CHANGING USES OF WATER IN COLORADO: LAW AND POLICY

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I. INTRODUCTION

Colorado law favors transferability of the rights to use water. It promotes this objective in several ways. First, Colorado law regards water rights as vested property rights which may be transferred and conveyed in the same manner as other property rights.[1] Second, it limits the basis for legal review of water rights transfers.[2] Third, it treats water resources as largely interchangeable[3] and promotes their maximum utilization.[4]

Water rights in Colorado are of two basic types: those based on the appropriation of water and those based on land ownership.[5] Simple changes in ownership may occur without restriction. Transfers involving changes in other attributes of a water right such as the purpose of use, however, are subject to legal review.[6]

Changes in water rights involving a change in the use of water are common in Colorado[7] and have been occurring for more than 100 years.[8] Dur-

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1. *See* Carlson, *Report to Governor John A. Love on Certain Colorado Water Law Problems*, 50 DEN. L.J. 293, 307 (1973) [hereinafter Carlson].

2. The only legal basis upon which an application to change a water right in Colorado may be denied is if it would cause injury to other water rights that could not be corrected. COLO. REV. STAT. § 37-92-305(3)(1973). *See infra* discussion in text accompanying notes 68-83.

3. Examples are the integration of tributary groundwater and surface water, exchanges of water, and substitute supplies. *See* MacDonnell, *Colorado's Law of "Underground Water": The South Platte Basin and Beyond*, 59 U. COLO. L. REV. 579 (1988) [hereinafter *Underground Water*].

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

5. Section II, *infra*, presents a basic introduction to these water rights.

6. COLO. REV. STAT. § 37-92-302(1)(a) (1973 & Supp. 1988). *See infra* text accompanying notes 55-67.

7. In connection with the six-state study of water transfers described in the introduction to this issue of the *Arizona Law Review*, researchers in Colorado examined the records of all change of water right cases filed between 1975 and 1984 involving a change of water use. The total number of these cases filed during this period was 858. As of July 1988, 689 of these had been approved, 84 had been withdrawn or dismissed, 74 were still pending, and 11 had been denied. Of the approved cases, 24 percent involved changes in Water Division One—the division encompassing the South Platte River drainage which is the most populated area of the state. About 50 percent of the approved cases involved 0.5 cubic feet per second or less than 10 acre-feet of water. About 75 percent of the approved cases concerned a change from agricultural to non-agricultural uses.

ing this period, Colorado water law and water transfer law have become increasingly sophisticated and complex. Because Colorado law stresses private rights to the use of water resources, most of this legal development has aimed at the definition and refinement of these private rights.

This article sets out a comprehensive survey of Colorado law governing the transferability of water resources. It provides a detailed discussion of the law governing changes of appropriative water rights. It describes other legal mechanisms available in Colorado for changing water use including exchanges, substituted supplies, and plans for augmentations. The article then turns to a number of legally distinctive categories of water and the special considerations for each concerning transferability. Next, it considers the various water supply organizations and the transferability of the water they provide. Finally the article suggests several areas in which Colorado transfer law and procedure could be improved.

II. WATER RIGHTS IN COLORADO

In its 1876 Constitution, Colorado formally adopted the prior appropriation doctrine as the method for allocating rights to the use of the water "of every natural stream."[9] In 1879, the legislature established procedures for adjudicating and administering such rights.[10] Current Colorado statutory provisions governing appropriative rights to water are comprehensive and detailed.[11] Uniquely among the western states, Colorado retains much of the original notion of the appropriation doctrine that decisions about allocation and use of the resource are made by the actions of individual appropriators, with the role of the state primarily limited to sorting out priorities. A specially constituted water court "determines" that a physical appropriation of water has occurred and that the water has been applied to a beneficial use.[12] It also determines the priority date of the appropriation in a proceeding that essentially amounts to an ongoing general adjudication. The exercise of these water rights is closely administered by the state engineer's office through the seven division engineers and the water commissioners responsible for the state's streams.[13]

Colorado law provides for "conditional" water rights allowing a would-be appropriator to establish a priority date as of the time the intent to appropriate is formed and certain acts manifesting that intent are taken.[14] Until such conditional decrees are made absolute by demonstrating actual beneficial use of water, "reasonable diligence" in proceeding toward beneficial use must be shown in a water court proceeding every four years.[15]

8. The Colorado Supreme Court first considered the legal effect of making a change in a water right in 1884. Sieber v. Frink, 7 Colo. 148, 2 P. 901 (1884). *See infra* text accompanying notes 29-30.

