, waterworks, water rights, and sources of supply of water for use within the district;
>
> ***
>
> (j) To appropriate and otherwise acquire water and water rights within or without the state; to develop, store, and transport water; to subscribe for, purchase, and acquire stock in canal companies, water companies, and water users' associations; to provide, sell, lease, and deliver water for municipal and domestic purposes, irrigation, power, milling, manufacturing, mining, metallurgical, and any and all other beneficial uses and to derive revenue and benefits therefrom; to fix the terms and rates therefor; and to make and adopt plans for and to acquire, construct, operate, and maintain dams, reservoirs, canals, conduits, pipelines, tunnels, power plants, and any and all works, facilities, improvements, and property necessary or convenient therefor and, in the doing of all of said things, to obligate itself and execute and perform such

obligations according to the tenor thereof; but the sale, leasing and delivery of water for irrigation, domestic, and other beneficial purposes as provided in this section, whether the water is developed by the principal district or a subdistrict thereof, shall only be made for use within the boundaries of either the principal district or the subdistrict or both;

The contract and the statute manifest an intent that the direct benefits of the water supply created by the Colorado-Big Thompson project are to be limited to the district. This may be a parochial policy, which perhaps might be excused by the fact that it is the residents of that district who created the project and assumed the obligation to pay taxes to support it.

There can be no doubt that it the purpose of these applications to transfer the benefits of Colorado-Big Thompson project water from the district to the city of Thornton. The use of the replacement water will allow greater diversions to Thornton. During Phases II and III of the project, the Colorado-Big Thompson project water itself will be transported to Thornton to be replaced from other sources.

The applicant argues that the water used to replace the Colorado-Big Thompson project water in phases II and III is deemed to assume the character of the water replaced. Thus, it says, the exchange will be permissible. In reality, this is at best a legal fiction and cannot disguise the fact that the Colorado-Big Thompson project water is being removed from the district.

The regulations of the district itself forbid this exchange. In Northern Colorado Water Conservancy District, Book II of Rules and Regulations [Exhibit P-12], the following provisions are found:

Rule IV: The beneficial uses of water supply allotted by the District shall be restricted to the area lying within the District.

While the statute authorizes the Board to provide, sell, lease, or otherwise dispose of water for beneficial purposes, it does so -- "...provided the sale, leasing, and delivery of water ... shall only be made for use within the District." (150-5-13 (10) C.R.S. 1963) [Now C.R.S. §37-45-118 in somewhat modified form.]

(A) Interpretations and policies of the Board: --

(1) The Directors believe the intent of the water allotment restriction to District lands was to continue the benefits to the taxpayers and allottees who are the financial supporters of the project and its operations. Hence, the Board will not allot water to any organization unless there is included within the District boundaries all lands provided with water service through the water systems or subsidiary systems owned, controlled, or operated by such organization and whether such water delivery service is provided directly, by exchange, or otherwise.

These provisions forbid the arrangement proposed by the applicant.

The allotment of the Water Supply and Storage Company is to the same effect. The Application To Northern Colorado Water Conservancy District For Water Allotment Contract (Corporate Form) [Exhibit G-13], which is the basis for the allotment contains the following provisions:

> Applicant, The Water Supply & Storage Company, a mutual ditch, organized in the State of Colorado, and authorized to do business in the State of Colorado, hereby applies to Northern Colorado Water Conservancy District, a political subdivision of the State of Colorado, organized and existing by virtue of Chapter 150-5, Colorado Revised Statutes, 1963, for an allotment contract for beneficial use of water under the following terms and conditions:
>
> 1. The quantity of water herein requested by Applicant for annual application to a beneficial use is 2,088 acre-feet to be used so long as the Applicant fully complies with all of the terms, conditions, and obligations, hereinafter set forth.
>
> 2. It is understood and agreed by the Applicant that any water allotted by the Board of Directors of said District shall be for domestic, irrigation, or industrial use within or through facilities or upon lands owned, operated, or served by said Applicant, provided however, that all lands, facilities, and

serviced areas which receive benefit from the allotment (whether water service is provided by direct delivery, by exchange, or otherwise) shall be situated within the boundaries of Northern Colorado Water Conservancy District.

***

6. Applicant agrees that the water allotment shall be beneficially used for the purposes and in the manner specified herein, and that this agreement is made for the exclusive benefit of the Applicant and shall not inure to the benefit of any successors, assigns, or lessees of said Applicant without prior specific approval of the Board of Directors of said District.

7. Applicant agrees to be bound by the provisions of the Water Conservancy Act of Colorado; by the Rules and Regulations of the Board of Directors of said District; and by the Repayment Contract of July 5, 1938, between said District and the United States and all amendments thereof and supplements thereto.

***

10. Subject, however, to the right of the District to adopt appropriate Rules and Regulations related to the effect of removal of the base supply of water from The Water Supply & Storage Company system, if such should occur, and to reconsider or modify this water allotment contract accordingly.

For the reasons set forth above applicant cannot make use of the Colorado-Big Thompson project water allotted to Water Supply and Storage Company and the return flows therefrom.

There is an even more fundamental reason why such use cannot be allowed. To allow it would be contrary to the central concept of the Colorado-Big Thompson project.

The parties agree that the Colorado-Big Thompson project water is intended to be a supplemental water supply for the Northern Colorado Water Conservancy District. It is not intended to be the base supply for the district.

What applicant proposes to do is to make use of the Colorado-Big Thompson project water to enable it to remove substantial portions of the base water supply of the area

included in the Northern Colorado Water Conservancy District. Thus the Colorado-Big Thompson project water will become the base supply. This is a result which was never intended by the people of the Northern Colorado Water Conservancy District who built the system, and it should not be permitted.

For the reasons set forth in this section the court will not approve the use of Colorado-Big Thompson project water for replacement purposes, nor will it approve the transfer of that water by exchange to Thornton.

VI. CONDITIONAL WATER RIGHTS

Objectors contend that the conditional water rights sought by applicant cannot be decreed because there is insufficient evidence of a "first step" toward making an appropriation. In its reply brief the applicant summarizes the circumstances establishing the "first step" as follows:

> Thornton formed a specific, fixed intent to appropriate water rights as part of its Northern Project, and performed overt acts in furtherance of that intent on or before December 24, 1986. On that date, Thornton conducted a detailed field survey of several of the points of diversion and posted signs along the Cache La Poudre river manifesting its intent and providing notice to others of its intent to appropriate. In the months preceding December of 1986, after Thornton obtained a major share ownership of the Water Supply and Storage Company ("WSSC") for use in the same project, the City employed several consultants to determine what additional water rights should be acquired to insure a high-quality water supply for the City. The City staff and utilities attorney were directed to take the actions necessary to appropriate the water rights sought in these consolidated applications. Indeed, the specific applications now before the Court were reviewed and approved by Thornton's Utilities Board prior to their filing.

The evidence supports the foregoing summary of Thornton's activities in this regard.

In a recent case involving similar stretches of the Cache La Poudre our Supreme Court has considered the requirements for the first step in making an appropriation. It held that the first step must perform three functions.

> The three required functions are: "(1) to manifest the necessary intent to appropriate water to beneficial use; (2) to demonstrate the taking of a substantial step toward the application of water to beneficial use; and (3) to constitute notice to interested parties of the nature and extent of the proposed demand upon the water supply."
>
> *Thornton v. Fort Collins*, 830 P.2d 915 (Colo. 1992).

The expedition of December 24, 1986, appears to have been primarily a photo opportunity; however, there were general observations of potential diversion sites. That day there were some actual surveys of points in the Windsor and Kersey areas.

The activities of December 24, 1986, and actions prior thereto, manifested the necessary intent. The court finds that the surveys conducted on December 24, 1986, constituted a substantial step toward the application of water to a beneficial use. In so finding the court may be extending the word "substantial" to its ultimate extreme.

The big question is whether there were steps sufficient "to constitute notice to interested parties of the nature and extent of the proposed demand upon the water supply."

The practical answer to this question is indicated in the following exchange which occurred during the cross-examination of Mr. Dan Ault, the lead engineer for applicant:

> Q [by Mr. Shimmin] Okay. I'm going to ask you to assume that, as an engineer, you weren't working for the City of Thornton in this case, but were rather hired by the owner of one of these ditch structures. Having seen one of these signs posted, and the question the owner poses to you as an expert is, "Tell me what this means, how much are they claiming, what is going to be the demand on the river as a result of this claim." What would your answer have been?
>
> ***
>
> A [by Mr. Ault] Well, as an engineer, I would be very alert to that sign, and I would advise my client that they better carefully read any resume that comes out to know all the details about it, that they are on notice that the City of Thornton has made a filing here, and with all the rumblings going on up in that

area in 1986, I would have advised my client to carefully review any resume notices.

Transcript. August 21, 1991, pages 90 and 91.

The activities relating to the new appropriations which occurred prior to December 24, 1986, were of an in-house variety. None were of a public nature such as to have come to the attention of other interested persons. Mr. Ault's assessment of the reaction of an informed and interested party to the signs is no doubt accurate. But the conclusion to be drawn from this assessment is that interested parties would have had to wait until publication of the resume -- or perhaps more accurately, the filing of the application -- to know "the nature and extent of the proposed demand upon the water supply."

For this reason the court will determine the appropriation date to be December 31, 1986, the date the application was filed.

VII. WATER QUALITY

Objectors Fort Collins and Kodak assert that the applicant's proposal will result in deterioration of the quality of water supplies of those objectors and result in an increase in their water treatment costs.

Applicant counters that it has contracted with Water Supply and Storage Company to maintain certain water quality standards with respect to discharges into the canal. It has also agreed to abide by all water quality standards which have been established or may in the future be established by the appropriate governmental agencies.

This court has not been deaf to the importance of water quality concerns. But it is this court's view that --except under certain circumstances probably not present here -- the issues relating to water quality are primarily the concern of the appropriate federal and state administrative agencies. Hobbs and Raley, *Water Quality Versus Water Quality: A Delicate Balance*, 34 Rocky Mountain Mineral Law Institute § 24.04[2][a][iv]. The Hobbs and Raley article points out in footnote 179 the difference in the approach of this court and that of at least one other water court. It is this court's view that it is forbidden to decree any instream flow right except as specifically authorized by statute.

The decree will make it clear that it constitutes no impediment to proper regulatory and enforcement activities by administrative agencies. This provides adequate protection to

the objectors. Detailed relief from any perceived injury must very likely be sought from those agencies.

This court should, however, retain jurisdiction to enforce the decree provisions relating to water quality that are included in the decree. Perhaps jurisdiction should also be retained to consider any actual injury that occurs as a result of water quality problems caused by this project not subject to administrative regulation and control. This matter may be considered at the decree conference.

VIII. CLAIM OF SPECULATION

Objectors raise the issue that the applications herein must be denied because they are speculative. These objections are chiefly on the grounds that (1) applicant is including areas not within the present city limits of Thornton in assessing its future needs for water, and (2) the applicant's projections of growth are unreasonable.

This court has had recent occasion to discuss the issue of speculation in connection with an application of a municipal entity in *Concerning the Application for Water Rights of Northern Colorado Water Conservancy District in Larimer County*, Case Nos. 85CW206, 85CW207, 85CW208, 85CW209, 85CW210, and 89CW122. Since the principles addressed in that decision also govern here, the court includes the following quotation from that decision:

> Opponent City of Thornton has raised a number of objections to the granting of the applications herein. One of the principal objections is that the applications herein violate the doctrine forbidding speculation as set forth in *Colorado River Water Conservation District v. Vidler Tunnel Water Co.*, 197 Colo. 413, 594 P.2d 566 (1979) and *Denver v. Colorado River Water Conservation District*, 696 P.2d 730 (Colo. 1885). These cases set forth the circumstances which must accompany the formation of an intent to make an appropriation of water so as to entitle an applicant to a conditional decree.
>
> Shortly after the announcement of the *Vidler* decision, C.R.S. §37-92-103(3)(a) was amended to read, in part, as follows:
>
> > (3)(a) "Appropriation" means the application of a specified portion of the waters of the state to a beneficial use pursuant to the procedures prescribed by law;

but no appropriation of water, either absolute or conditional, shall be held to occur when the proposed appropriation is based on the speculative sale or transfer of the appropriative rights to persons not parties to the proposed appropriation, as evidenced by either of the following:

(I) The purported appropriator of record does not have either a legally vested interest or a reasonable expectation of procuring such interest in the lands or facilities to be served by such appropriation, *unless such appropriator is a governmental agency* or an agent in fact for the persons proposed to be benefitted by such appropriation. [emphasis supplied].

(II) The purported appropriator of record does not have a specific plan and intent to divert, store, or otherwise capture, possess, and control a specific quantity of water for specific beneficial uses.

In the *Denver* case, which followed *Vidler* and the statutory amendment, the Supreme Court discussed the application to a governmental agency of the anti-speculation doctrine. In relation to the application which had been filed by the City and County of Denver acting by and through its Board of Water Commissioners, the decision contains the following language:

The record discloses only that Denver, like the claimant in *Vidler*, seeks water rights on the assumption that growing population will produce a general need for more water in the future.

Since under Vidler, Denver could not have formed the necessary intent to appropriate any particular amount of water for use until it had plans to use that water within its own boundaries, firm contractual commitments to supply that water to users outside its boundaries, or agency relationships with such users, evidence must be taken and a finding made as to the amount of the claimed water, if any, that is

committed by contract or agency agreement and on what dates those commitments came into existence.

This court concludes, therefore, that a municipality may base plans for use of water within its own boundaries "on the assumption that growing population will produce a general need for more water in the future." Such plans would be sufficient to fulfil the intent to appropriate requirements as defined by *Vidler*. But it must also be concluded that the emphasized portion of C.R.S. §37-92-103(3)(a) is not a blanket exemption of governmental agencies from the doctrine set forth in that case.

A municipality may take into consideration facts indicating that its physical area is likely to expand in the course of growth. Planning need not be limited to current geographic limits if there is reasonable expectation that those limits will expand.

The applicant's projections of geographic expansion and population growth appear to the court to be optimistic, but not unreasonable. The estimates are based on studies conducted by experts in the field and appear to have considerable basis in fact and in theory.

Since these projections are optimistic there is at least a possibility that they will not be achieved. The principal basis for the court's concern is that the projections imply that a very large proportion of the total growth expected for all of the Denver metropolitan area will be located in Thornton.[a]

Certain objectors see in applicant's 1986 Water Resources Development Plan a scheme to sell portions of the water to be produced as a result of these applications to others at higher future prices. They think this will be a method used to finance the huge costs of the project. Applicant denies any such speculative intent.

For these reasons consideration should be given at the time of settling the decree herein as to whether it should include "reality checks" at certain stated intervals to determine if the

---

[a] This is certainly not an impossibility. Recent press reports have indicated a shift in development interest from the southern part of the metropolitan area to the northern portions where the water supply is thought to be better.

projections are being met. Perhaps jurisdiction should be reserved so that if it becomes evident that the projected growth will not be achieved, the project can be scaled down accordingly. The court makes no determination of the matter, but only suggests it as a subject for further discussion.

