

Groundwater Augmentation Plans in Colorado

*Kelly Ranch v. Southeastern Colo. Water Conservancy Dist.*¹
*Cache La Poudre Water Users Ass'n v. Glacier View Meadows*²

I. INTRODUCTION

The Colorado Supreme Court recently confronted two appeals from the Water Courts of Colorado dealing with controversial issues of groundwater augmentation plans and their integration into the administration of water rights. While dealing specifically with the applications of two Colorado land developers and their proposed uses of groundwater, these cases touch upon issues as basic as the attributes of Colorado water rights and the fundamentals of the priority system.

Interpreting the term "plan of augmentation," the court found the applicants in these cases to be within the scope and intent of the pertinent Colorado statutes. Both applicants had requested approval of plans which equated the historic depletions of water rights with the proposed stream depletions due to new wells in their subdivisions. In approving the concepts in these plans, the court found the prevention of injury through the appropriate equating of historic and proposed depletions not to be inconsistent with the priority system. Those who protested the applications claimed approval would permit unreasonable expansion in the use of water rights, while proponents praised the decision as a further definition of the historic elements of a Colorado water right.

A. *Water Augmentation Plans*

1. Statutory Framework and History

In Colorado, the frequency, duration, and volume of groundwater withdrawal has risen to a point where the interaction with surface water is no longer insignificant. This is particularly true in the more heavily appropriated South Platte, Arkansas, and Rio Grande basins. The inevitable result has been that complaints, protests, and groundwater litigation have become more common in the last 10 years.

1. 550 P.2d 297 (Colo. 1976) [hereinafter cited as *Kelly Ranch*].

2. 550 P.2d 288 (Colo. 1976) [hereinafter cited as *Glacier View*].

While Colorado in cases dating back to the turn of the century has recognized the interaction between surface and groundwater, the integration of ground and surface waters in the priority system has presented an apparently insoluble problem. Approaches to the problem have varied in method and success.

The first significant attempt to set up statutory authority for the regulation of groundwater was the Ground Water Act of 1957.³ A second and more comprehensive effort was made in the Ground Water Management Act of 1965.⁴ The latter act set up the mechanics for adjudicating and regulating groundwater within designated groundwater basins, while impliedly providing some guidance for tributary water. To provide the State Engineer with authority to administer groundwater, House Bill 1066⁵ was passed in 1965. Further emphasis on a system of administration was found in the Water Rights Determination and Administration Act of 1969,⁶ a comprehensive revision of all administrative and judicial functions concerning surface and groundwater. In 1973, the legislature passed Senate Bill 213⁷ which described the authority of an appropriator to withdraw water from under his land subject to certain physical limitations. In the following year the 1974 legislative session passed Senate Bill 7⁸ which set up methods for gaining temporary approval from the State Engineer of plans of augmentation. The purpose of this bill was to facilitate and expedite the integration of surface and groundwater in the administrative system.

A section on legislative declaration within the 1969 Act, states the policy of Colorado with regard to the use of water and, in particular, the use of groundwater:

It is the policy of this state to integrate the appropriation, use and administration of underground water tributary to a stream with the use of surface water in such a way as to maximize the beneficial use of all of the waters of the state.⁹

3. Laws of May 1, 1957, 1957 Colo. Sess. Laws 863 (repealed 1965).

4. COLO. REV. STAT. ANN. §§37-90-101 to -141 (1973).

5. Laws of May 3, 1965, 1965 Colo. Sess. Laws 1244 (repealed 1969, 1971).

6. COLO. REV. STAT. ANN. §§37-92-101 to -602 (1973).

7. COLO. REV. STAT. ANN. §37-90-137(4) (1973).

8. COLO. REV. STAT. ANN. §37-92-307 (1973). Under proposed Senate Bill 4, presented to the 1977 Colorado Legislature, this section may be repealed.