9. COLO. CONST. art. XVI, § 5. *See also* Coffin v. Left Hand Ditch Co., 6 Colo. 443 (1882).

10. Act of Feb. 19, 1879, 1879 Colo. Sess. Laws 94.

11. COLO. REV. STAT. §§ 37-92-101 to -602 (1973 & Supp. 1988).

12. *Id.* at § 37-92-301.

13. COLO. REV. STAT. § 37-92-501 (1973).

14. *Id.* at § 37-92-103(6).

15. COLO. REV. STAT. § 37-92-301(4) (1973 & Supp. 1988). *See also* COLO. REV. STAT. § 37-92-305(9)(b) (Supp. 1988). Conditional rights may be transformed into absolute rights with a prior-

There are at least three legally distinctive categories of groundwater in Colorado. "Tributary" groundwater is considered so closely related to surface flows that rights to its use are determined and administered in a manner similar to that for surface water rights.[16] An entirely separate system has been established for "designated" groundwater.[17] Groundwater within designated basins is governed by a modified appropriation system. Application must be made to the Colorado Ground Water Commission[18] for a permit.[19] The Commission must find that the proposed appropriation "will not unreasonably impair existing water rights from the same source and will not create unreasonable waste. . . ."[20] Finally, in 1985 the Colorado legislature clarified the rules applying to "nontributary" groundwater.[21] Rights to nontributary groundwater are based on ownership of the overlying land rather than appropriation.[22] The right extends to a proportionate share of the nontributary groundwater determined to underlie the land area.[23] Determinations of such rights in a water court proceeding are specifically authorized.[24] Before a well can be constructed, however, application must be filed with the state engineer seeking a determination that there is unappropriated water available for withdrawal and that the withdrawal will not materially injure other vested rights.[25]

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ity date relating back to the time the intent to divert combined with physical acts giving notice of this intention. *See* Hallford, *Developments in Conditional Water Rights Law*, 14 COLO. LAW. 353 (1985).

16. Identified as "underground water," the statutory definition is "water in the unconsolidated alluvial aquifer of sand, gravel, and other sedimentary materials, and all other waters hydraulically connected thereto which can influence the rate or direction of movement of the water in that alluvial aquifer or natural stream." COLO. REV. STAT. § 37-92-103(11) (1973). Though closely related to surface water there are some important differences in the development and use of tributary groundwater which Colorado has attempted to recognize in its law. *See Underground Water, supra* note 3.

17. The statutory definition is "ground water which in its natural course would not be available to and required for the fulfillment of decreed surface rights, or ground water in areas not adjacent to a continuously flowing natural stream wherein ground water withdrawals have constituted the principal water usage for at least fifteen years preceding the date of the first hearing on the proposed designation of the basin, and which in both cases is within the geographic boundaries of a designated ground water basin." COLO. REV. STAT. § 37-90-103(6) (1973).

18. This is a specially constituted commission comprised of 12 members—nine appointed by the governor and three ex officio, including the executive director of the Department of Natural Resources, the state engineer, and the director of the Colorado Water Conservation Board. COLO. REV. STAT. § 37-90-104 (1973 & Supp. 1988).

19. Application for a conditional permit must specify the designated basin, the proposed beneficial use, the location of the proposed well, the name of the landowner, the estimated total quantity of water to be pumped annually, the estimated pumping rate, and—if the proposed use is irrigation—a description of the land to be irrigated. COLO. REV. STAT. § 37-90-107(1) (1973). In contrast to the water court the Ground Water Commission may deny a permit request to appropriate designated groundwater. Fundingsland v. Colo. Ground Water Comm'n., 171 Colo. 487, 468 P.2d 835 (1970).

20. COLO. REV. STAT. § 37-90-107(3) (Supp. 1988). Factors considered by the Commission include geologic conditions, annual yield and recharge rate, existing rights, and the proposed method of use. Existing rights may be impaired by a lowering of the water table beyond economic limits of withdrawal or by the unreasonable deterioration of water quality. COLO. REV. STAT. § 37-90-107(5) (1973). After receipt of the conditional permit the applicant has one year within which to construct the well and apply the water to the proposed beneficial use. He must then apply for a final permit "containing such limitations and conditions as the commission deems necessary to prevent waste and to protect the rights of other appropriators." COLO. REV. STAT. § 37-90-108(3)(a) (Supp. 1988).