IX. OTHER MATTERS

The parties have discussed a number of other issues in their able and extensive briefs. Time and space do not permit detailed discussion of each of them. In hope that a short indication of the court's view is helpful these additional items will be briefly reviewed here.

(a) Objectors have raised certain issues as to use of the Henry Smith priority, the Cushman decree, and the Jackson ditch. The court is in general agreement with the applicant and Water Supply and Storage Company that no unlawful use or expanded use of those decrees or of the basic decrees of the Water Supply and Storage Company has been shown.

(b) Except as treated in other portions of this memorandum, issues relating to lawn irrigation return flows and similar matters will be considered at the time of the decree conference.

(c) The court is satisfied that it has jurisdiction to grant a decree in this matter and that notice requirements have been met.

(d) The question of dry-up requirements, if any, is a technical matter which will be taken up at the time of the decree conference.

(e) Applicant has made an adequate showing that it can and will complete the project with diligence and within a reasonable time.

X. EFFECT OF THIS MEMORANDUM

This memorandum does not resolve all of the issues before the court. Accordingly, C.R.C.P. Rule 54(b) applies. It states as follows:

> (b) **Judgment Upon Multiple Claims or Involving Multiple Parties.** When more than one claim for relief is presented in an action, whether as a claim, counterclaim, cross-claim, or third-party claim, or

> when multiple parties are involved, the court may direct the entry of a final judgment as to one or more but fewer than all of the claims or parties only upon an express determination that there is no just reason for delay and upon and express direction for entry of judgment. In the absence of such determination and direction, any order or other form of decision, however designated, which adjudicates fewer than all the claims or the rights and liabilities of fewer than all the parties shall not terminate the action as to any of the claims, or parties and the order or other form of decision is subject to revision at any time before the entry of judgment adjudicating all the claims and the rights and liabilities of all the parties.

To avoid any misunderstanding the court specifically does *not* make the determination or enter the express direction required by the first sentence in the body of this rule. The second sentence applies. Nothing herein shall constitute an appealable order.

The applicant is clearly entitled to a decree. It is only the terms of that decree which are in dispute.

It is now the court's intention to proceed to fashion the appropriate decree. This memorandum is merely the prelude to that process, and time for appeal will commence only with the entry of the decree.

Dated August 16, 1993.

BY THE COURT:

Water Judge

COMMENTS ON THE REALLOCATION OF WATER FROM FARMS TO CITIES

Gregg Campbell

Kiowa Resources, Inc.

Kiowa Resources, Inc. has achieved a certain level of notoriety in the Denver metropolitan water community, but I suspect that many of you from out of town, and certainly all of you from outside Colorado, are unfamiliar with Kiowa. Let me preface my comments today with some background so that you might better understand where I am coming from.

Kiowa was formed six years ago to provide in a much smaller way, from the private sector, the same sort of services to the Denver metropolitan water community that the Denver Water Board has historically provided from the public side. Denver, for those of you not from the area, has for many years led the way in water supply development for much of the metropolitan area through the provision of planning, engineering and legal expertise and leadership. Denver has also provided much of the risk capital needed to get planned water projects off the drawing board and onto the ground. Denver has been, in essence, a developer of turnkey water projects on behalf of its suburban

water customers. The one notable exception was the Two Forks project, where much of the risk capital, some $36 million worth, was advanced by Denver's suburban water partners. Two Forks, of course, was defeated by the EPA's veto of the project's 404 permit.

It was our belief, in forming Kiowa, that Denver's pulling back from its leadership role in the aftermath of the Two Forks veto and the obstacles that other major water projects such as Collegiate Peaks, Union Park, Homestake II, and the Fort Lyons Canal transfer were encountering created an opportunity for private enterprise to step in and partially fill the ensuing vacuum. It was also our belief, given the problems besetting these transbasin and transmountain "megaprojects", that the immediate and possibly long term future of metro area water supply lay in relatively small, environmentally sensitive and economically manageable intrabasin transfers from northern Colorado farms to front range cities.

These beliefs were the genesis of the South Platte Exchange Project that was conceived by Kiowa some five years ago and has been under development ever since under contract to the Southgate Water District. Southgate is a large southeast suburban Denver water supplier that has in the past taken all its water from Denver, but who felt the need, in the wake of Two Forks, to incubate some other eggs in its water basket.

When finished, the South Platte Exchange Project will develop 4,600 acre feet of municipal water supply. The water rights that will drive the project historically irrigated approximately 1,500 acres of farmland along the Platte River immediately north of the Denver metropolitan area in northern Adams and southern Weld counties.

1,500 acres

The water that historically was diverted under these agricultural water rights will be exchanged upstream for diversion instead into Denver's system by means of two gravel pit reservoirs, a small pump station and a short pipeline. The Denver Water Board has given its blessing to the South Platte Exchange Project by pledging its willingness to wheel project water through its system to Southgate and other users.

Kiowa has filed three applications to the Water Court to accomplish the transfer of the agricultural water rights to municipal use through the Exchange Project. These applications will come before the Court in February, 1994.

In planning the South Platte Exchange Project, Kiowa, with Southgate's concurrence, specifically targeted the semi-rural farming communities immediately north of Denver for the acquisition of water rights. The agricultural rights acquired for the project come from the vicinity of Brighton, a rapidly growing city some fifteen miles north of Denver. The Brighton area has been steadily urbanizing for a number of years, a process that

can be expected to accelerate as soon as Denver's new International Airport goes on line early next year.

The agricultural water rights that were chosen to drive the Exchange Project were selected in part because the economy of the source area was diverse and not entirely dependent upon farming. For example, of the 297 acres historically irrigated by project water rights in Adams County, only 44 were still zoned for agricultural uses at the time of Kiowa's purchase. The remaining 253 acres had already been converted to residential and/or commercial/industrial purposes prior to Kiowa's purchase of the rights.

The program notes for this section of today's conference are quite specific. The program reads:

> How can water transfers from agricultural to municipal use be structured to address public concerns and to compensate third parties? How can income generated from transfers be devoted to diversifying rural economies and to augment local tax revenues? This panel addresses how these and other intrabasin water transfer concerns have been addressed in recent applications for water transfers from agricultural to municipal use.

Kiowa's South Platte Exchange Project will by design have minimal impact on the agricultural communities and economies from which project water rights have been derived. Kiowa and Southgate, in structuring the project, have attempted to address transfer issues by avoiding them to the extent possible. We will undoubtedly learn how successful our strategy has been when our cases come to trial next February.

I'd like to use my remaining time to be something of a gadfly. In recruiting me to take part in this panel, Lisa Hahn said she wanted me to give you the private sector point of view on intrabasin transfer concerns. I am neither brave enough nor, I hope, foolish enough to be completely candid in my comments. But I would like to give you some thoughts I've had that don't seem to get said in other places by other people.

The program notes for this section of the conference that I read to you a bit ago seem to implicitly assume that water transfers should "be structured to address public concerns and to compensate third parties", and that income generated by such transfers should "be devoted to diversifying rural economies and to augment local tax revenues". I'm not convinced that these commonly accepted assumptions are entirely valid.

Aside from weed problems that can and really should be addressed by any properly managed dry-up program, the "public concern" that I most often hear about reflects a rather vague yet widespread fear that food production in the United States will be seriously impaired if small amounts of farm water get shipped to our cities instead. This fear is reinforced by a nostalgic desire to preserve rural and agrarian lifestyles because they are deemed to be inherently superior to city life. The farmer's life seems to be every non-farmer's ideal.

I read the other day that the U.S. Census Bureau no longer individually counts farmers because there simply are not enough of them to bother with? In fact, less than 2% of Americans still live on the farm. Bob Sakata, who in my opinion is one of the best farmers we've got in Colorado, tells me that only 10% of that 2% produces 85% of the food and produce grown in the nation. Sakata's operation alone produces enough onions (not to mention corn, beans and everything else Bob grows) each year to satisfy U.S. demand for two full days. While that may not seem a lot, it means that only 160 onion growers like Bob Sakata are needed to grow all the onions we can eat. American agriculture has gotten so efficient that farmers have nearly obsoleted themselves.

I'm not sure that many farmers actually find farm life as enchanting as it seems to us city folk. I'm speculating on this, of course. But, in buying water rights for the South Platte Project, I encountered any number of lifelong farmers who found themselves in pretty desperate straits. These men and women worked hard all their lives so that their children might have it easier. After growing too old to keep the farm going, they find the kids are committed to their college-educated urban lifestyles and want nothing to do with the family farm. Mom and Dad can't generate enough farm income to pay the mortgage or keep food on the table.

Older farmers like these often resort to selling the farm before the bank forecloses, but the market for farm land has been

depressed for years and buyers are scarce. If a buyer is found, the deal often falls through because the environmental audit every lender requires these days reveals the gully out back of the barn into which the farmer has been dumping diesel fuel and motor oil, old tires, batteries, and empty pesticide, herbicide and fertilizer containers for thirty years or more. The poor farmer can't even afford to clean up the mess well enough to meet regulations. For these farmers, water rights are often the only asset of significant value that can be sold to generate retirement income and security for their last years.

When we talk about compensating third parties to a water transfer, we are generally referring to rural residents who depend upon farmers for their livelihood - the seed store, the farm implement dealer, local vendors and service providers of every type and description. The assumption seems to be that these third parties, who have benefitted enormously from the farmer's industry and hard work over the years, have a right to demand that the farmer either continue farming against his will or compensate them for the loss of his business.

From what other businessman or industry do we demand tribute before allowing them to sell assets or to relocate, downsize or close their doors? Did we demand that Chevron or Exxon compensate local retailers for lost business resulting from the collapse of the western slope oilshale boom? How about for an IBM or Martin Marietta reduction in force? I'm sure there was a lot of

legitimate worry and concern when AMAX shut down the Climax Mine, but I don't recall any general public demand that AMAX keep the local Leadville grocer afloat. Why should the farmer be treated differently than the auto mechanic who wants to move his shop from Fort Lupton to Longmont or Boulder?

The answer I most often get when I ask these questions is that the farmer's decision to sell his water to a city involves the transfer of a local asset - water - out of the area. The mistake here however is the assumption that a farmer's water rights assets are a local asset. They are in fact by law the farmer's real property and no right to their use and enjoyment extends to other parties.

Proponents of the third party compensation idea seem to believe that water is somehow fixed at its historic place of use. Yet, in intrabasin transfers, the source or origin of the water is usually alpine snowpack far from and high above the point of any past or future use - agricultural or municipal. If the law allows for the change of use and transfer of water rights, why would one region or location have a greater claim to water than another if the water flows through both of them and originates in neither?

The issue of the impact of water transfers on local tax revenues does have legitimacy. All of us have an interest in maintaining stable and solvent local governments. When irrigated

ground is dried up, the assessed valuation of the land declines and local property tax receipts suffer. The impact is felt in local schools and other government supplied or funded services.

The program notes suggest that local tax revenues should be supported from income generated by water transfers. I'm not clear on just what income is being referred to, but I am clear that many ideas have been put forward, such as severance or transfer taxes or phased devaluation of the property, that, if implemented, would increase the transaction cost to the water buyer and, ultimately, reduce the farmer's proceeds from the sale. Heaping all the burden of maintaining local tax receipts upon the water buyer and seller may serve the immediate purpose, but it will also discourage water transfers that I believe are vital to the overall economic health of our state. It also seems somewhat myopic.

I recall some work that was done several years ago at Colorado State University on the relative economic benefits of water in agricultural and urban/industrial applications. The CSU study determined the total income yield, both direct and indirect, of an acre foot of water consumed by irrigated agriculture to be approximately $500 (in mid-1970's dollars). The same acre foot consumed instead by Colorado's high tech electronics industry would generate over $4 million in direct and indirect income -8,000 times greater than in farming.

This example is, of course, extreme. There are plenty of municipal water users whose uses are more intensive and less profitable than IBM's or Hewlett-Packard's might be. The point is, though, that moving water from our farms to our cities is a move toward higher economic use and productivity. The net benefit of the transfer is substantial. Its a benefit that is shared by more than just the two initial parties to the transaction. Sure the farmer benefits and the purchasing city benefits. But, so do a lot of other parties, including state government in the form of drastically increased income tax revenues.

Since intrabasin transfers today are usually in lieu of transbasin diversion projects, residents in the Colorado and Rio Grande river basins are also, at least for the time being, obvious beneficiaries of front range intrabasin water transfers.

I propose, before the legislature and courts start imposing measures that will ultimately discourage water transfers, that the state should take the lead in determining who actually benefits and who gets hurt by water transfers and to what extent. Only then can we properly address who should be compensated and who should do the compensating, if anyone. It might be learned, for instance, that the impacts of water transfers on local school finances are substantially offset by higher state income tax revenues that flow back to those school districts through the school equalization fund. Or it may be decided, based upon what's

learned, that sharing of state tax revenues with rural areas affected by transfers is a valid mechanism for spreading the wealth generated by them.

One thing is certain, and I speak now as I have in the past especially to Senator Ament and Representative Reeser and other legislators that may be here today, if the way you deal with the issues discussed at this conference adds more uncertainty and more risk to an already enormously risky and expensive undertaking, the effect will be to kill water reallocation opportunities altogether.

For those of you in the audience who oppose water transfers, the surest way to stop them is to leave the question of injury and compensation open-ended and subject to the determination of the courts, county commissioners or the voters. The process of changing agricultural water to municipal use, with all the water rights and water quality injury issues that must be addressed, is daunting enough that the mere thought of having to do an economic impact assessment that would satisfy all the parties claiming perceived injury will frighten off even the most desperately thirsty city.

We must be very careful how we deal with these issues because there are not many, if in fact any new sources of water supply available in the foreseeable future - except for the measured and thoughtful shifting of water from our farms to our cities. If we

make decisions based upon emotion rather than facts and understanding, if we let the sanctity of agriculture and small town living cloud our vision, then those decisions may have far-reaching and unpleasant effects on all of us, whether urban or rural.

So, I urge all of you to set your ballot initiatives aside for awhile and join me in encouraging the state to sponsor and undertake a thorough study of the economic and public interest ramifications of water transfers. Once the answers are in, I urge you then to see that the parties who receive compensation deserve it and that the burden of the compensation is shared proportionally by all who benefit.

Above all, I urge you to see that the measures taken simplify rather than complicate the water transfer process.

The Legislative Perspective

Colorado Senate Bill 180

Comments:

Senator Don Ament
District 1
Iliff, Colorado

free movement
when was this free
public investment
free market
do we have
name of little guy
big guys exploit

Draft --- April 14, 1993

SENATE BILL 180

BACKGROUND:

In Colorado the location of water seldom coincides with the place of need. For example, roughly ninety percent of the water in the state is found on the west slope, and ninety percent of the Colorado's population and industry reside on the Front Range. From the time of the earliest settlers the free movement of water to places of use was the key to survival and prosperity. At Mesa Verde one of the ruins is of a small canal and reservoir system which assured the availability of water at the place and time of need. This particular water diversion system was constructed over 700 years ago, and the climatic and hydrologic conditions that gave rise to the Anasazi activities remain virtually the same today.