9. COLO. REV. STAT. ANN. §37-92-102(1) (1973).

This preamble to the Act additionally states that the future welfare of the state depends upon the "sound and flexible integrated use of all waters of the state," and that existing uses of groundwater shall be recognized to the fullest extent possible.¹⁰ Fundamental to this integration are plans of augmentation which are defined as follows:

"Plan of Augmentation" means a detailed program to increase the supply of water available for beneficial use in a division or portion thereof by the development of new or alternate means or points of diversion, by pooling water resources, by water exchange projects, by providing substitute supplies of water, by the development of new resources of water or by any other appropriate means.¹¹

The interpretation of this section of the Colorado water statutes has been of interest to all members of the Colorado water-law community. The portion stating that the plans were to increase the supply of water available led some individuals to interpret the intent to be to add new water to the system. In providing flexibility for water users with a general definition, the legislature left open the specifics of application which became a frequent subject of discussions, conferences, and the literature. The office of the State Engineer offered administrative guidelines for approval of temporary plans as authorized under Senate Bill 7.¹² It was readily apparent to the water users that the statutes concerning plans of augmentation and the succeeding case law would be of great importance in the future development of Colorado water law. Since many or most of the streams are overappropriated, applications for approval of new surface water rights are infrequent. The advantages of groundwater usage, coupled with the requirement that wells become integrated into the priority system in most instances, tend to indicate that hearings on plans of augmentation may become the major activity in the water courts.

The 1969 Act also discusses the standards to be used with respect to the decisions of water court judges. Senate Bill 7,¹³ passed by the legislature as these two applicants were preparing for trial, states that the applicant for a plan of augmenta-

10. COLO. REV. STAT. ANN. §37-92-102(2) (1973).

11. COLO. REV. STAT. ANN. §37-92-103(9) (1973).

12. COLO. REV. STAT. ANN. §37-92-307 (1973).

13. *Id.*

tion may, after filing an application with the water court, submit his proposed plan to the State Engineer for temporary approval. The bill provides that the State Engineer shall consider the depletions¹⁴ from the applicant's use in quantity and time, the amount and timing of augmentation water which would be provided by the applicant, and the existence of injury to the owners of, or other persons entitled to, a water right.¹⁵

Viewing the composite of the 1969 Act, Senate Bill 7, and the corresponding rules of the State Engineer, it would appear that the law encourages the adoption of augmentation plans by allowing preliminary approval of such plans by the State Engineer. Using relatively senior water rights for augmentation, wells may be integrated into the administration of water.

2. The Applicants

Kelly Ranch and *Glacier View* presented the first appellate court review of augmentation plans under the 1969 Act. Each applicant was a developer on Colorado's Eastern Slope. The proposed developments contemplated individual wells to supply water for homes, with agricultural or industrial water rights as the legal underpinning to the withdrawal of the groundwater. While the cases involved substantially different factual situations, both parties sought court approval of augmentation plans under the Colorado statutes. In each case the applications were protested by other water users on the stream, who were represented by water users' associations or conservancy districts. The complaints asserted injury to senior water rights due to the withdrawal of groundwater by the applicants. Engineering analyses had been conducted by the applicants to determine the effect of well pumping on the adjacent streams. The applicants' water rights were then used to replace the river "depletions."

Both applicants wanted approval of plans of augmentation for the depletions accruing to the use of domestic in-house

14. The 1969 Act does not define the word depletion. The definition probably varies to some extent from party to party although it is generally considered to mean a reduction in available water over some time period. The time period chosen for analysis can be of great importance. Some operations may cause no net depletion over a period of months but may cause significant depletions in specific weeks which are later "compensated" by gains in subsequent weeks.

15. COLO. REV. STAT. ANN. §37-92-307(3) (1973).

wells. Both envisioned a formal plan of maintaining participation and fulfillment of the requirements by the water users. The diversions under the proposed operations could be larger than those historically attributable to the water rights used for augmentation. Kelly Ranch was located in the Buena Vista area southwest of Colorado Springs, in the Arkansas drainage. The land to be developed by Glacier View Meadows was northwest of Fort Collins and in the South Platte basin. Kelly Ranch involved a proposed development of 312 lots while Glacier View envisioned 1,892 single-family units. Both developers used similar methods of calculating water requirements; Kelly Ranch estimated use of 100 gallons per day per capita, and Glacier View predicted 100 gallons per day per capita. Losses attributable to the leaching fields were based on State Engineers' calculations for typical systems. Kelly Ranch used an 1874 agricultural right as a source of augmentation water, taking a specified acreage out of production to create the needed water. Glacier View had acquired storage rights previously held by industrial and municipal users.

While the cases have similar backgrounds, the conduct of and issues raised in the two water court trials differed significantly. *Glacier View* was tried in Water Division 1 and the application was opposed by the Cache La Poudre Water Users Association and the North Poudre Irrigation Company. The water court concluded that the plan was proper under the statutes and did not require a 100 percent replacement of water diverted by the wells as claimed by the opposition. The application requested was granted, and the case appealed.