21. Act of June 6, 1985, ch. 285, 1985 Colo. Sess. Laws 1160.

22. COLO. REV. STAT. § 37-90-102(2) (Supp. 1988).

23. *Id.* at § 37-90-137(4)(b)(II); 2 COLO. CODE REGS. § 402-7, Rule 8 (1986).

24. COLO. REV. STAT. § 37-90-137(6) (Supp. 1988).

25. *Id.* at § 37-90-137(2).

All water rights are "tabulated" every four years by the division engineers.[26] The tabulations are lists of water rights taking water from the same source and so may affect each other, according to their priority and the decreed amount of their water right. In addition, every ten years the division engineers are charged with preparing an abandonment list showing all absolute rights determined to have been abandoned in whole or in part. By statute there is a rebuttable presumption of abandonment if water rights have not been used for ten or more years.[27]

III. CHANGES IN WATER RIGHTS

A. *The Legal Basis*

Not long after recognizing the "imperative necessity"[28] of allocating water on the basis of appropriation in Colorado, the courts were faced with whether changes could be made in such rights without loss of priority. In an 1884 Colorado case involving a request to decree a priority date, protestants argued that the original priority was lost because the point of diversion had been moved eighty feet.[29] The Colorado Supreme Court ruled that this change in the point of diversion does not affect the appropriator's right or priority since the source of supply, the quantity of water diverted, the type of use, and the place of use remained the same and there was no injury to others.[30]

In 1888, the supreme court addressed whether there could be a change in the point of diversion that also involved a change in the place of use.[31] The court looked to earlier California decisions considering such changes in place of use and ruled that "in the absence of injurious consequences to others, any change which the party chooses to make is legal and proper."[32] The court went on to state: "The right to change, so limited, includes the point of diversion, and place and character of use."[33]

Then, in 1891, the supreme court considered whether a water right used for irrigation purposes could be purchased by a city for domestic use without also purchasing the land on which the water had been used.[34] The court noted that it had already permitted an existing water right to be transferred

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26. *Id.* at § 37-92-401(1)(a).

27. *Id.* at § 37-92-402(11) & -401(1)(c). Actual abandonment must be decreed by the water judge in each division following hearings on the abandonment lists. *Id.* at § 37-92-401(6).

28. *Coffin*, 6 Colo. at 447.

29. *Sieber*, 7 Colo. 148, 2 P. 901.

30. *Id.* at 154, 2 P. at 904.

31. Fuller v. Swan River Placer Mining Co., 12 Colo. 12, 19 P. 836 (1888).

32. *Id.* at 17, 19 P. at 838 (quoting Kidd v. Laird, 15 Cal. 161, 179 (1860)). Later in the decision the court quoted another California case, Davis v. Gale, 32 Cal. 26 (1867):

> Appropriation, use, and non-use are the tests of his rights; and place of use and character of use, are not. When he has made his appropriation, he becomes entitled to the use of the quantity which he has appropriated at any place where he may choose to convey it, and for any useful and beneficial purpose to which he may choose to apply it. Any other rule would lead to endless complications, and most materially impair the value of water-rights and privileges.

Fuller, at 17, 19 P. at 838.

33. *Fuller*, 12 Colo. at 19, 19 P. at 839.

34. Strickler v. City of Colorado Springs, 16 Colo. 61, 26 P. 313 (1891). This apparently was a case of first impression in the western prior appropriation states.

for use on different land. Thus, since the city could buy the land and its associated water right and then transfer the water right, the court ruled that the city need not buy the land if it only needs the water.[35]

In the court's view, this result followed directly from the fact that a water right is a property right—specifically the priority right to the use of water.[36] According to the court, "[i]f the priority to the use of water for agricultural purposes is a right of property, then the right to sell it is as essential and sacred as the right to possess and use."[37] Thus, the right to transfer a water use priority was squarely established in Colorado, subject only to the "no injury" standard. In 1899, the Colorado legislature formalized this standard by enacting a change-in-point-of-diversion statute.[38]

B. *What May Be Changed or Transferred*

An appropriative water right includes a number of elements, most of which may be changed in Colorado. Generally, there is a specific point of diversion. There is a specified rate of diversion in the case of direct flow rights and a specific quantity of water in the case of storage rights. Water rights have an implied or expressed time of use. They have an implied or expressed place of use and they exist for specified types of use. By statute, change may be made in the point of diversion, in the type, place, or time of use, or between direct flow and storage rights.[39] The only limitation on such changes is that they must not "injuriously affect the owner of or persons entitled to use water under a vested water right or a decreed conditional water right."[40]

Much of the controversy in change of water right cases arises out of uncertainty in the scope of the original water right. Particularly in the earlier decrees, the elements of the water right often were not clearly specified. Moreover, the practice of describing direct flow water rights in terms of flow rates without any volumetric limitation causes problems in determining the transferable quantity of water. Many decrees do not specify any time of use, though it may be implied to some degree by the type of use. Thus, for example, an irrigation water right is limited to the usual irrigation season in the area of use whereas domestic water use will be year-round. Water rights

35. *Id.* at 69, 26 P. at 316.