In recognition of the disparity between water availability and need, the pioneers who drafted the Colorado Constitution guaranteed the right to divert unappropriated water from a stream and the right to privately condemn rights of way to deliver water to places of beneficial use. In interpreting the Constitution the Colorado Supreme Court concluded that within the state there is no geographic advantage to water, and a basin may not hoard water for future development.

The result of this policy is that water moves freely among the basins of the state. The state has created a viable water market where water rights holders invest in water development with a reasonable expectation they will be able to sell their water rights

and recoup their investment. However, a free water market does not account for impact to a basin caused by the removal of water. Federal legislation may provide a forum to address environmental and economic impacts in the basin from which the water is removed if a federal interest is involved.

However, the federal process is not always appropriate for in state transfers of existing decreed water rights. Recent publicity concerning Crowley County emphasized the damage suffered when cities purchased irrigation water rights and moved them for municipal and industrial uses. The damage occurs whether or not the water goes to another basin, and therefore any legislation to address the impacts of rural to urban water transfers would not encompass traditional basin of origin problems.

PROCEDURE:

As a result of a proposed Constitutional amendment limiting basin transfers and the continued failure of water developers and residents of basins of origin to resolve economic and environmental basin protection issues, I called on various water interests under the auspices of the Colorado Water Congress to meet and determine whether it was possible to craft a basin protection bill which addressed all the issues faced by an area from which water was transferred. In the legislature during the past decade the Water Congress led the traditional vanguard which defeated all basin of origin bills, so I felt if there was some agreement among the Water Congress membership that a basin protection bill might have a chance to succeed.

Not surprisingly, the members of the Water Congress could not agree on mitigation of transbasin water diversions. However, the water interests with some input from affected communities, did agree on a revenue stabilization procedure when irrigation water is moved out of a county for municipal and industrial purposes.

THE LEGISLATION:

Since the EPA veto of the Two Forks dam and reservoir, there is an increased interest in changing water previously decreed for irrigation purposes to urban areas for municipal and industrial uses. Rural to urban water transfers were decreed even prior to the Two Forks veto. A good example is the dry up of 40,000 irrigated acres in Crowley County in order to transfer the water to municipal uses. Removal of large amounts of water from irrigated farm land resulted in a marked decrease in the tax base of Crowley County. Legislation passed last year established water court jurisdiction to require revegetation on land dewatered by these types of transfers in order to avoid soil erosion and other adverse environmental impacts. The focus of SB 180 is economic assurance to impacted counties that their property tax base will not be eroded by the removal of irrigated land from the tax rolls.

SB 180 is watershed legislation which authorizes a water court to stabilize the property tax base of a county which is losing water to a place of use outside the county. Pursuant to SB 180, the water court which is hearing a case to change the location of a water right may assess a mitigation impact fee not to exceed the property and ad valorem taxes presently collected on the property

from which water is removed. The procedure is similar to a payment in lieu of taxes, except the court has discretion to determine the amount of payment and the length of time payments are to be made which is "adequate to allow the county time to adjust to the fiscal impact of the removal of water".

The bill only applies to water cases involving 1,000 acre feet of consumptive use water or enough water for 4,000 people for one year. Further, the place of use of the water must be at least thirty miles away from the point or original use and must be across county lines before SB 180 applies. Therefore, as is presently the case, a farmer or farmers may sell their over 1,000 acre feet of consumptive use irrigation water to a municipality located across county lines over thirty miles away, but if SB 180 passes the county will receive payments to offset adverse impacts from the water transfer. Crowley County received no money to maintain programs supported by existing tax revenues when 40,000 acres of farmland was laid fallow. SB 180 is not a true basin protection bill since a large water transfer may occur within the same basin, and yet SB 180 will provide the opportunity for a court to assess mitigation fees in order to provide time for a county to adjust to the economic changes occasioned by the removal of water.

SB 180 does not address the issues of transbasin diversions of unappropriated water because of the difficulty in resolving the Colorado Constitutional guarantees of the right to divert unappropriated waters of the state as well as the uncertainties of determining compensation for damages which have not yet occurred because the water has not been placed in beneficial use. Critics

of SB 180 have said it will not protect a Union Park or AWDI water transfer, both of which will deal with unappropriated water claims. In fact the present system protected those basin's interests very well, as both water courts denied the AWDI and Union Park applications for unappropriated water to transfer out of their respective basins.

SB 180 does not include mitigation of environmental impacts from large scale water transfers of previously decreed rights. A change of water rights case involves water already removed from a stream, so that any environmental impacts have been in place for a number of years. Further, present law requires that a change of use of water cannot be approved if it injures any vested water rights, senior or junior. This policy requires that return flows be continued if they are necessary to avoid injury to other water rights. Also revegetation of dewatered land may be made a part of a water court's ongoing jurisdiction in conformance with legislation passed last year. Also, as previously mentioned, a water court may order revegetation of land which a court decrees must be dried up, since its irrigation water is being moved elsewhere.

The most controversial aspect of SB 180 is the portion dealing with county land use powers or 1041 powers. Presently there is no guidance as to what powers the counties possess in regard to water projects or water transfers. The only method to resolve controversy between a county and a water developer is to go to court. In order to diminish the expenditure of public funds in litigation, SB 180 clarifies a county's role in regard to large

scale change of water rights cases. The bill provides if a mitigation fee is paid, then it is deemed an applicant to change a water right has complied with all 1041 requirements except for construction related impacts. These construction related impacts include most of the county powers now exercised such as construction traffic control, noise and air pollution, off site disposal of construction debris, and interference with public or private access and other rights of way. Pursuant to SB 180 the counties would exercise traditional land use authority, and would not be deprived of their 1041 powers.

This bill deserves support since it provides stability to a water exporting county while still allowing water to be placed in beneficial use. Counties retain traditional 1041 powers in regard to construction related activities, and neither a county nor a water applicant need conjecture how much of the project cost will be attributable to litigating 1041 issues. This bill is the first and necessary step to address basin of origin issues. Passage of SB 180 will not limit the ability of the General Assembly in the future to pass a basin of origin protection bill based on determinable compensation for actual damages.

Finally, one of the most important aspects of SB 180 is that it does not disturb the water rights policies of the prior appropriation doctrine which are guaranteed by the Colorado Constitution. SB 180 is an attempt to balance the needs of counties of origin with the policy protecting the transfer of water to a place of beneficial use. If the state cannot craft procedures to develop and conserve water, then surely the downstream states

will continue to use Colorado's compact share for benefits outside the state. Passage of SB 180 provides the legislature an opportunity to demonstrate its leadership in order to continue using water for the benefit of all inhabitants in Colorado.

WATER MANAGEMENT AND THE FEDERAL ENDANGERED SPECIES ACT

by

Tom Pitts, P.E.
Tom Pitts & Associates
Consulting Engineers
Loveland, Colorado

CONTENTS

WATER MANAGEMENT AND THE FEDERAL ENDANGERED SPECIES ACT

by

Tom Pitts, P.E.

INTRODUCTION

The federal Endangered Species Act is the most powerful environmental legislation yet enacted in the United States. Any doubts about this should be dispelled by considering the impacts of federal efforts to protect the spotted owl. Various parties estimate that between 10,000 and 100,000 jobs will be lost in the Pacific Northwest as a result of these efforts. While the most dramatic impacts have been felt in the Pacific Northwest to date, the impacts of the Act are being felt by water users, power users, and land owners with increasing frequency throughout the western United States. The Endangered Species Act is triggered by "federal actions." Because of massive land holdings and numerous federal water and hydroelectric power projects in the West, there is much a much higher likelihood of close encounters with the Endangered Species Act here than elsewhere.

This paper describes how the federal Endangered Species Act works, its major authorities, impacts on water users in Colorado to date, and current efforts to reauthorize the Act in Congress.

VALUE OF ENDANGERED SPECIES PROTECTION - THE CONGRESSIONAL VIEW

In its present form, Congress passed the Endangered Species Act in 1973. The statements of policy, goals, and purposes written into the Act open and close the argument regarding the value of endangered species. Congress found that "various species...have been rendered extinct as a consequence of economic growth and development untempered by adequate concern and conservation ...Other species...are endanger of or threatened with extinction...These species of fish, wildlife, plants are of aesthetic, ecological, educational, historical, recreational, and

scientific value to the nation and its people." Based on these findings, Congress established the purposes of the Endangered Species Act: "The purposes of this Act are to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, [and] to provide a program for conservation of such endangered and threatened species...It is...the policy of Congress, that all federal departments and agencies shall seek to conserve endangered species and threatened species, and shall utilize their authorities in furtherance of the purposes of this Act."

Through this language, and subsequent sections of the Act to implement these policies and purposes, Congress closed the debate on the value of endangered species and their protection in this country. In effect, Congress made endangered species protection one of the very highest national priorities. Congress wrote the Act in such a manner that it is carried out largely without regard for economic, social, or environmental impacts.

There is considerable debate over whether or not Congress fully intended - or recognized - that the Endangered Species Act would eventually have broad economic impacts and would be implemented without regard for those impacts. The upcoming reauthorization of the federal Endangered Species Act has provided fertile ground for this debate, particularly as the Endangered Species Act affects more and more citizens.

LISTING AND CRITICAL HABITAT

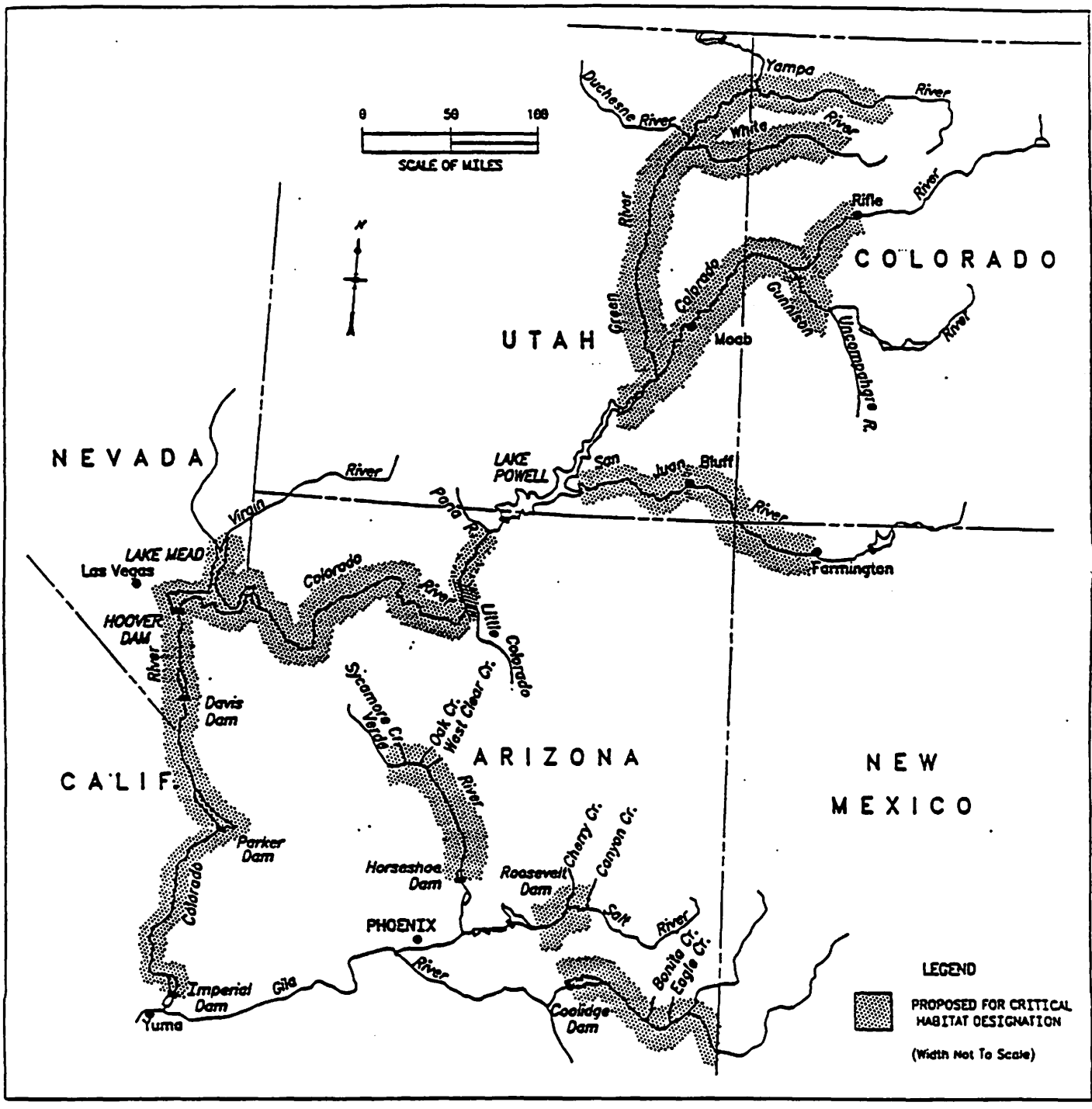
In the United States, there are currently about 800 species listed as threatened or endangered, and an estimated 3,700 candidate species. Candidate species may be listed in the future, but are not listed now due to resource limitations or inadequate information. In Colorado, seventeen species are listed as endangered, 8 are listed as threatened, and there are about 100 candidate species. The federally listed threatened and endangered

species in Colorado include 6 birds, 1 mammal, 5 fishes, 3 insects, and 10 plants. One proposal presently before Congress would extend federal protection to all candidate species.

Responsibility for listing species as threatened or endangered is given to the Secretary of the Interior and has been delegated to the U.S. Fish and Wildlife Service (USFWS). According to the Act, listing decisions are based "solely on the basis of the best scientific and commercial data available...after conducting a review of the status of the species...taking into account efforts being made to protect such species..." No economic considerations are allowed in determination of which species are threatened or endangered. The criteria for listing species include present or threatened destruction, modification or curtailment of a species habitat or range; over utilization for commercial, recreational, scientific, or educational purposes; disease or predation; inadequacies of existing regulatory mechanisms; and other natural or man made factors affecting its continued existence. Any person may present information to the Secretary to support listing or delisting the species as endangered or threatened. If the petition is warranted, the Secretary may list the species.

Presently, there are no critical habitat designations for the 25 threatened and endangered species listed in Colorado. However, there is a proposal to list about 300 miles of the state's rivers in the Colorado River Basin as critical habitat for four endangered fishes (see figure, next page).