Kelly Ranch was heard in Water Division 2 and was opposed by the Southeastern Colorado Water Conservancy District and the Division Engineer for Water Division 2. Kelly Ranch had based the plan for augmentation upon the theory of filling groundwater depletions using senior irrigation water rights. The opposition had stated that this was an expansion of the irrigation water rights allowing diversions greatly in excess of those historically experienced under the right. The court denied the application stating that this proposal was not a plan of augmentation. The applicant subsequently appealed.

II. MAJOR ISSUES ON APPEAL

Kelly Ranch was denied approval of the application in the

water court because there was "no new water added" to the water system.¹⁶ The court said that the State Engineer's office had erred in granting temporary approval to the Kelly Ranch application, since this would, in fact, allow an application "premised upon a theory of replacement of estimated consumptive use which would ignore the priority doctrine . . . and . . . create a new class of water rights"¹⁷

The protestant to the plan, Southeastern Colorado Water Conservancy District, had objected to the proposed plan as a "ballooning of a water right," noting that the plan could convert a previously small right of less than one cubic foot per second into a right to divert more than 10 cubic feet per second by "augmentation."¹⁸ The District argued that neither the volume nor time of use of a water right may be enlarged by 100- to 200-fold. The District also maintained that the plan would allow a land developer to speculate in water rights by allowing the applicant to obtain a court decree requiring the State Engineer's office to permit the wells in advance of any actual permits or well drilling.¹⁹

The District stated that the plan was really a change of water right and not a plan of augmentation; the term "augmentation," as used by the land developers, referred not to an augmentation but rather to a system by which streams were depleted. The Southeastern Colorado Water Conservancy District believed that the correct term for such a plan would be a "change of water right," as covered by the statutes.²⁰ Like views were expressed in a brief filed by an amicus curiae representing numerous water rights in the central and lower Arkansas basin.²¹

In *Glacier View*, similar arguments were made by the protestant, the Cache La Poudre Water Users Association. The Association stated that the plan was improper as it did not call for replacement of 100 percent of the withdrawn water, again

16. Kelly Ranch at 301.

17. *Id.*

18. Answer Brief for Objectors-Appellees at 7.

19. *Id.* at 35.

20. COLO. REV. STAT. ANN. §37-92-103(5) (1973).

21. Brief for Amicus Curiae at 1.

raising the issue of whether or not Glacier View had applied for a valid augmentation plan.²²

A. *Analysis of the Court*

The dispute in these cases focused on questions relating to the attributes of water rights in Colorado and the administration of these rights in accordance with the priority system. Advocates of a strict adherence to the priorities and flow rates decreed, claimed that to grant approval of plans such as these would create a new class of water rights outside the priority system. These rights would be divertable regardless of priority, and at almost any rate and volume, as long as consumptive use was replaced. Advocates argued that this is not the way Colorado rivers have been administered and is a major break in the doctrine of prior appropriation. To allow such an administrative system, it was contended, was not to create a list of water diversion priorities, but to create a list of consumptive use priorities.²³ The protestants to these plans argued that these were not augmentation plans but were really changes to water rights, and, thus, diversions should be matched with replacement water on a gallon-for-gallon basis.

Issuing its finding in the twin cases simultaneously, the Colorado Supreme Court first concentrated on the definition of a plan of augmentation. Both applicants were found to be within the purpose and intent of the statutes regarding plans of augmentation. In analyzing the legislative intent, the supreme court in *Kelly Ranch* traced the evolution of the doctrine of "maximum beneficial use" from *Fellhauer*²⁴ through *Hall*,²⁵ to the present. In stressing the "dreams and hopes that future technology would provide new methods under the doctrine of maximum utilization," the court seemed to look to *Fellhauer* as a turning point in the integration of "maximum utilization"

22. *Glacier View* at 293.

23. Under Colorado water laws, a listing of the relative priorities is made by the State Engineer. COLO. REV. STAT. ANN. §§37-92-401, 402 (1973). This list is generally the basis for the day to day administration by the water commissioners. Such a listing includes the name, location, appropriation date, and adjudication date of the water rights in a stream system. Also included is the quantity of water which may be diverted under that water right (a flow rate for direct flow rights and a volume for storage rights). The argument put forward is that the approval of plans allowing diversion of water out of priority is to destroy the ranking of water priorities and merely to create a listing of water right depletions.

24. *Fellhauer v. People*, 167 Colo. 320, 447 P.2d 986 (1968).