36. The court stated:

> The authorities seem to concur in the conclusion that the priority to the use of water is a property right. To limit its transfer as contended by appellee would in many instances destroy much of its value. We grant that the water itself is the property of the public. Its use, however, is subject to appropriation and in this case it is conceded that the owner has the paramount right to such use. In our opinion this right may be transferred by sale so long as the rights of others, as in this case, are not injuriously affected thereby.

Id. at 70, 26 P. at 316. More recently, the Colorado Supreme Court affirmed the essential importance of the water right priority: "The uncertain nature of the property right in water is evidence that its primary value is in its relative priority and the right to use the resource and not in the continuous tangible possession of the resource." Navajo Dev. Co. v. Sanderson, 655 P.2d 1374, 1377 (Colo. 1982).

37. Strickler v. City of Colorado Springs, 16 Colo. 61, 70, 26 P. 313, 316 (1891).

38. Act of April 6, 1899, ch. 105. 1899 Colo. Sess. Laws 235.

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

40. *Id.* at § 37-92-305(3).

often are decreed for more than one type of use so the actual use of water under the right may not be apparent from the decree itself.

To provide definition to a water right the courts often have focused on "historic" use of the right.[41] This very practical approach looks beyond the decreed right to see what the historical pattern of use has been. Thus, it is not the right described in the court decree that necessarily defines the original right but, rather, the right defined by actual appropriation and beneficial use of the water.

A major issue in the definition of a water right has been the quantity of water associated with that right. Many early decrees recognized rates of diversion well in excess of the water actually appropriated.[42] The sale and transfer of these excess rights gave the purchaser a priority right to water which had never been used.[43] Initially, the Colorado Supreme Court resisted consideration of whether the original decree authorized excess rights in a change of water right proceeding.[44] It held that the issue of abandonment must be considered in some other unspecified type of proceeding.

This holding drew a sharp rebuke from the court of appeals in a 1913 decision:

> In our opinion it was an unfortunate day for the public welfare and for the owners of legitimate water rights based upon actual appropriation, when the Supreme Court felt compelled to rule that abandonment could not be made an issue in this special statutory proceeding for a change in the point of diversion. . . . That rule has become the excuse for many actions ostensibly to change the point of diversion of waters appropriated, while the real purpose and effect is to revive or give life to and make effective a mere paper appropriation of water that has never been applied to a beneficial use by the claimants, and to encourage speculation in such excess decrees masquerading under the name of "water-rights," and resulting in serious and irreparable loss to bona fide appropriators.[45]

Subsequently, the supreme court acknowledged that if the change resulted in an enlarged use of water, injury could result to other water users; thus it allowed consideration of abandonment.[46]

In a 1962 decision, the Colorado Supreme Court clarified the status of a water right with a decreed rate of diversion in excess of that actually used.[47]

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41. *See, e.g.*, Green v. Chaffee Ditch Co., 150 Colo. 91, 371 P.2d 775 (1962); Weibert v. Rothe Bros., 200 Colo. 310, 618 P.2d 1367 (1980); May v. United States, 756 P.2d 362, 371 (Colo. 1988) ("When an appropriator of a water right exercises his privilege to change a water right, he risks requantification based on the amount of water applied to a beneficial use.").

42. For examples of such decrees in Colorado, see E. MEAD, IRRIGATION INSTITUTIONS 149-51 (1903).

43. *Id.* at 174. "In every instance investigated the real purpose [of the transfer] has been to make money out of excess appropriations. The parties who have acquired surplus rights are unable to use the water themselves, and seek to sell to some one who can." *Id.*

44. Wadsworth Ditch Co. v. Brown, 39 Colo. 57, 88 P. 1060 (1907).

45. Farmers' High Line Canal & Reservoir Co. v. Wolff, 23 Colo. App. 570, 579-80, 131 P. 291, 294-95 (1913).

46. Ft. Lyon Canal Co. v. Rocky Ford Canal, Reservoir, Land, Loan & Trust Co., 79 Colo. 511, 519-20, 246 P. 781, 789 (1926); Farmers' Reservoir & Irr. Co. v. Town of Lafayette, 93 Colo. 173, 176-77, 24 P.2d 756, 758 (1933).