The Act states that the critical habitat should be designated "on the basis of the best scientific data available and after taking into consideration the economic impact, and any other relevant impact, of specifying any particular area as critical habitat." In making critical habitat designations, the Secretary must consider economic impacts. It is one of the few actions under the Endangered Species Act that require consideration of economic impacts. Areas can be excluded from critical habitat designation if it is



Proposed critical habitat for the razorback sucker, bonytail chub, Colorado squawfish and humpback chub.

determined that the benefits of the exclusion outweigh the benefits of specifying such areas as part of the critical habitat, unless failure to designate that area as critical habitat will result in extinction of the species concerned.

Listing of endangered and threatened species and critical habitat designation provides the basis for species protection from "federal actions" that may result in harm to the species or their habitats.

SECTION 7 AND ENDANGERED SPECIES PROTECTION

As stated above, "It is the policy of Congress that all federal departments and agencies shall seek to conserve endangered species and shall utilize their authorities in furtherance of the purposes of this Act." This policy and its implementation under Section 7 of the Act provide for the far reaching, expansive impacts of the Endangered Species Act.

Section 7 requires the Secretary of the Interior to utilize all Department of Interior programs in furtherance of the purposes of the Act. All other federal agencies must utilize their authorities in furtherance of the purposes of the Act by carrying out programs for the conservation of endangered and threatened species. These provisions place specific obligations on federal agencies. Obligations are placed on non-federal parties because each federal agency also must insure that "any action authorized, funded, or carried out by such [federal] agency is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined ...to be critical;..." Further, in fulfilling the requirements of this paragraph "Each agency shall use the best scientific and commercial data available." No reference is made to economic impacts in applying Section 7 of the Act.

All "federal actions" are subject to Section 7 review under the Endangered Species Act. Federal actions include such things as granting rights-of-way permits by the federal agencies to water project sponsors, issuance of 404 permits under the Clean Water Act, issuance of federal hydroelectric power licenses by the federal Energy Regulatory Commission, review of water quality standards by EPA, federal grant programs, federal agricultural loan and support programs, etc.,etc. Federal actions subject to Section 7 include the operation of existing U.S. Bureau of Reclamation water and hydroelectric power facilities. These federal actions can affect not only new water projects but existing non-federal projects that may require renewals of rights-of-way permits, 404 permits for repairs and maintenance, or other federal actions. All federal programs come under the jurisdiction of Section 7 if those programs impact endangered species in any way.

If the federal agency action adversely affects threatened or endangered species, the agency is required to consult with the U.S. Fish and Wildlife Service. If the action causes jeopardy to the species or adverse modification of critical habitat, USFWS issues a biological opinion that suggests "reasonable and prudent alternatives" which can be taken to offset the impacts of the action. Reasonable and prudent alternatives must technically and economically feasible. If no offsetting measures are available, the Secretary issues a "jeopardy opinion" stating that the action will jeopardize the existence of the species.

Almost all project sponsors will agree to the "reasonable and prudent alternatives" suggested by USFWS. Failure to agree to implement the reasonable and prudent alternatives will result in a jeopardy opinion. Federal agencies generally will not continue the federal action, i.e., issue the permit, license, grant, loan, etc., if a jeopardy situation exists. In this case, the proposed project comes to an abrupt halt.

RECOVERY OF ENDANGERED SPECIES

Only a few species have been recovered and taken off the threatened or endangered species list. Recovery appears to be a low priority with the federal government, while listing and critical habitat designations are high priorities. In 1991 (the last year for which figures are available), USFWS spent about $55 million on endangered species, and other federal agencies spent about $58 million, for total federal spending of $113 million. States spent $64 million, for total reported spending by state and federal agencies of $177 million for endangered species. During that year, a total of 639 species were on the threatened and endangered species list. Ninety percent of the funds ($158 million) were spent on 9% (54) of the listed species. The remaining 10% of the funds ($17.6 million) were spent on 516 species, for an average of about $34,000 per species. No money was reportedly spent on 69 listed species. The spending of $34,000 on threatened and endangered species does not do much for the individual specie, especially in terms of its recovery and delisting.

The fact that recovery is not a high priority with the federal government, while the listing and critical habitat designations continue, results in one of the principal complaints about the Endangered Species Act: the federal government does virtually nothing to recover most species, and the costs of endangered species protection are transferred to private parties and local governments through Section 7 consultation.

IMPACTS ON WATER DEVELOPMENT AND MANAGEMENT ACTIVITIES

Within Colorado, the impacts of the Endangered Species Act were first felt in the Colorado River Basin on proposed federal water projects. Since that time, the Act has been applied in the South Platte River Basin, and may be applied to water projects in the Rio Grande River Basin as a result of the recently proposed listing of

a minnow in the Rio Grande River. Water users' efforts to deal with these encounters are described below.

Colorado River Basin

In the late 1970's, the U.S. Fish and Wildlife Service issued jeopardy opinions on proposed federal water projects based on the assumption that further depletion of water from the Basin would jeopardize three endangered fish species - the Colorado squaw-fish, humpback chub, and bonytail chub (the razorback sucker was recently added to the list of endangered fishes in the Colorado River Basin). Since these projects were proposed for construction at some future date, impacts were not immediate or direct.

In 1981, the Windy Gap project, a transmountain diversion from the West slope to the East slope, was required to go through Section 7 consultation due to potential impacts on endangered fish species in the Colorado River. During the consultation process, the Windy Gap project sponsor (Municipal Subdistrict, Northern Colorado Water Conservancy District) demonstrated that the impacts on endangered fish habitat some 200 miles downstream were not measurable. However, the District agreed to pay a one-time depletion charge of about $12 per acre foot on its 48,000 acre feet annual depletion to the U.S. Fish and Wildlife Service. The "Windy Gap approach" set the precedent for approximately 40 subsequent Section 7 consultations, i.e., water project sponsors paid a one-time depletion charge to the U.S. Fish and Wildlife Service and received "no jeopardy opinions."

Environmental organizations and, subsequently, certain members of the U.S. Congress objected to this depletion charge approach. The U.S. Fish and Wildlife Service promised Congress that it would be phased out. In 1983, USFWS issued a draft plan to recover the endangered fish. This plan proposed to freeze flows at pre-1960 levels in the Upper Colorado River Basin. The basis for this was

that USFWS believed that the fish were "better off" prior to 1960, although there was no data to support this contention.

Water users were greatly concerned, and could foresee a head on collision between future water development and endangered species protection throughout the Colorado River Basin. Water users faced a choice of a) attempting to amend the Endangered Species Act, b) litigation, c) seeking exemptions, or d) fact finding and negotiations. The track record on the first three alternatives was not good. Colorado water users opted for fact finding and negotiation, and requested the Colorado Water Congress, the statewide water user organization, to establish a Special Project on Threatened and Endangered Species. This was done on December 1, 1983, with the explicit purpose of negotiating an administrative solution to the problem that 1) recognized interstate compacts, 2) recognized the state's water right system, and 3) resulted in an equitable distribution of the costs. Tom Pitts was engaged to serve as Project Coordinator for the Colorado Water Congress Special Project. The negotiation process involved the States of Colorado, Utah, and Wyoming, U.S. Fish and Wildlife Service, U.S. Bureau of Reclamation, Western Area Power Administration, the Colorado Water Congress, and environmental organizations.

In mid-1985, the Colorado Water Congress suggested that the only realistic long-term solution to the problem was to recover and delist the endangered fish. The Colorado Water Congress proposed a recovery program to accomplish this that would be carried out in accordance with interstate compacts and State water law. After two more years of intense negotiation, final agreement was reached on the terms of the Recovery Program. In January, 1988, the Secretary of the Interior, Governors of Colorado, Wyoming, and Utah, and Administrator, Western Area Power Administration, signed a cooperative agreement to establish and fund the "Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin." Water users and environmental organizations participate in the Program.

The Program includes the Green River, White River, Yampa River, and mainstem of the Colorado River. The San Juan River was not included in the Program, as San Juan water users in the States of Colorado and New Mexico did not think they had a problem at that time. The Program calls for a 15 year time frame for recovery, and provides funding for a variety of activities designed to recover the endangered fish. In 1993 dollars, the Program costs about $3 million a year. Recovery activities include habitat management, habitat development and maintenance, control of non-native impacts, hatcheries/refugia, and research/monitoring/data management. The Bureau of Reclamation provides a bulk of the funding from hydroelectric power revenues that are paid by power users throughout the upper and lower basin. The Bureau's portion of the funding is approximately $1.9 million; USFWS provides approximately $800,000; the states about $200,000. Water users provide variable funding based on impacts of new water development projects. In addition to the annual funding, capital expenditures for hatcheries, refugia, fish passages, reservoir modifications, and acquisition of flooded bottom lands are estimated at $75 million. These funds will be requested from Congress.

The purpose of the Recovery Program is to recover the endangered fish while water development proceeds in accordance with State water law, interstate compacts, and Supreme Court decrees allocating water among the States. The Recovery Program is designed to offset impacts of future depletions of water projects, thus providing the "reasonable and prudent alternatives" for existing and future water projects that are faced with Section 7 consultation. To help the Program, water users pay a one-time depletion charge on new depletions. This one-time depletion charge was initially set at $10 per acre foot in 1988, and is adjusted annually based on the consumer price index. In 1994, the depletion charge will be $12.34 per acre foot. Existing projects that are required to go through Section 7 consultations are exempt from the depletion charge.

As part of the Program, Colorado and Utah offer protection of instream flows under state law to provide habitat for endangered fish. (Wyoming does not have any endangered fish habitat within its boundaries.) This provided the U.S. Fish and Wildlife Service with something they would not otherwise have, i.e., the ability to administer and protect instream flows legally acquired under state law. This feature of the Program insures that habitat will be protected in accordance with state law, and relieves water project sponsors of the obligation to provide flows for endangered fish habitat. USFWS recognizes the states' right to develop its water entitlements under interstate compacts.

On October 1, 1993, the Program began its sixth year of operation. Water users are generally satisfied with the Program, and U.S. Fish and Wildlife Service has issued "no jeopardy" opinions on approximately 170,000 acre feet of water depletions in Colorado, Utah and Wyoming. A major confrontation between federal government, state water law, and water users was averted by the development and implementation of this innovative, cooperative Recovery Program.

San Juan River Basin

In the late 1970's, the Bureau of Reclamation's Animas-La Plata Project was subjected to Section 7 consultation. The U.S. Fish and Wildlife Service concluded that the project would have no effect on endangered fish because the number of Colorado squawfish in the San Juan Basin was extremely small. In the early 1990's, the U.S. Fish and Wildlife Service concluded in a new draft biological opinion that the Animas-La Plata Project would jeopardize the continued existence of these species, even though the population had not increased. As a result of this opinion, extensive negotiations took place to develop a "reasonable and prudent alternative" for the Animas-La Plata Project. This included a Recovery Program for the San Juan Basin. That Recovery Program is expected to take 15 years to complete and will cost approximately $2 million a year,

with most of the funding coming from federal agencies. Continued conflict is a possibility in the San Juan River Basin if the San Juan Recovery Program is unable to recover the very small population of Colorado squawfish and the almost nonexistent population of the razorback sucker in the San Juan River.

South Platte River Basin

Water project sponsors in the South Platte River Basin have become well acquainted with the requirements of the federal Endangered Species Act. This results from the fact that the South Platte is a tributary to the Platte River, where the U.S. Fish and Wildlife Service has designated critical habitat for the whooping crane in Central Nebraska. In addition, the Platte River in Nebraska provides winter habitat for bald eagles, and summer breeding habitat for the threatened and endangered piping plover and interior least tern. The Service has assumed that any further water depletions in the Platte River Basin would jeopardize the continued existence of these species. As a result, water project sponsors subject to Section 7 consultations must provide "reasonable and prudent alternatives" for both new and existing projects.

In 1993, seven Colorado municipalities and industries that divert water from U.S. Forest Service lands in the South Platte River Basin had to renew permits issued by the U.S. Forest Service for these diversion structures. The Forest Service subjected these permits to Section 7 consultation under the Endangered Species Act, given their potential impacts on threatened and endangered species that utilize the Platte River in Central Nebraska, some 300 miles downstream. These consultations are ongoing and unresolved at the time of this writing. There is a potential for substantial impacts on water use and management in the South Platte River Basin. There are about 100 other water use permits on Forest Service lands, and many other water management activities that will be subject to Section 7 consultations.

Since 1985, the Colorado Water Congress has been involved in an interstate, interagency effort involving Colorado, Wyoming, Nebraska, U.S. Fish and Wildlife Service, U.S. Bureau of Reclamation, water users, and environmentalists to develop a habitat conservation program for the Platte River in Central Nebraska along the lines of the Colorado River Recovery Program. The purpose of this would be to preserve endangered species habitat in Nebraska while water development proceeds in accordance with State water law, interstate compacts, and Supreme Court decrees.

At this time, a draft Platte River program has been developed, and is under review by federal and state agencies. The outcome is uncertain. Without such a program, conflicts between water management and endangered species protection are inevitable in the South Platte River Basin of Colorado.

Rio Grande River Basin

Water users in the Rio Grande Basin have been relatively immune from problems with the federal Endangered Species Act. However, U.S. Fish and Wildlife Service recently proposed to list a minnow which inhabits the Rio Grande River as endangered, and to designate part of the river in New Mexico as critical habitat. This has caused valid concern among Rio Grande water users in Colorado, given the position of USFWS regarding depletion impacts on downstream endangered fish and critical habitat in the Colorado and South Platte Basins. The outcome of this proposed listing and designation is uncertain at this time.

REAUTHORIZATION OF THE ENDANGERED SPECIES ACT

The Endangered Species Act was last reauthorized by Congress in 1987, and was scheduled to be reauthorized in 1992. Congress did not complete the reauthorization in 1992, and will not in 1993. There is substantial pressure to complete the reauthorization process in 1994. The reauthorization process offers Congress

opportunities to amend the Endangered Species Act. Two significant - and very different - bills to amend the Act have been introduced into the U.S. House of Representatives. Representative Jerry Studds (Democrat-Massachusetts) has introduced HR 2043, and a nearly identical bill has been introduced into the Senate by Senators Baucus and Chaffee (S.921). A "Reform Bill" (HR 1490) that has been introduced by Representative Billy Tauzin (Democrat-Louisiana). While these are not the only two bills, they are the most widely supported at this time.

Studds' bill reinforces many aspects of the existing Endangered Species Act, and is believed to generally reflect the views of those who support the Act and support strengthening the Act. One significant feature of the Studds bill is that it would establish a policy that some 3,700 candidate species would be brought under protection of the Endangered Species Act, and that all federal agencies would have to conserve candidate species and carry out programs for the conservation of candidate species. In essence, it would treat candidate species the same as threatened and endangered species. The Studds bill would require USFWS to "seek to minimize social and economic impacts of recovery plans," but does not give priority to less costly measures. Endangered species recovery plans would include a description of site specific management actions needed to maintain or restore ecosystems. This will provide the public with additional notice of the potential impacts of recovering endangered species. The Studds bill would make very few changes in Section 7 of the Act.