25. *Hall v. Kuiper*, 181 Colo. 130, 510 P.2d 329 (1973).

and the law of prior appropriation.²⁶ Similarly, the court found that "under the circumstances of both cases new water need not be injected to give life and validity to a plan of augmentation."²⁷

In response to the argument that the applicants as land developers were not the ultimate users of waters to be diverted under these applications, the court expressly stated in *Kelly Ranch* that a "true appropriator" is not required under a proposed plan such as this one.²⁸

The questions of administration and administrative powers were addressed in part by each case. In *Glacier View* the opposition had contended that the proposed plan would usurp the function and duties of the State Engineer, since a permit from him was a condition precedent to the application for approval of a plan of augmentation. In *Kelly Ranch* the South-eastern Colorado Water Conservancy District felt that the plan proposed would mandate a decree requiring the issuance of a well permit by the State Engineer's office in perpetuity, where the applicant had no intention of constructing the works and applying the water himself. The water court in *Kelly Ranch* concluded that domestic in-house use was not under the administration of the state engineering office.

The supreme court held in both opinions that they considered the wells to be under the administration of the state engineering office and treated as nonexempt. In *Glacier View*, the court stated that while there are provisions in the statutes for exempt wells, an examination of the statutes required that the wells be treated as nonexempt. The court did acknowledge, though, that under different circumstances these wells could be considered as exempt.²⁹

The supreme court also held, upon a review of the applicable statutes, that the application for a well permit was not a condition precedent to the application for an approval of a plan of augmentation. In both cases, the court acknowledged that the approval of such a plan by the court would eliminate some

26. *Kelly Ranch* at 304.

27. *Id.* at 303.

28. *Id.* at 305.

29. *Glacier View* at 292.

items from the consideration of the State Engineer, but that there were additional items remaining for state engineering office review.³⁰

B. *Compensation of Injury*

1. Stream Depletion as Index of Injury

Significant in the decision was the court's treatment of the concept of depletions and the manner in which an applicant may prevent injury to senior water rights.

It may be argued that the concept and application of the term "depletion" has been modified or at least updated. In older cases where the change in water use was from agricultural use in one location to agricultural use in another location, the analysis of the net effect of such a change was simplified. Where the type of crop (and therefore the consumptive use), location with respect to the river, and soil conditions were not significantly dissimilar, the effects of the change were negligible. The practical result was that the same amount of water would be diverted, the same proportion would be consumed, and approximately the same quantity would return to the stream system in a similar time frame. The impact on downstream water users would therefore, in theory, be nil. This, of course, assumes that there are no water users in the immediate vicinity of the change point who could be denied the benefit of the return flow if the location of such flow were moved to a point downstream of their headgate.

With such changes the "depletions" due to the new use of the water were the same as the historic "depletions" and, in theory, there was no injury. Additionally, there was little anxiety caused by other water users, since the same quantity of water was being diverted. While it is difficult for the associated water user on the same stream to visualize changes in underground return flow, it is very easy for such a user to note a change in gross diversions by another. Therefore, with the previously mentioned changes, the gross diversions and associated return flow were the same, and this made "trading" water very easy.

When storage water was traded for direct flow water and the storage water had a previous similar use, the corresponding

30. *Id.* at 295; Kelly Ranch at 305.

diversions and return flow were the same, and the net effect of the trade was negligible. If a water user wished to trade from one type of use to another, where consumptive use was proportionately higher or lower, the courts have looked to limitations on the allowable diversions or changes in the diversion rate. For this reason, it has been most common to look to consumptive use as a method of determining injury.³¹ Now that greater information is available with regard to the details of groundwater hydraulics, the rate of well withdrawal and the associated return flow may be defined in greater detail. Often, in the analysis of potential injury, the timing of well withdrawals and return flows may be of greater importance than the overall quantities consumed by the water user. This creates questions of potential injury caused by changes of water use and plans of augmentation more complicated than the more simplistic changes in irrigated lands. This is particularly true when the change in point of diversion is from a headgate to a well. Each combination of alluvial characteristics, well location, and pumping schedule will have an individual scenario of impact on the river. The timing of withdrawals from the river and the corresponding return flow must be considered in attempts to determine the net effect of such water usage on the river.

As commonly used, the term "depletion" means the net or aggregate effect of the water usage on the river. This would be the change in river flows directly attributable to a specific water diversion. In the *Kelly Ranch* and *Glacier View* applications these depletions would be those accruing to the well withdrawals compensated to the extent of the return of such water to the stream. The difference between the withdrawal and the return flow would be the depletions requiring augmentation. Having identified these depletions a plan would be devised to "fill" these depletions by proper application of a senior water right. In replacing depletions, appropriate allocation must be made for the portions of the senior right which would have historically returned to the stream and upon which junior rights may have come to rely. The consumptive use portion may therefore be used to offset the junior depletions.