47. *Green*, 150 Colo. 91, 371 P.2d 775.

In that case, holders of a water right with a decreed diversion rate of about sixteen cubic feet per second (cfs) contracted to sell eight cfs.[48] The trial court found that no more than eight cfs had ever been diverted and ruled that any diversion right in excess of eight cfs had been abandoned. The supreme court noted that, irrespective of the decreed diversion right, a water right exists only to the extent of actual beneficial use. The remainder of the decreed right had not been abandoned; it had simply never existed.[49]

Water rights in Colorado are limited to an amount sufficient for the purpose for which the appropriation is made—an amount that may be less than the decreed rate of diversion.[50] To determine the transferable quantity of water from irrigation rights, courts have focused on the "duty of water" in the original use. In *Farmers' Highline Canal & Reservoir Co. v. City of Golden*[51] the supreme court defined duty of water as "that measure of water, which, by careful management and use, without wastage, is reasonably required to be applied to any given tract of land for such period of time as may be adequate to produce therefrom a maximum amount of such crops as ordinarily are grown thereon."[52] In *Weibert v. Rothe Brothers, Inc.*[53] the court reiterated that the change in an irrigation water right is limited to the duty of water in the original use and added that the historical use of water could, in fact, be less than the optimum rate of use implied by the duty of water.[54]

Thus, for purposes of making a change, a water right is defined not by its decree but by its historical use. The purchaser of a water right is entitled to use that water right in the same manner and with the same priority as the original user did. If the purchaser desires to change any of the elements of the right such as the point of diversion or the type, time, or place of use he will have to go through a formal change of water right proceeding.

C. *The Change Procedure*

Colorado law now provides a very expansive definition of change of water right.[55] Applications to make such changes in a water right are filed

48. *Id.* at 94, 371 P.2d at 780.

49. In the language of the court:

> Under the specific findings of the trial court that no more than 8 c. f. s. was ever applied to beneficial use, that volume of water was the full measure of the water right acquired. An asserted water right which never came into being cannot be "abandoned", and the reference to "abandonment" in the trial court's judgment is an erroneous concept the result of which is harmless in this case.

Id. at 105, 371 P.2d at 782.

50. Rominiecki v. McIntyre Livestock Corp., 633 P.2d 1064, 1067 (Colo. 1981) (en banc).

51. 129 Colo. 575, 272 P.2d 629 (1954).

52. *Id.* at 584-85, 272 P.2d at 634.

53. 200 Colo. 310, 316, 618 P.2d 1367, 1371 (1980).

54. *Id.* at 316-17, 618 P.2d at 1371-72. Orr v. Arapaho Water & Sanitation Dist., 753 P.2d 1217, 1223 n.5 (Colo. 1988).

55. The full definition given at COLO. REV. STAT. § 37-92-103(5) (1973) is:

> [A] change in the type, place, or time of use, a change in the point of diversion, a change from a fixed point of diversion to alternate or supplemental points of diversion, a change from alternate or supplemental points of diversion to a fixed point of diversion, a change in the means of diversion, a change in the place of storage, a change from direct application to storage and subsequent application, a change from storage and subsequent application to direct application, a change from a fixed place of storage to alternate places of storage, a change from alternate places of storage to a fixed place of storage, or any combination of

with the clerk of the water court.[56] The application must include: (1) a description of the water rights to be changed, (2) a map showing the approximate location of use of these rights, and (3) records of actual diversions of each right.[57] The water clerk for each division prepares a "resume" of all applications each month which is published in certain newspapers and mailed to potentially interested parties.[58]

Any party may file a statement of opposition[59] within two months following the month in which the application is filed.[60] Change applications and statements of opposition are reviewed by the water referee who is authorized to make any necessary investigations and is required to consult with the division or state engineer before entering his ruling.[61] The referee's ruling is to be made within 60 days following the end of the period for filing statements of opposition.[62] Within twenty days following the mailing of the referee's order any party may file pleadings with the water judge. These pleadings initiate an entirely new proceeding in which the court is not bound by the referee's findings.[63]

The applicant carries the burden of sustaining the application, including the "burden of showing absence of any injurious effect."[64] If this absence of injury is shown then the change shall be approved.[65] If it is determined that injury would result, any party may propose terms and conditions preventing this injury. The terms and conditions may include: (1) a limitation on the use of the water involved, (2) a relinquishment of part of the decree or another decree to prevent enlargement of use or diminution in return flows, and (3) a time limitation on the diversion of water.[66] A water court decree concerning a water right change must provide a specified period during which there may be reconsideration on the question of injury.[67]

D. *The "No Injury" Rule in Colorado*

By statute, the referee or judge should approve water right changes if they will not "injuriously affect the owner of or persons entitled to use water

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such changes. The term "change of water right" includes changes of conditional water rights as well as changes of water rights.