Tauzin's bill (HR 1490) is supported by members of Congress who want to see changes in the Endangered Species Act to address a number of specific problems regarding use of scientific data, listing priorities, content of recovery plans, economic impacts of critical habitat, public hearings on recovery plans, cooperative management agreements, and other issues. Regarding Section 7, HR 1490 clarifies that each federal agency must consider its other obligations and responsibilities under other laws, treaties,

interstate compacts, and contractual agreements when carrying out its responsibilities under the Endangered Species Act. When a federal agency's compliance with the Act restricts its other authorities, that agency must issue a written finding of that fact.

Representative Tauzin's bill is supported by the National Endangered Species Act Reform Coalition. The Coalition is an organization with 140 members, that include cities, counties, water districts, ranching and farming interests, electric power interests, industries, and national associations such as the National Association of Home Builders, National Rural Electric Cooperative Association, and National Water Resources Association.

When the Act was last reauthorized in 1987, there was little interest in the West or throughout the nation in the reauthorization. Senator Wallop (Republican-Wyoming) and water users raised questions about the potential impacts of the Act on water development in the Colorado River Basin. However, there was little Congressional interest in the reauthorization other than to support it. Since 1987, implementation of the Endangered Species Act has affected loggers in the timber industry in the Pacific Northwest, water users and land owners throughout the West and in other regions, and shrimp fishers in the Southeast, to name a few.

The fact that Representative Tauzin's bill has attracted more than 70 co-sponsors in the House of Representatives is an indication of increased concern over implementation of the Endangered Species Act, as is the involvement of 140 organizations in the National Endangered Species Act Reform Coalition. This increased concern may well result in some changes in the Endangered Species Act along these lines proposed by Representative Tauzin.

It is noteworthy, though, that Tauzin's bill does not propose any substantive modification to Section 7 of the Act. The reason for this appears to be that there is still substantial support for the

Endangered Species Act in Congress and throughout the nation. There is much general support among the population for endangered species protection, particularly when it does not directly impact an individual's livelihood or property rights. With respect to Congressional support, there is support for endangered species protection, particularly when it does not affect a member's state or district. There will be few opportunities for making substantive changes in the Endangered Species Act in the current reauthorization due to the strong support in Congress for the basic provisions of the Act.

THINGS TO COME ....

In many parts of the country, the federal government is represented primarily by the postal carrier, the tax collector, and a Social Security check. In Colorado, the federal government is also the neighboring owner of vast amounts of land, grantor of permits for use of that land and water on that land, and the provider and operator of federal water and hydropower projects. The relationship between many Colorado citizens and the federal government is much more complex and direct. As a result, there are numerous federal actions that can trigger the federal Endangered Species Act in Colorado - and throughout the West. In fact, the number and types of federal actions that involve endangered species protection appears to be on the increase. As this occurs, there will be increased conflict between endangered species protection and management of existing water supplies, development of new water supplies, and many other resource development and management activities.

As enforcement of the Endangered Species Act touches more and more public and private entities and individuals, there will be increased demands for changes in the Endangered Species Act. On the other hand, there is substantial support for this Act among the American public in general, and a majority in the Congress. This

will result in substantial and increased conflict over future reauthorizations of the Endangered Species Act.

Given the power of the Endangered Species Act, and the fact that it is unlikely to be amended in any substantive manner in the near future, water interests in Colorado will invent creative means of dealing with the Act and its implementation, as best exemplified by the Colorado River Endangered Fish Recovery Program. If these programs can be successfully implemented, and actually recover endangered species, major conflicts can be avoided. However, these programs do not presently exist in other potential trouble spots, notably the Rio Grande River Basin and the South Platte River Basin. Without such solutions, water users and the states will be engaged in costly, high risk confrontations with the federal government in the future.

Tom Pitts, Tom Pitts & Associates, Consulting Engineers, Loveland, Colorado, has served as Project Coordinator for the Colorado Water Congress Special Project on Threatened and Endangered Species since 1983. He has been involved in negotiations on endangered species issues for water users in the Colorado River Basin, San Juan River Basin, and South Platte River Basin, and represents water users in Colorado, Utah, and Wyoming on the Upper Colorado River Endangered Fish Recovery Program.

APPENDIX

BACKGROUND MATERIAL:

WATER REALLOCATION AND THE PUBLIC INTEREST IN COLORADO

Water policy in Colorado is not evolving in a vacuum -- it is shaped by interstate developments as much as by intra-state pressures. The reprints from **Water Strategist** and **Water Intelligence Monthly** in the conference proceedings provide a west-wide context for understanding how courts, legislatures, and water users are responding to economic, environmental, and political changes.

Introduction

Flows of western water are changing. Through leases, transfers of rights, changes in use, and through new types of contractual arrangements, water is serving different customers. *Water Strategist's* "1992 Annual Transaction Review" (***WS** January 1993*) summarizes 146 water leases, transfers, and exchanges in 14 western states -- describing who's acquiring water, for what purpose, at what price, and under what terms.

Session 1: Perspectives from the Water Court

The rules governing water transactions occur are also changing. The "1992 Annual Litigation Review" (***WS** July 1993*) describes 52 water decisions in federal and state courts and analyzes how those decisions are reshaping western water policy. The story reprinted from *Water Intelligence Monthly* (WIM *September 1993, pp. 11-13*) describes the Colorado water court's decree concerning the City of Thornton's Northern Water Project.

Session 2: Addressing Local Concerns

The transfer of water from agriculture to municipal use is changing the economic and fiscal base of some communities-- often arousing strenuous local opposition. Sometimes that opposition is based on the risks that participants in transfers overlook. "The Forgotten Economics of Water Trades" (***WS** April 1993*) examines how the economic risks associated with water trades should shape their organization and structure. "Texas Regulates the Edwards Aquifer" (***WS** July 1993*) shows how major environmental issues and conflicts between agricultural and urban water users were resolved in Texas this year in a way that largely alleviated the fears of all parties.

Session 3: The Legislative Agenda

As competition for scarce water supplies intensifies, legislative agendas are growing more and more crowded. "Legislative Update" (***WS** April 1993*) describes the intent of 141 water bills that were under consideration in 14 western legislatures this spring. The topics addressed by the 78 major water bills that eventually passed are summarized in the "1993 Annual Legislative Review" (***WS** October 1993*).

Session 4: The Federal Agenda

This year is one of the busiest in memory for federal water policy -- with Congress considering the reauthorization of the Clean Water Act and the Endangered Species Act (described in "H.R. 2043 Introduced to Reauthorize the Endangered Species Act" -- ***WIM** June 1993, p. 9*). What happens in Washington promises extensive changes in how water is used in the west.

"Aftermath of Congressional Water War: Restructuring the CVP" (***WS** January 1993*) analyzes the realities of western water policy ushered in by the signing of H.R. 429. "Acreage Limitations Revisited" (***WS** October 1993*) examines the September settlement between environmental groups and the Department of the Interior -- the first step in a major transformation of federal policy toward irrigation in the west. And the Fish and Wildlife Service's proposals for endangered species on the Colorado River are described in "Comment Period Reopened on draft Biological Support Document on Colorado River Endangered Fish" (WIM *October 1993, p. 10*).

The following articles from *Water Strategist* and *Water Intelligence Monthly* are reprinted by permission of Stratecon, Inc.

(I) Farmer buys 2 CBTs from irrigator @ $1,550/unit ..... *Oct*
(I) Farmer leases 1,500 af of S. Platte water from Aurora @ $15/af released ..... *Mar*
(I) Farmer buys 20 N. Poudre Irrigation Co. shares from irrigator @ $5,000/share ..... *Sept*
(I) Farmer buys 9 CBTs from irrigator @ $1,375/unit ..... *Sept*
(I) Farmer buys 57 5 N. Poudre shares from irrigator @ $5,100-$5,300/share ..... *Nov*
(PT) Aurora leases 500 af of S. Platte water to maintain lake levels @ $25/af ..... *Mar*
(PT) Boulder buys 55.17 af + 900 acres of land for open space program ..... *Apr*

IDAHO
(I) Twin Falls Canal Co. buys back 13.94 shares from homeowners for @ $250/share ..... *Feb*
(I) ____ buys back 27.62 shares from homeowners for @ $250/share ..... *June*
(I) ____ buys back 10 shares from homeowners for @ $250/share ..... *Oct*
(I) 1992 Boise Water Bank leases 2,765 af to irrigators @ $6.50/af ..... *Jan*
(I) 1992 ____ leases 1,832 af to irrigators @ $6.50/af ..... *Dec*
(I) 1992 Upper Snake River Water Bank leases 53,700 af to irrigators @ $2.75/af ..... *Jan*
(I) ____ leases 5,000 af to irrigators @ $2.95/af ..... *Sept*
(I) Farmer buys 500 af of Upper Snake River water from irrigator @ $100/af ..... *Mar*

KANSAS
(M) Hays leases gw for water service and exchanges reclaimed for potable water ..... *May*
(M) Wichita buys 400 af of Equus Beds gw from irrigator @ $400/af ..... *July/August*

MONTANA
(PT) The Nature Conservancy buys 70 acres plus water rights on Madison River ..... *Oct*

NEBRASKA
(PT) Nature Conservancy buys land & gw on Middle Platte for $454,000 ..... *May*
(PT) ____ buys 647 acres + water on South Platte for wildlife habitat ..... *Oct*
(PT) ____ buys 174 acres plus water in Rainwater Basin for wildlife habitat for $100,000 ..... *Oct*

NEVADA
(M) Carson City buys 555.5 af of Carson River water from irrigator for $2,860/af ..... *Apr*
(M) Developers dedicate to Reno/Sparks/Washoe 741.85 af for residential service ..... *July/August*
(M) ____ dedicate to Reno/Sparks/Washoe 342.06 af for residential service ..... *Nov*
(M) S. Nevada WA contracts with BuRec for 58,000 af of Colorado River water @ $2,000/yr + O&M ..... *Apr*
(PT) Nature Conservancy buys 645.78 acres & 2,260.23 af of water rights in Newlands ..... *Jan*

NEW MEXICO
(M) Albuquerque buys 110 af of Rio Grande surface rights under standing offer @ $1,000/af ..... *Apr*
(M) Bosque Farms buys 17.7 af of Middle Rio Grande gw from realtor @ $866.67/af ..... *May*
(M) 5 Buckhorn homeowners buy 14.5 af of gw @ $2,068.96/af ..... *Oct*
(M) Developer buys 75 af from Taos for $3,500/af plus capital costs (deal suspended) ..... *Nov*
(I) Albuquerque leases 26,215 af its San Juan-Chama entitlement @ $42.98/af ..... *Jan*
(PT) NM Interstate Stream Commission leases 15,145 af of stored Pecos River water for $25,000 ..... *July/August*
(PT) ____ buys 3,780 af of Pecos River water for stream flow from irrigator ..... *Sept*
(PT) ____ buys 2,421 af of Pecos River water for stream flow @ $316.67/af ..... *Nov*

NORTH DAKOTA
(M) Minot exchanges 314 af of Souris River water with park district ..... *June*

OKLAHOMA
(M) McGee Creek Authority buys 80,000 af of McGee Creek water from BuRec @ $93.1 million ..... *Dec*

TEXAS
(M) Laredo buys 625 af of Rio Grande surface water from irrigators @ $288/af ..... *Feb*
(M) ____ buys 476 af of Rio Grande surface water @ $288-$360/af ..... *July/August*
(M) ____ leases 900 af of Rio Grande surface water from Hidalgo Co. ID # 2 @ $15/af ..... *Feb*
(M) Starr County CID #2 leases 300 af of Lower Rio Grande water from Brownsville IDD @ $15/af ..... *Feb*
(M) Port of Corpus Christi buys options for 41,200 af of stored Navidad River water @ $48/af ..... *July/August*
(M) City of Corpus Christi assigned option for 41,280 af of stored Navidad River water ..... *Dec*
(M) ____ enters option for 35,000 of Colorado River water with irrigator @ $10,000/month (+$400/af) ..... *Dec*
(PT) Nature Conservancy buys 18,552 acres of land and water rights in Verde Co. for wildlife habitat ..... *June*

UTAH
(M) Sandy City buys 50 af of Bells Canyon surface water from North Dry Creek ID for $125,000 ..... *June*
(M) Park City buys 235.5 af of Weber River rights for domestic service @ $2,293/af ..... *Oct*
(I) Farmer buys 5 Davis Weber Canal Co. shares @ $2,000/share ..... *May*
(I) Farmers lease 10,600 af from Central Utah Conservancy Dist. @ $5.60 + O&M ..... *Sept*

WASHINGTON
(M) Alderwood WD leases 2,000 af of Sultan River water from City of Everett @ $170/af ..... *June*
(I) East Columbia Basin Water Bank leases 2,000 af to irrigators @ $13/af ..... *Apr*

Bank were below their 1991 level — averaging about $70/af compared with $175/af in 1991.

The purchase price of water rights ranged from $2,860/af for Carson River water in **Nevada** to $100/af for Upper Snake River in **Idaho**.

In **Colorado**, prices of CBT units edged down during 1992 — starting the year averaging a little over $1,500/unit and ending the year at about $1,400/unit. A growing number of CBT units are being dedicated to municipal suppliers by developers in exchange for future service. Towns obviously prefer to put the responsibility of finding and buying water on developers rather than assume it themselves. They have imposed fees and charges for new service considerably above the cost of acquiring CBT units. In November, developers dedicated 1 unit to North Weld County Water District and 21 units to Little Thompson Water District, and in December, developers dedicated an additional 26 units to the Left Hand Water District and 2 units to the City of Loveland.

Elsewhere throughout the west, prices remained stable. In west **Texas**, Rio Grande irrigation water showed little increase in price — continuing to lease at about $15/af. This reflects the depressed level of agricultural activity in the region. But Albuquerque, NM, found fewer sellers under its standing offer of $1,000/af and recently increased its offer to $1,200/af.

Under What Terms?

Only four out of 26 transactions in **California** were permanent transfers of the ownership of water — including two transactions for public trust purposes. In **Colorado**, by contrast, 70 out of 72 transactions, were sales of water rights. In part this reflects the fact that Californians were dealing with a temporary phenomenon — the drought. But it also reflects the fact that the political and legal framework for permanent rights sales is still undeveloped. There were few transactions in **Arizona**. This is the

continued on page 14 . . .

Restructuring the CVP

. . . *continued from page 13*

shall not exceed $30 million (October 1992 price levels) on a three-year rolling basis — when the actions mandated under the act are completed, the maximum annual payments will decline to $15 million; (2) annual payments shall not exceed $6/af for agricultural water and $12/af for municipal and industrial water (both October 1992 price levels); and (3) the charge imposed on agricultural water shall be reduced, if necessary, to reflect the ability to pay by agricultural water users. In addition, the Secretary shall impose an additional annual charge of $25/af (October 1992 price levels) for CVP project water sold or transferred to any entity that had not previously been a CVP contractor and uses the water for municipal and industrial purposes.