31. *Green v. Chaffee Ditch Co.*, 150 Colo. 191, 371 P.2d 775 (1962).

2. Augmentation and the "Lack of Injury" Doctrine

Kelly argued that fundamental in the ownership of a water right is the right not only to divert the decreed quantity but also to change the use of the water right, as long as the change does not injure other vested rights. This change may take the form of a change from agricultural to municipal use or a change in time or quantity of diversion. Thus, the volume and time of diversion may be increased if this can be done without injury.³²

The Southeastern Colorado Water Conservancy District countered Kelly's arguments by use of many Colorado cases emphasizing the importance of limiting gross diversion of a fixed volume or quantity for a fixed amount of time.³³ The District also emphasized *Shelton Farms v. Southeastern Colo. Water Conservancy Dist.* where the court, denying approval of a plan, stated that the applicants "would substitute the priority doctrine with a lack of injury doctrine"³⁴ Used in this context, the priority doctrine would allow appropriators to divert only in accordance with the priority date of the right and the quantity of flow decreed to that right. A "lack of injury" approach would allow an appropriator to divert without regard to the seniority of his right if he could prevent injury by some means (augmenting the depletions, overpumping, etc.).

The same issues, although expressed differently, are found in *Glacier View*, where the protestant argued for the diverted water to be replaced gallon-for-gallon instead of merely to the extent of depletions.

In ruling for both applicants the court gave approval to plans based on filling groundwater depletions in time and location with the historic consumptive use portion of direct flow and storage rights. The court found that at least as applied to the facts of these cases, the lack of injury doctrine was an adequate method of formulating the plans. Approval of this

32. Brief of Applicant-Appellant at 46-48.

33. Brief of Objector-Appellee at 15-29.

34. *Southeastern Colo. Water Conservancy Dist. v. Shelton Farms*, 187 Colo. 181, 529 P.2d 1321 (1974).

In rationalizing the results in *Kelly Ranch* and *Glacier View* it may be necessary to de-emphasize this statement in *Shelton Farms*. The unusual fact situation in *Shelton Farms* involving the removal of phreatophytes may interject some policy into the courts' denial of this method of salvaging water. Cf. *Pikes Peak Golf Club, Inc. v. Kuiper*, 169 Colo. 309, 455 P.2d 882 (1969) (salvaged water).

measure was qualified by stating that, "under the circumstances of this case, there is no significant difference between the 'prior appropriation' doctrine and the 'lack of injury' doctrine."³⁵ Since the taking of the water did not cause injury, the water was deemed available for appropriation.³⁶

3. Dry Year Effects

In *Glacier View* the water court stated that the only thing that might upset the plan would be a period of extended drought. In denying the Kelly Ranch application, the water court noted that the right used by the applicant had been called out in past droughts. In both cases the supreme court stated that the applicants would have to acquire water, by lease or otherwise, or else reduce their consumptive use, so that the water consumptively used under the plan would not exceed that available for replacement.³⁷ These steps did not, however, appear to be a condition precedent to approval of a plan of augmentation.

A major concern of the objectors to these and future plans is that while a surface diversion may be shut down in time of drought call, the depletions of groundwater withdrawal are delayed and not capable of termination on demand. The result may be that while an augmentation plan, utilizing groundwater as a source and not having sufficiently senior replacement water for a drought, may be shut down in a dry year, the depletions from previous pumping in wet years will continue to deplete.

4. Historic Return Flow

In *Glacier View*, the protestants opposed the planned use of reservoir water to offset well depletions on a gallon-for-gallon basis. The water court found that the applicant had made an accounting for the portion of the reservoir water which historically returned to the river after use, in this case claimed to be 25 percent, and that the water remaining could be completely used against well depletions. As the applicant had made provi-

35. *Glacier View* at 294.

36. The concept of "injury" and its innumerable applications may be a subject of future cases and appeals. Similarly, while the water was deemed available for appropriation, the court expressly stated in *Kelly Ranch* that a "true appropriator" is not required under a proposed plan such as this one. *Kelly Ranch* at 305.

37. *Glacier View* at 291; *Kelly Ranch* at 307.

sions with regard to the potential reliance on the return flows from the storage water, the legal significance of such reliance was not at issue.³⁸ Future augmentation plan litigation may determine the extent to which reservoir releases must be made to compensate for reliance by junior rights on the return flow resulting from historic use of such storage water.