The allocation of mitigation and restoration payments between CVP water and power users, "taking into account all funds collected" under the act, shall be assessed in the same proportion as the ten-year rolling average of their allocations for repayment of the CVP. As of September 30, 1990, the repayment obligation was $1.6 billion for water users and $0.2 billion for power users.

The legislative debate focussed on who should be financially responsible for the environmental consequences of the CVP and whether the interest subsidy in water pricing should be reduced. Proponents of reform prevailed. "Project users pay" was a key principle underlying the fiscal provisions of H.R. 429.

CONSEQUENCES AND LESSONS

Like a target firm after a successful hostile takeover, the CVP will be restructured. But like raiders who find management of a firm more difficult in practice than in theory, reformers may encounter a similar fate. The passage of H.R. 429 only heralds the beginning of reform.

Now, the act must be interpreted, regulations promulgated, and administrative decisions rendered — all daunting tasks. For example, consider: What criteria will be used to determine when the provisions for fish and wildlife restoration have been met? What constitutes reasonable efforts to restore anadromous fisheries? During review of water transfers, what criteria will be used to determine whether the adverse effects on water supplies for fish and wildlife are "more than offset by the benefits of the proposed transfer" and to determine whether "alternative measures and mitigation activities . . . provide fish and wildlife benefits substantially equivalent to those lost"? How will the 20 percent threshold that triggers district/agency review of transfers be defined (*e.g.*, may parties devise a sequence of transactions, each below the 20 percent threshold)?

Perhaps the greatest unknown is the practical effect of H.R. 429 on the trading value of CVP water. The act's environmental actions are expected to reduce project yield significantly Interior has estimated that if H.R. 429 were in place in 1990 a 1991, it may have had to suspend deliveries to agricultura users. The shortening of contract duration may also mean that, in the marketplace, CVP water will not be viewed as a long-term supply. With a diminished yield from a CVP contract, in terms of both quantity and duration, H.R. 429 may substantially reduce the trading value of CVP water. Ironically, the greatest beneficiaries of H.R. 429 may be holders of non-CVP water rights and permits, who find a potential competitor in the marketplace — CVP water users — demoted to the status of providers of short-term, unreliable water supplies.

While the end-game of CVP reform has yet to be played, there are two lessons for western water interests. First, bureaucratic failure, in the long-run, does not serve any interest. For critics of CVP operations, both state and federal agencies have failed to protect valuable environmental and wildlife resources in the Central Valley. One can only suspect that CVP reform would not have been on Congress's agenda, if state and federal agencies had acted differently.

Second, legislative solutions also become a forum for the creation of new problems. To provide "comprehensive" solutions, bills become complex. Understanding the bills becomes a major feat of analysis. Predicting what the law may mean in practice is a new discipline in forecasting. The law of unintended consequences — where well-intentioned policies generate unexpected effects with consequences at least as dire as tl original problem — may once again prevail. □

Annual Transaction Review

. . . *continued from page 5*

result of limits on interbasin transfers enacted in 1991 and the growing financial problems of the CAP project.

PUBLIC TRUST

Eight of the sixteen transactions completed for public trust purposes involved acquisitions by chapters of The Nature Conservancy — three acquisitions in Nebraska, two purchases

Table 2
Number of Transactions By State and Purpose, 1992

State	*Total*	*Municipal*	*Agriculture*	*Public Trust*
Arizona	5	3	0	2
California	26	12	11	3
Colorado	72	50	20	2
Idaho	8	0	8	0
Kansas	2	2	0	0
Montana	1	0	0	1
Nebraska	3	0	0	3
Nevada	5	4	0	1
New Mexico	8	4	1	3
North Dakota	1	1	0	0
Oklahoma	1	1	0	0
Texas	8	7	0	1
Utah	4	2	2	0
Washington	2	1	1	0
Total	146	87	43	16

in Arizona, and one each in Montana, Nevada, and Texas. TNC is a private, non-profit, Denver-based environmental group. Last year, we reported 6 TNC acquisitions. Most purchases of land and water were turned over, at cost, to federal or state agencies to be run as wildlife habitats. In Arizona, TNC bought land and water on both the Gila River and the San Pedro River. It purchased 58 acres of land and 71 af of appurtenant water rights from farmers on the Gila River. It also purchased 305 acres of land and 600 af of appurtenant rights to San Pedro River water from an irrigator for $325,000. The property is in Cochise County and includes the Cottonwood Willow and Mesquite Bosque riparian habitats. TNC turned over both acquisitions at cost to the Bureau of Land Management's Stafford District, which will manage it as part of the San Pedro River Riparian National Conservation Area.

In Nebraska, TNC made three purchases. It bought 540 deeded acres for $454,000. The land borders the Middle Platte River and the south channel of the Platte River; the amount of water available from the wells is unknown. The Nature Conservancy will manage its acquisition as a migratory habitat. In addition to 7 to 9 million ducks and geese, hooping cranes, least terns, piping plovers, and bald eagles, 64 percent of the world's population of sandhill cranes migrate through the Platte River area. The second purchase was of 647 acres in Hall County, including a mile of river frontage on the south and middle channels of the Platte, critical habitat for the sandhill crane and the endangered least tern and piping plover. The purchase, mostly pastured grassland but including some irrigated crops, was leased back to the current operators. TNC plans to return a portion of the crop acreage to native grasses. This brought TNC's holdings in the "big bend" section of the Platte River to more than 1,750 acres.

The third purchase was of 174 acres of land and water rights in the Rainwater Basin. Over 90 percent of the Basin has been destroyed as wildlife habitat by farming and development. The land was acquired from Stuckey Farms in Fillmore County, northwest of Grafton. The majority of the property is undrained marsh, obtained in exchange for an 80-acre irrigated tract in Clay County that TNC had purchased at a cost of $100,000. TNC will sell the property to the Nebraska Game and Parks Commission, at cost, which will administer it as the Marsh Hawk Wildlife Management Area.

TNC also bought river front land and rights on the Madison River in Montana, extended public holdings in Newlands in Nevada, and bought land in Verde County, Texas.

In California, the U.S. Fish and Wildlife Service and the San Luis/Kesterson Wildlife Refuge managed to lease water. The state's Department of Fish and Game leased 44,900 af of water (20,000 af through the Drought Water Bank) and also purchased 10,000 af of permanent rights on Butte Creek and purchased an 803-af minimum storage pool at Red Lake Reservoir.

In Colorado, Boulder purchased an additional 73.56 af and 900 acres of land for its open space program. The New Mexico Interstate Stream Commission spent nearly $3 million buying rights and options to surface water from the Pecos River and for groundwater from the Pecos basin. The purpose of the acquisition is to increase flows in the Pecos River, required under the Pecos River compact and the U.S. Supreme Court's 1988 amended decree in *Texas v. New Mexico.*

INNOVATIVE TRANSACTIONS

As drought problems continued, California agencies have developed some innovative forms of water leases that *WS* anticipates will become increasingly popular. MWD is paying farmers in the Palo Verde Irrigation District $620/acre to fallow their land. MWD hopes to realize 93,000 af/year through the experimental program — 63 farmers have signed contracts to fallow 20,215 acres for two years. It is the culmination of five years of negotiation. Participants must still pay the annual toll charge levied by Palo Verde on the fallowed acres — protecting non-participants against increases in toll charges that, at present, are $41/acre. In addition, participants must control weeds and dust on the fallowed land. Herbicide treatment is estimated to cost about $30/acre.

The conserved water will be stored in Lake Mead for future use by MWD member agencies. Water stored in the Colorado River system is currently 18 million-af below the system's 60 million af capacity. MWD will use the water only after it has exhausted all of its other Colorado River water. By the end of 1992, MWD was completing a similar agreement with the Imperial Valley Irrigation District.

In November, MWD directors approved a water option agreement between MWD and Dudley Ridge Water District. Under the one-year agreement, if the Department of Water Resources' final allocation of State Project water is less than 50 percent, MWD would purchase all of the District's water in excess of 28 percent of its entitlement. If the 1993 allocation is above 50 percent, MWD would have no obligation to purchase any water. MWD would pay Dudley Ridge $125/af for any water purchased, revenues the District would use to pay its fixed SWP contract costs. MWD would also pay conveyance costs — pumping costs are estimated at about $90/af. Dudley Ridge serves 30,000 acres along the California Aqueduct between Fresno and Bakersfield. Its farmers would serve their 5,000 acres of permanent crops (olives, pimentos, nuts, and pomegranates) with 16,829 af of their 57,700 af SWP entitlement (28 percent) and fallow the rest of their land. MWD hopes to gain up to 12,694 af of water in 1993 if SWP deliveries are low.

A more straightforward option was entered by the City of Corpus Christi, Texas, when it signed an option contract with the Garwood Irrigation Company to purchase up to 35,000 af of Garwood's total of 168,000 af of irrigation water rights in the Colorado River. The City is paying Garwood $10,000/month for up to 18 months and would pay $400/af to exercise the

continued on page 16 . . .

Annual Transaction Review

. . . *continued from page 15*

purchase option. But purchase is conditioned on receiving approval from the Texas Water Commission for change in use (irrigation to M&I), change in diversion point, and change in service area (interbasin transfer). Water would be transferred to the Corpus Christi service area through pipelines and streams to nearby Lake Texana, where the city has also acquired a storage option. The cost of the pump station and pipeline would be $9.3 million. The City plans to construct a pipeline to convey the water from the lake to the city's system at an estimated cost of about $90 million.

There were fewer purchases and leases of effluent water this year than last year. In **California**, the Triunfo County Sanitation District and Las Virgenes Municipal Water District agreed to sell reclaimed water to the Metropolitan Water Company and the California Water Service Company. The wastewater comes from Triunfo and passes through three treatment phases in Las Virgenes' system after which it meets state standards for full body contact. The treatment leaves nitrogen and phosphorous in the recycled water, which benefits plant life.

The Metropolitan Water Company will accept delivery of up to 1,300 af/year. Half the water will be earmarked for landscape irrigation in schools, parks, and homeowner associations and the remaining water will be used to irrigate a golf course. Deliveries are expected to begin in the fall of 1993, when the company completes construction of a $8 million pipeline to convey the reclaimed water to the distribution system.

The California Water Service Company will accept deliveries based on subscriptions by its customers. To date, it has subscribers for only 158 af/year, but anticipates signing more. Conveyance facilities from the treatment facility are already in place — California Water is on a pipeline that already conveys reclaimed water to the Lake Sherwood Country Club and Golf Course, which pays $450/af. The recycled water delivered to California Water's customers will not be subject to any rationing and penalties for excess use imposed on potable water service.

Metropolitan and California Water will initially pay $330/af for the reclaimed water. Rates will be adjusted for changes in Triunfo's and Las Virgenes's recycling costs, but are expected to decline with expansion in deliveries as fixed costs are spread over greater quantities of recycled water. Customers of Metropolitan and California Water, in turn, will pay its purveyors costs plus a surcharge (California Water's surcharge will be between $18 and $20 per af).

Triunfo and Las Virgenes have been recycling water for landscape irrigation for the past 15 years. Las Virgenes is expanding the capacity of its Tapia facility from 10 million gallons per day (30.69 af/day) to 16.1 million gpd (49.41 af/day) at a cost of $60 million. The plant currently processes 8 million gpd (24.55 af/day).

On February 3, 1992, the City Council in Scottsdale, **Arizona**, approved five pipeline capacity agreements to deliver water to public and private golf courses in Desert Mountain, the Boulders, and Troon North. Between 1992 and 1995, Scottsdale will lease its surplus untreated CAP water through a 14-mile pipeline now under construction. After 1995, the City will deliver treated wastewater in place of CAP water, which it plans to use for potable water. The golf courses will initially take 3,682.36 af/year, increasing to 8,592.88 af/year. By the year 2000, about 10,000 af of treated wastewater will be conveyed through the system. The full cost of the conveyance facilities and water will ultimately be paid by the users. Owners of 18-hole golf courses make a one-time payment of $694,502; owners of 9-hole courses pay half that amount. For water delivered, the City will charge owners the same water rates as other comparable customers, starting between $135/af and $300/af depending on the service zone. Scottsdale is paying to "oversize" the conveyance facilities in anticipation of repayment from contracts with future golf courses.

The pipeline will allow 8.5 golf courses (3.5 private courses and five public courses) to discontinue pumping groundwater except in emergencies — saving 1.2 billion gallons annually. Developers of two planned 18-hole courses have already entered into agreements.

CONCLUSIONS

Water transactions are becoming more complex. The traditional choice between buying or leasing is being replaced by options that yield water in drought years or that give the aquirer time to determine whether appropriate permits will be granted or whether demands will increase as much as currently anticipated. □

Water Strategist is published quarterly by Stratecon, Inc. Subscription rates are $130 per year, $240 for two years. Single issues are available for $45. Call for volume and academic discount rates. Please direct all inquiries to the publisher, Lisa Hahn. For $190 per year, subscribers receive both *WS* and *Water Intelligence Monthly*, a supplement. *Water Intelligence Monthly* provides detailed water marketing data on who is selling and buying, amounts, terms, use, contract provisions, and status of transactions in receiving necessary agency approval. It also reports on key federal agency actions, state actions, environmental and water quality decisions, and Indian water resources.

1992 Annual Litigation Review: Indian Rights and Environment Top Agenda

The Annual Review analyzes how 1992 decisions in state and federal courts will shape western water policy. Policymakers, private parties, water authorities, and their advisors must understand the reasoning and implications of these decisions because the economic forces on western water know no jurisdictional boundaries.

Court decisions in 1992 contained several noteworthy themes. The Wyoming Supreme Court held that Indian water rights granted for future agricultural purposes can not be changed to maintain instream flow. A federal district court held that the Central Valley Project must be operated to comply with California's *Fish and Game Code*. Western courts continue to uphold the authority of local governments to impose facilities fees on new construction. The Imperial Irrigation District and the Coachella Valley Water District were held severally liable for runoff flooding Indian lands. Courts continue to uphold the power of local government to impose a building moratorium in response to a water shortage. Two decisions illustrated the importance of legislatures addressing the status of instream flow rights with clear language. The Colorado Supreme Court set aside a decree when changes in economic circumstances made a "change of use" plan no longer viable. And, finally, western courts continue to address the circumstances under which a party may rebut the presumption of abandonment or forfeiture created by sustained periods of nonuse.

OVERVIEW OF CASE ACTIVITY

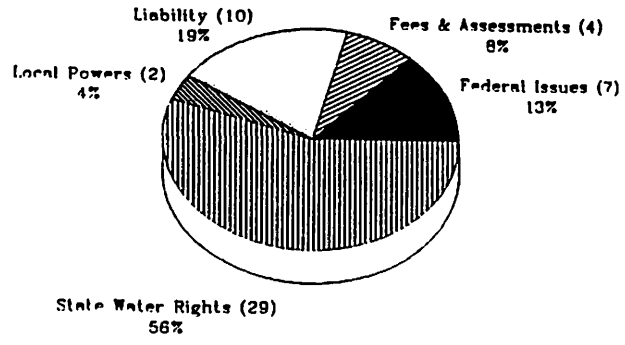
State and federal courts decided fifty-two cases in 1992 (see Figure 1), three less than *WS* tracked in 1991. The trend in subject matter continues toward concentration on state water rights — which accounted for 56 percent of the 1992 decisions, up from 51 percent in 1991. As in 1991, courts issued seven decisions on federal issues and four decisions on fees & assessments. Decisions on local powers declined by two-thirds. On top of the 33 percent decline in decisions on this issue from 1990 to 1991, western courts are now faced with few disputes on local powers.

Four states (**California, Colorado, Montana,** and **Texas**) accounted for half the decisions (see Table 1). The two westwide decisions involved enforcement of the Safe Water Drinking Act and the setting of federal water quality standards.

Table 1
1992 Decisions by State

State	*Number*
Arizona	2
California	6
Colorado	10
Idaho	3
Montana	5
Nebraska	3
New Mexico	3
Nevada	2
Oklahoma	1
Oregon	1
Texas	5
Utah	4
Washington	3
Wyoming	2
Westwide	2

Figure 1
Subject of 1992 Decisions



Source: Stratecon, Inc.

Federal district and appellate courts decided cases on Indian water rights, federal project operations, and the transfer of federal project water. State supreme courts issued almost 70 percent of state decisions — see Table 2 — down from 75 percent in 1991. As always, they decided most cases on state water rights. The Wyoming Supreme Court issued yet another opinion in the Wind River saga concerning Indian water rights. State appellate courts primarily decided cases on liability and state water rights, and, secondarily, on fees & assessments.

Table 3 lists the fifty-two cases and citations to *WS Litigation Updates* for more extensive discussion (see pp. 4-5).

FEDERAL ISSUES

Indian Water Rights. *In Re Big Horn*, the Wyoming Supreme Court addressed two issues arising from its 1988 decision awarding the Shoshone and Arapahoe Tribes 500,000 af per year for current and future agricultural purposes. (The award was based on the "practicably irrigable standard" — see "Divided Court, Divided Region," *WS October 1989*). First,

Table 2
Subject of 1992 Decisions by Court

	State		*Federal*	
Category	*App.*	*Sup. Ct.*	*District*	*App.*
Federal Issues	0	1	3	3
Fees & Assessments	2	2	0	0
Liability	6	2	1	1
Local Powers	1	0	1	0
State Water Rights	4	24	1	0
Total	13	29	6	4

continued on page 4 . . .

Annual Litigation Review

. . . *continued from page 3*

Table 3
1992 Court Decisions by Subject, Court, and State

Federal Issues

U.S. Court of Appeals

Nat'l Wildlife Federation v. EPA ..... EPA must initiate withdrawal proceedings after state found not in compliance with Safe Water Drinking Act
Int'l Fabricare Institute v. E.P.A. ..... EPA decision setting zero maximum contaminants levels for perchloroethylene not arbitrary and capricious
U.S v. Alpine Land & Reservoir Co. (NV) ..... landowners must perfect rights for federal project water under state law before transfer

U.S. District Court

Westlands Water Dist v. Interior (CA) ..... Reclamation may withdraw water from San Luis Reservoir to fulfill obligations to CVP Exchange Contractors
N.R.D.C. v. Patterson (CA) ..... CVP operations must comply with state Fish & Game Code
U.S. v. Gila Valley Irr Dist (AZ)[3] ..... Indian water rights based on interpretation of 1935 Globe Equity Consent Decree

State Supreme Court

In Re Big Horn (WY)[2] ..... tribes may not change reserved right for future agricultural purposes to an instream flow right

Fees & Assessments

State Supreme Court

Mountain Water v. Public Service (MT) ..... refusal to allow recovery of back expenses does not deny just compensation
Application of Timberon Water Co., Inc. (NM) ..... Contributions in Aid of Construction properly excluded from company's rate base

State Court of Appeals

Carlsbad Mun. Water Dist. v. QLC Corp (CA) ..... major facilities charge a permissible user fee rather than a special tax
TWC v. Combined Water Systems (TX) ..... utility's notice to ratepayers of rate increase was adequate despite improper effective date

Liability

U.S. Court of Appeals

Renaud v. Martin Marietta (CO) ..... single water sample not sufficient evidence to demonstrate harmful water contamination

U.S. District Court

U.S. v. Imperial Irrigation District (CA) ..... irrigation districts liable to Indians for flooding tribal lands

State Supreme Court

Smicklas v. Spitz (OK) ..... private party may not seek injunction against earthworks solely because works violates a municipal ordinance
Trujillo v. Jenkins (UT) ..... landowner not immune from liability resulting from failure to place fence around irrigation ditch on residential property

State Court of Appeals

Locklin v. Lafayette (CA) ..... upstream landowner may discharge surface waters into natural watercourse inadequate to acommodate increased flow
Hickman v. Hunkins (NE) ..... when draining surface water, upper appropriator cannot negligently interfere with rights of lower appropriator
Noriega v. Stahmann Farms, Inc. (NM) ..... irrigation district immune from liability for failure to keep area adjacent to ditch in safe condition
Lewis v. Texas Utilities Elec. Co. (TX) ..... utility did not have duty to inspect, repair, or maintain levee situated on property
Smither v. Texas Utilities Elec. Co. (TX) ..... landowner was not grossly negligent with respect to fisherman who trespassed on land and drowned in canal
Hedlund v. White (WA) ..... the discharge of collected surface water onto adjacent landowner's property constitutes trespass

Local Powers

U.S. District Court

Kawaoka v. City of Arroyo Grande (CA) ..... temporary water moratorium rational response to water shortage

State Court of Appeals

King City Water Dist. v. Port of Seattle (WA) ..... port authority may provide water service for benefit of property within service area of local water district

State Water Rights

U.S. District Court

U.S. v. Winchell (CO) ..... water rights properly treated as real property in dispute among lienholders

State Supreme Court

Matter of Rights to Use of Gila River (AZ) ..... notice in adjudication did not violate due process of lienholders or users of effluent or groundwater
Bijou Irr Dist v. Barnett (CO) ..... landowner may sell permits to cross his land to reach public land and water adjacent to public property
Board of County Com'rs v. Collard (CO) ..... decree valid although it erroneously granted private parties instream flow rights
Denver v. Englewood (CO) ..... decree allows transmountain effluent to be exchanged for South Platte River water
Thornton v. Fort Collins (CO) ..... formal acts may demonstrate substantial step toward application of water to beneficial use
Public Service Co. v. Bd. of Water Works (CO) ..... economic feasibility a relevant factor in determining whether applicant "can and will" complete project

Public Service Co. v. Blue River Irr Co (CO) ..... sale of conditional water right does not override other evidence of reasonable diligence
Upper Gunnison Conservancy Dist (CO) .....diligence standard in 1990 statute could not be applied to proceedings initiated before effective date of statute
Upper Gunnison Conservancy Dist v. Arapahoe (CO) .. District did not own water under a 1941 decree and thereby not authorized to initiate a change of use
Dovel v. Dobson (ID) ..... sufficient conditions on transfer to protect prior appropriators and local public interest
Idaho Dept. of Parks & Rec. v. Idaho Dept. of Waters (ID)[1] ..... Legislature limited instream flow right to upstream from highest diversion on stream
Idaho Dept of Water Resources v. U.S. (ID) ..... U.S. must pay filing fees in Snake River adjudication (reversed in 1993 by U.S. Supreme Court)
Baker Ditch Co. v. District Court (MT) ..... wildlife organization did not have standing to intervene in action concerning administration of decree
Musselshell River Drainage Area (MT) long period of continuous nonuse raising rebuttable presumption of abandonment does not violate State Constitution
Matter of Clark Fork River Drainage Area (MT) ..... city abandoned water rights by virtue of 23 years of nonuse
Matter of Yellowstone River (MT) ..... state law providing for abandonment of claims for failure to file timely claim constitutional
In Re A-14137, A-14138A (NE) ..... DWR could set aside earlier approval of appropriation and storage project because of failure to meet schedule
In Re D-887 & A-768 (NE) ..... rightholder can not collaterally attack state board's limitation to 1/70 cfs for each acre under 1894 appropriation
Eureka v. Office of State Engineer of Nev. (NV) ..... substantial use of water after statutory period of nonuse 'cures' forfeiture
Estate of Steed v. New Escalante Irr Co. (UT) ..... landowner has no right to require upstream appropriator to maintain runoff and seepage
Jensen v. Morgan (UT) ..... appeal of determination of water rights dismissed because user did not file timely protest
Little v. Greene (UT) ..... water right will not pass as an appurtenance to land conveyed by deed until State Engineer issues a certificate of appropriation
Dept. of Ecology v.Reclamation (WA) ..... federal appropriation on Columbia River prevents landowner from appropriating waste, seepage, and return flow
Schulthess v. Carollo (WY) ..... petitioner for abandonment of another's water right did not demonstrate water rights are from same source

State Court of Appeals

Martinez v. Roswell (NM) ..... supplemental well priority date may relate back to antecedent surface water right
Evans v. Water Resources Dept. (OR) ..... water first diverted for mining and then reused for irrigation considered exercise of irrigation right
Moser v. State (TX) ..... insufficient evidence to sustain criminal conviction for interference of water delivery under contract
Trinity Water Reserve, Inc. v. Evans (TX) ..... owners of land adjoining canal are entitled to water service at just and reasonable rates

Numbered superscript indicates that case also discussed in previous Litigation Update: (1) July 1992; (2) October 1992; (3) January 1993

may the tribes change their right to divert future project water for agricultural purposes to a right to maintain instream flow for fishery purposes without regard to Wyoming law? Second, do the tribes have the right to administer all the water rights within the reservation, thereby excluding the State Engineer? A state district court said yes to both questions.

In a 3-2 decision with five written opinions, the Wyoming Supreme Court said no. Concerning the proposed change in use, the court said "if we had intended to specify what the water could be used for merely as a methodology to determine the amount of water the Tribes could use for any purpose, we would have said so." Concerning the matter of administration of water rights, the Court concluded that tribal administration of water rights would violate the state constitutional charge that the State Engineer shall have "general supervision of the waters of the State."

Federal Project Operations. In *N.R.D.C. v. Patterson*, a U.S. District Court in California held that the Bureau of Reclamation must operate the Central Valley Project (CVP) to comply with California's *Fish and Game Code*. The decision is part of a challenge by environmental groups of the renewal of CVP contracts for the Friant Unit. The judge allowed the plaintiffs to assert a claim under the Administrative Procedures Act that Reclamation has operated CVP dams in violation of the *Fish and Game Code*. State law requires an owner of a dam to allow sufficient water at all times to pass through a fishway or around a dam to keep in good condition any fish that may be planted or exist below the dam. Reclamation and irrigation districts moved to dismiss the action, arguing that Section 8 of the 1902 Reclamation Act does not require compliance with the state *Fish and Game Code*.

The judge based his decision on Section 8's deference to state law. He observed that Section 8 states that the 1902 act does not interfere with state law "*relating* to the control, appropriation, use or distribution of water used in irrigation . . ." Unless Congress states otherwise, he explained, "relating" should have a broad reading to mean a connection with or reference to, among other things, the distribution of water.

Transfer of Federal Project Waters. In *U.S. v. Alpine Land & Reservoir Co.*, the federal Ninth Circuit Court of Appeals issued its latest decision in the struggle over waters of the federal Newlands Project in Nevada. From 1927 to 1969, landowners used water without contracts or certificates. After a 1980 court decree, landowners filed applications to transfer water rights appurtenant to other project land to their land. The Pyramid Lake Paiute Tribe protested the approval by the State Engineer, arguing that the rights either were never perfected, or were abandoned or forfeited under Nevada law.

The court held that, before the rights to federal project water may be transferred, landowners must first perfect water rights under state law. Therefore, water must have been used on the original land before transfer. Concerning abandonment, the court said the State Engineer should examine the history of use on the lands of each party seeking transfer. Concerning the forfeiture claim, the State Engineer should examine whether water use on the specific lands commenced before or after Nevada passed its 1913 forfeiture statute. The Engineer had based his approval of the challenged applications on the fact that the Project's rights have a 1902 priority date.

FEES & ASSESSMENTS

Western courts upheld the authority of a local government

continued on page 12 . . .

Texas Regulates the Edwards Aquifer

. . . *continued from page 11*

2000. Farmers would, of course, receive the income from leasing unused irrigation water to municipal users. Unlike earlier estimates, these are based on a model that allocates pumped water to its most valuable economic use — an allocation that will be possible if the Authority were to adopt procedures to let permit holders lease water.

AFTERWORD

Users of Edwards Aquifer water resisted all attempts to create a permitting system. Voluntary efforts and jaw-boning by the Edwards Underground Water District (which goes out of business with the formation of the Authority) collapsed before the inexorable pressure of growth in the region. But aquifers that are both overdrafted and unregulated are a threatened if not an endangered species.

By invoking the Endangered Species Act, the Sierra Club has brought about a court decision that achieved what the TWC and others had been unable to do: persuade a majority of the legislature that it was better to create a Texas Authority to limit pumping than to surrender control over the aquifer to the federal government.

After the passage of the Act, Judge Bunton stated that he was pleased with the proposed Authority. He suspended indefinitely hearings he had scheduled for June to determine whether the State had been responsive to his rulings. The approach he adopted shows that federal law — even one as feared as the Endangered Species Act — need not preclude local initiative. But the possibility of retaining local power should not be taken for granted: Texas could act quickly, as Judge Bunton required them to, because a management strategy was already available. Pumpers over other aquifers who do not prepare management plans may find themselves subject to court-directed federal regulations.

And the catfish farm? After harvesting one large crop of fish, it was closed in late 1992 by the Texas Water Commission because it lacked appropriate water quality permits for its downstream discharges. A hearing on its permit application has been scheduled later this year! ☐

In Next Issue

- ☐ *Reauthorization of the Federal Clean Water Act*
- ☐ *1993 Annual Legislative Review*
- ☐ *Quarterly Updates*

Annual Litigation Review

. . . *continued from page 5*

to impose user fees, but rejected requests by regulated private water utilities for further increases in water rates.

In *Carlsbad Mun. Water Dist. v. QLC Corp*, a California appellate court held that "a major facilities charge" was a permissible user fee. The District levies the challenged fee for the extension of water service to new construction. A developer argued that the fee constitutes a "special tax" under the Jarvis-Gann initiative Proposition 13, which requires voter approval of a special tax by a two-thirds vote. The court rejected the argument. The fee does not exceed the reasonable cost of providing water service to new construction. It bears a fair and reasonable relationship to the developer's benefit from the services financed by the fee. And the fee is not levied for general revenue purposes.