III. SUMMARY OF THE RULINGS

While the continued discussion of the two cases may tend to merge and diffuse the rules of the cases, perhaps some items of a general nature may be stated about the opinion of the supreme court in regard to these augmentation plans, perhaps with an eye to future applicants. The court stated that in both of these applications the developer had met the general intent and purpose of the applicable statute. While the wells used in the plans may under different circumstances be exempt from administration, in the present context they were treated as nonexempt. In the situations presented, the use of the "no injury" doctrine had the same result as the use of the doctrine of prior appropriation. It appears that in the court's opinion water was here available for appropriation and it could be appropriated if no injury were caused. While acknowledging some form of reliance on the return flow from the applicants' surface and storage flow, the court found that no new water need be added to the system. Breaking from a strict application of a doctrine requiring adherence to a list of priorities and quantities and timing of diversions, the court seems to have furthered the goals it outlined in *Fellhauer*³⁹ and *Hall*⁴⁰ in encouraging maximum beneficial use. Most significant, perhaps, is the approval of the court of a plan which allows diversion by junior (out of priority) water rights if the stream depletions are compensated through the use of senior surface or storage rights.

IV. APPLICATION TO FUTURE AUGMENTATION PLAN LITIGATION

The narrow scope of these cases might limit the rule to future applicants in physical situations closely paralleling those of *Kelly Ranch* and *Glacier View*. The court did, however, set forth rather clear-cut rules on the central issues of the

38. *Glacier View* at 295.

39. *Fellhauer v. People*, 167 Colo. 320, 447 P.2d 986 (1968).

40. *Hall v. Kuiper*, 181 Colo. 130, 510 P.2d 329 (1973).

cases. There are, of course, many yet unresolved issues with respect to groundwater use and limitless factual situations. For instance, would these decisions apply to the diversion of a junior surface right, a right out of priority? If the "lack of injury" doctrine prevails, then there should be no distinction between a junior surface and junior groundwater diverter.

Is the controversy over replacement of diversions, as opposed to depletions, then over? Perhaps not in situations where the return of such water to the stream would take years or decades to accomplish. The effects of withdrawal may be rapidly "felt" by the stream, while the return of the unused portions of such water may take a greater time depending on distances and alluvial characteristics. While not necessarily presenting an impediment to the application of the lack of injury doctrine, such circumstances may present the courts with rather knotty factual disputes.

These cases acknowledge the traditional view that some accounting must be made for return flow, here, not only from surface diversions but also from storage diversions. Perhaps future litigation will determine the extent to which a storage right must continue historic practice with regard to return flow.

Is this a green light for developers and water right speculators? The case does seem to say that the applicant for a plan of augmentation does not have to be the true appropriator and can be one who will never actually drill wells and use the water. The extent of allowable remoteness of the applicant would, at this point, be unknown.

The court said that the "lack of injury" doctrine here brings the same result as the priority doctrine and that a right may be expanded in terms of volume and time of diversion if there is no injury. It would appear that the court has condoned, at least in these situations, the "ballooning" of the right complained of by the Southeastern Colorado Water Conservancy District, although an applicant could argue that the new "increased" diversions are made under the priority of the more junior groundwater right and only the depletive portions of the senior augmenting right are being used.

The advantages of these plans would perhaps accrue mostly to the low-consumptive user, as he may divert a large volume of water under a right previously small in terms of

volume and rate. Those advantaged might include manufacturing and some industrial and municipal users.

These cases may have a number of meanings of significance for the various types of water users in the state of Colorado. It appears that an individual wanting to change use of water or bring new usages into the system, if a low consumptive user, may be required to meet only the depletive effects of such water use. Large, junior out-of-priority diversions may be made without regard to the "call" on the stream, as long as depletions to the stream are made up by proper augmentation with senior rights. Additionally, the parties may find that the courts are looking toward the establishment of some form of historic reliance on the return of storage water to the stream. There may exist a portion of the storage right which must stay in the same pattern of return to satisfy the users historically benefited. These cases will have the greatest effect in the areas of Colorado experiencing the greatest usage of groundwater withdrawal: the South Platte, the Arkansas, and the Rio Grande.

Noting problems of augmentation plans during dry years, it would appear that for those plans to survive the rulings of the court and still be able to retain the usage envisioned, the developers will have to obtain either very secure storage rights or very senior surface rights. The present holders of such rights may expect that the demand for them will increase as plans such as these become more common.

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