Private water utilities were unsuccessful in challenging rate decisions by state regulators. In *Application of Timberon Water Co*, the New Mexico Supreme Court held that "Contributions in Aid of Construction" were properly excluded from the company's rate base, because the contributions represented "cost-free" capital for the utility. In *Mountain Water v. Public Service*, the Montana Supreme Court refused to allow the company to recover back expenses required by a 1987 la transferring the financial responsibility for maintaining wat service pipelines from property owners to private water servic providers. The company did not include these costs in their rates during their two-year, unsuccessful legal challenge of the law. The Court, however, affirmed that the company's water rates may reflect the current and future costs mandated by the law.

LIABILITY

In *U.S. v. Imperial Irrigation District*, a federal district court held the Imperial Irrigation District and the Coachella Valley Water District severally liable for trespass because agricultural runoff from 1924 through 1992 flooded tribal lands of the Torres-Martinez Band of Mission Indians. The reservation was created in 1876. Many tribal acres were flooded between 1905 and 1907 when the Colorado River overflowed its banks and subsequently drained into the Salton Sea. For 400 years prior to the flood, the Sea was dry except for occasional runoff from large storms.

The Sea would have receded to its pre-flood level by 1923 but for irrigation in the Imperial Valley and the Coachella Valley. As a result, the level of the Sea fluctuated around 227.5 feet below sea level since 1924. On behalf of the tribe, the U.S. sued Imperial and Coachella for present and future damages of $69.6 million and sought an injunctive relief against furth flooding.

Based on a theory of trespass, the Court found the districts liable for damages. It rejected the defendant's argument that,

168

through a series of legislative acts and executive actions, Congress or the President consented to the flooding. While Congress could have abrogated the tribe's property rights, nothing in the legislative history of the various acts nor the dealings between the tribe, the districts, and the federal government provided "clear and convincing" evidence that consent was granted.

The Court, however, rejected the government's damage estimates. All Indian land was non-irrigable between 1924 and 1950. Therefore, only a small damage award is appropriate. The Court spurned the government's calculation of $1 per acre per year, compounded with interest, declaring it "mathematical sophistry, or another example of 'voodoo economics'. . . ." Concerning damages since 1950, the high natural concentration of salt, clay soils with poor capacity for salt leaching, and limited availability of groundwater rendered a modest rental value for the lands. As a result, the court award $1.3 million for historical damages and $2.6 million for future damages. Apportioning the damages among the primary sources of water in the Salton Sea (Imperial, Coachella, Mexican irrigation, and natural runoff), Imperial is ordered to pay 71.5% and Coachella 5.5%. The Court also rejected to award pre-judgment interest "because it is very speculative that the Indian land . . . would have resulted in an 'accretion of wealth.'"

Finally, the Court did not impose injunctive relief against future flooding. Finding an equitable balancing appropriate, the Court found injunctive relief unreasonable. "An injunction would render useless thousands of acres of cultivated farmland to the detriment of innocent farmers who are blameless in this lawsuit and who have worked hard to cultivate desert lands."

LOCAL POWERS

In *Kawaoka v. City of Arroyo Grande*, a federal district court in California applied the widespread rule that local governments may impose a building moratorium as a rational response to a water shortage. A landowner challenged the moratorium because he plans to develop agricultural lands for commercial purposes whose purposes require less water. Among many of the weaknesses in his argument, the court noted, the plaintiff did not present evidence that the general moratorium was specifically targeted toward development of his property.

In 1990, the 9th circuit had held in *Lockary v. Kayfetz* that there were triable issues of fact concerning whether a city's moratorium on new water hookups for undeveloped land was arbitrary and selective. In that case, however, plaintiffs presented evidence that, after the moratorium was imposed, water use in the city still increased by 70 percent, the city voluntarily provided water for secondary uses such as swimming pools, and similarly-situated parties received water service. In *Kawaoka*, the plaintiff produced no such evidence.

STATE WATER RIGHTS

Western courts addressed disputes concerning instream flow rights, ownership of runoff and seepage, conditional water rights, change of use, and abandonment and forfeiture.

Instream Flow Rights. Two decisions illustrated the importance of legislatures addressing the status of instream flow rights in clear language.

In *Idaho Dept of Parks & Rec. v. Idaho Dept of Waters*, the Idaho Supreme Court limited a legislatively-granted instream flow right to points upstream from the highest diverter. The decision turned on the interpretation of a 1971 law permitting the Idaho Department of Parks & Recreation (IDPR) to appropriate the unappropriated natural spring flow from Niagara Springs in Snake River Canyon. Idaho's DWR granted IDPR application to appropriate the remaining amount of unappropriated water to prevent expansion in commercial uses. The Rim View Trout Company, who holds a junior application to divert additional water for commercial uses, protested.

The Supreme Court held that DWR exceeded its scope of statutory authority when it granted IDPR's application. The state agencies argued that, to achieve the purpose of the law, the statute should be read to require protection of a creek flowing from Niagara Spring. The Court disagreed. The law clearly stated that the "terminus of the instream right is upstream from the highest diversion." DWR had improperly restricted Rim View from diverting additional water downstream from that point.

In *Board of County Com'rs v. Collard*, the Colorado Supreme Court upheld a 1974 decree which had erroneously granted instream flow rights to private parties. Appropriators who did not physically divert water in Gunnison County obtained a decree for 60 cfs for stockwater, recreation, fish culture, wildlife procreation and heritage preservation. The water court approved the decree based on a reading of a 1974 act (SB 97) which removed the requirement that one must physically divert water to show a beneficial use. No appeal was taken.

In 1990, Arapahoe County requested that the 1974 decree be vacated. It argued that the water court did not have subject matter jurisdiction because Colorado law does not recognize riparian rights nor allow private parties to obtain instream flow rights. The Court ruled that the water court had jurisdiction because water courts have exclusive jurisdiction over water matters. Any error, such as the one included in the decree, simply vulnerable to reversal upon appeal. Given that the three-year statute of limitations for appeal of a decree had expired, however, the Court affirmed the erroneous decree.

Ownership of Runoff and Seepage. Western courts rejected efforts by landowners to require upstream appropriators to maintain runoff and seepage.

In *Estate of Steed v. New Escalante Irr Co*, the Utah

continued on page 14 . . .

Annual Litigation Review

. . . *continued from page 13*

Supreme Court did not allow a landowner with a decreed right to runoff and waste water to compel the New Escalante Irrigation Company to replace the runoff and seepage lost when the district changed its method of water application. The dispute involves the last diversion for irrigation in Utah from the Escalante River before it flows into the Colorado River. In 1982, New Escalante changed its system from flood irrigation with open canals to a pressurized system with enclosed pipes. The improved efficiency diminished runoff and seepage water which previously flowed into Alvey Wash. The River does not naturally contribute any water to the Wash. The landowner owned a decreed water right in Alvey Wash based on appropriation of runoff and waste water from New Escalante.

The Court held that a rightholder such as New Escalante has an absolute right to all waste water which can be captured before it ran off the land. "As long as the original appropriator has possession and control thereof, he may sell or transfer the right to the use of such waters to someone other than the reappropriator as long as he does so in good faith and they are beneficially used, or he may recapture and use them for further beneficial use if he does so before they get beyond his property and control." The two exceptions to this rule — water returns to original source or becomes commingled with water in a natural water table — did not apply. Therefore, a reappropriator, like the landowner, can not require the first appropriator to continue to waste water.

Similarly, in *Dept. of Ecology v. Reclamation*, the Washington Supreme Court held that the federal government's right of appropriation for the Columbia River Basin Irrigation Project prevents a landowner from appropriating waste, seepage, and return flow (WSRF). As the water is used in irrigation, significant amounts seep through the land and accumulate above or below ground within the project's boundaries. The landowner wished to divert water from a stream flowing through his property which contained significant amounts of WSRF water. Since the project had no current or planned future facilities to recapture the water, the Dept. of Ecology approved the landowner's appropriation. The Court held that the water was not available for appropriation.

Conditional Water Rights. Western law recognizes conditional water rights to promote the development of water resources. These rights allow the applicant to complete financing, engineering, and construction with the certainty that, if its development plan succeeds, it will obtain absolute water rights. In return for this assurance, parties must diligently pursue their projects, or face loss of their conditional rights which makes the developable water supply available to other parties. The Colorado Supreme Court addressed the critical question of what constitutes diligence.

In *Thornton v. Fort Collins*, the Colorado Supreme Court addressed the acts necessary to commence the process of establishing a conditional water right. In 1986, Fort Collins filed applications for conditions rights for "municipal purposes, including recreational, piscatorial, fishery, wildlife, and other beneficial uses" as part of the city's Poudre River Trust Land Use Policy. The water court originally granted a 1986 appropriation date, the date when the city council adopted the Policy. In 1988, Fort Collins amended its application in response to protests, including the Colorado Water Conservation Board, claiming that the 1986 application sought minimum stream flow rights contrary to state law.

Among many issues addressed, the Court considered whether the 1986 priority date was appropriate. An applicant must meet a three-pronged test: (1) manifest an intent to appropriate, (2) take a substantial step toward application of the water, and (3) provide notice to interested parties of the nature and extent of proposed demand upon available water supply. Concerning the second prong, relevant measures need not be physical acts, but also "formal acts includ(ing) planning, studies, specific expenditures of human and financial capital in the planning process, applying for permits, and other related legal filings apart from the conditional water rights application."

In *Public Service Co. v. Blue River Irr*, the Colorado Supreme Court held that a sale of conditional water right does not override other evidence of reasonable diligence in the development of the right. This was the third Supreme Court decision concerning whether Blue River exercised reasonable diligence for the period May 1980 to May 1984. In an earlier decision, the Court ordered the water court to consider the intent of Blue River shareholders (was the original project for irrigation purposes, as stated, or improper speculation?) and the economic feasibility of the project. Protestors argued that Blue River lacked the intent to appropriate the water of its conditional water right, as evidenced by its sale negotiations with Denver. The water court affirmed its earlier finding of reasonable diligence.

The Supreme Court agreed. The expenditure of substantial sums by Blue River's majority shareholder demonstrated reasonable diligence. The Court found irrelevant the fact that the Blue River did not expend the monies. The acts of shareholders are relevant to understanding the intent of a mutual. However, the Court argued, "negotiation or sale of the conditional water is not evidence of reasonable diligence because neither indicates an intent to put the water to beneficial use or is a step in finalizing the appropriation." But the sale of Blue River's conditional water right did not override the other substantial of reasonable diligence found by the water court.

Change of Use. Much like a conditional water right, proposed changes in use involve projects requiring a significant delay between planning and implementation. What happens when economic circumstances change so that the original "change of use" is not viable?

In *Public Service Co. v. Bd. of Water Works*, the Colorado Supreme Court considered a change in economic feasibility a

relevant factor in determining whether an applicant "can and will" complete in a reasonable time a project related to a change in use. The case involved Public Service's acquisition of a majority of shares in two mutual companies with Las Animas rights in southeastern Colorado. Historically, the water was used for irrigation. The company purchased the shares in preparation of construction and operation of the proposed Southeast Power Plant near the City of Pueblo. In 1984, the water court granted a change of use for power generation and storage, provided the diversion occur at the canal headgate and storage be constructed at the power plant site. Prior to project completion, water may be used in irrigation.

Because of changed economic circumstances, Public Service postponed the power plant indefinitely. To use water for purposes other than irrigation, Public Service sought a change and exchange of water rights so that water may be used upstream at Comanche Power plant near Pueblo. The water court dismissed the application, holding that the company does not satisfy the "can and will" requirement of its 1984 decree.

The Court addressed Public Service's appeal. Was application of the "can and will" standard appropriate. Yes. The company does not plan to construct the original power plant and the proposed exchanges does not satisfy the conditions of the original decree. Did the water court properly place the burden of proving economic feasibility? Yes. Economic feasibility is relevant to determine whether "project can and will be completed with diligence and within a reasonable time."

Abandonment and Forfeiture. Western courts continue to address the circumstances under which a party may rebut the presumption of abandonment or forfeiture created by sustained periods of nonuse. In *Eureka v. Office of State Engineer*, the Nevada Supreme Court held that substantial use of water after the statutory period of nonuse "cures" forfeiture.

In *Matter of Clark Fork River Drainage Area*, the Montana Supreme Court held that a city abandoned water rights by virtue of 23 years of nonuse. The Court rejected the argument that because the city carried the water rights on its books as assets during the period of nonuse, this rebutted the presumption that the city intended to abandon the water right.

CONCLUSION

The rising claims on western water prompt individuals to seek judicial reallocation of water. In general, courts continue to read narrowly prior decrees, statutes, and contracts. ☑

Legislative Update

. . . *continued from page 9*

Nebraska passed *(LB 131: Beutler)*, changing technical provisions related to drilling and permitting of water wells.

PUBLIC TRUST (34 Bills: 8P:10F)

Public trust was the subject of 34 tracked bills. Eight have passed (including the nomination of the horned toad as the state reptile of **Wyoming**, reported in the last issue).

In **Idaho** the legislature must approve each application for an instream flow permit. The passage of *(SCR 105: Resources and Environment Committee)* approves the Water Resources Board's application for a minimum flow of 59 cfs in Crystal Springs, Gooding County. And *(H 259: Resources and Conservation Committee)* approves the Upper Boise River component of the State Water Plan. **Kansas** has established a Task Force on Biodiversity, intended to identify the steps needed to retain and preserve biodiversity by passing *(HB 2356: Plummer)*.

Nevada has established a legislative committee to review the use of public waters in the state under *(SB 327: James et al)*. **Washington** has passed three public trust bills. *(SHB 1785: Environmental Affairs Committee)* sets up an interagency coordinating council to promote job creation by restoring the state's environment and forests, but appropriates only $6.5 million (split between the Departments of Ecology and Natural Resources), much less than the $30 million the governor had requested. The legislature also cut appropriations to the Centennial Clean Water fund. *(SHB 1309: Fisheries and Wildlife Committee)* creates an interdepartmental committee including Indian tribes to develop, in consultation with the federal government and other states, a strategy to reduce the impact of fishing on salmon stocks. *(HJM 4003: Mastin)* memorializes the Congress and the President to limit drawdowns on the Columbia and Snake River system because of the damage to salmon and to navigation on the streams.

PLANNING AND POLICY (69 bills: 19P:23F)

The largest number of successful bills dealt with issues changing state policy, planning, and governance. Out of 69 bills, 19 have passed.

Arizona passed *(SB 1359: Day)*, making the 11th member of AMA boards elected at large rather than appointed by county supervisors. *(SB 1053: Buster, Keegan)* amends the water code, delaying until January 1995 the calculation of farmers' intermediate water duties, licensing well-drillers, allowing the conveyance of storage and recovery permits to irrigation districts, and allowing the initial board of groundwater management districts to put tax levies on the ballot.

California passed *(AB 385: Hannigan)*, requiring

continued on page 16 . . .