56. COLO. REV. STAT. § 37-92-302(1)(a) (1973 & Supp. 1988).

57. COLO. REV. STAT. § 37-92-302(2) (Supp. 1988).

58. *Id.* at § 37-92-302(3).

59. The state engineer now is specifically authorized to file such a statement. *Id.* at § 37-92-302(1)(b).

60. COLO. REV. STAT. § 37-92-302(1)(c) (1973).

61. COLO. REV. STAT. § 37-92-302(4) (Supp. 1988).

62. *Id.* at § 37-92-303(1). In instances where statements of opposition are filed, the referee may "rerefer" the application to the water judge without making a formal ruling. In addition, a contesting party may file a motion requesting such a rereferral based on his intent to protest an adverse ruling. *Id.* at § 37-92-303(2).

63. *Id.* at § 37-92-304(2), (3).

64. *Id.* at § 37-92-304(3).

65. COLO. REV. STAT. § 37-92-305(3) (1973): "A change of water right or plan for augmentation, including water exchange project, shall be approved if such change or plan will not injuriously affect the owner of or persons entitled to use water under a vested water right or a decreed conditional water right."

66. *Id.* at § 37-92-305(4).

67. COLO. REV. STAT. § 37-92-304(6) (Supp. 1988).

under a vested water right or a decreed conditional water right."[68] The issue of injury is, without question, the most commonly disputed aspect in changing a water right. At this point, the law-based elements of the no injury rule are reasonably well-defined. Factual disagreements are the primary reasons for disputes.

Courts often translate the no injury standard as protecting appropriators in the continuance of conditions of flow relied on to make their initial appropriations.[69] The underlying assumption is that if stream conditions are not adversely affected by the change then there will be no impairment to other appropriators. Two important possible sources of injury are an increase in depletion of the stream or a change in the timing of flows.

The link established between the no injury rule and maintenance of stream conditions is the requirement that any water transferred be limited in quantity and time by the historical use under the original right. In *Weibert*, the Colorado Supreme Court stated:

> The right to change a point of diversion or place of use is also limited in quantity and time by historical use. . . . "Historical use" as a limitation on the right to change a point of diversion has been considered to be an application of the principle that junior appropriators have vested rights in the continuation of stream conditions as they existed at the time of their respective appropriations.[70]

Stream conditions relied on by other appropriators must not be adversely affected by the change. Yet, because of the interdependency of users on a highly appropriated stream, any change in the point of diversion or the place, time or type of use is likely to alter stream conditions.

Beginning with *Farmers Highline Canal & Reservoir Co. v. City of Golden*[71] in 1954, the Colorado courts have emphasized an injury analysis that has been described as "an exercise in balancing depletions."[72] Essentially, this approach seeks to keep the stream intact by ensuring that the depletion of the stream by the new use does not exceed the depletion of the stream caused by the original use. Historical use is measured by the depletion it has caused.[73] To prevent an enlargement in use to the injury of other appropriators, the new use should not result in increased depletion of the

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68. COLO. REV. STAT. § 37-92-305(3) (1973).

69. *See, e.g.*, Handy Ditch Co. v. Louden Irr. Canal Co., 27 Colo. 515, 62 P. 847 (1900), where the court said:

> The general rule is that an appropriator of water for any beneficial purpose may change the place of diversion at his pleasure, provided the rights of others are not injuriously affected. This right, however, is not absolute, but is subject to the qualification just mentioned. . . . A subsequent appropriator has a vested right, as against his senior, to insist upon the continuance of the conditions that existed at the time he made his appropriation, and if a change of place of diversion by a senior interferes with, or changes those conditions to the prejudice of, a subsequent appropriator, the latter may justly complain.

Id. at 518, 62 P. at 848.

70. 200 Colo. at 317, 618 P.2d at 1371-72.

71. 129 Colo. 575, 272 P.2d 629 (1954). The City of Golden sought to change the point of diversion of certain water rights and to change the manner of use from irrigation to municipal uses. The Colorado Supreme Court held that evidence did not support the trial court's finding that no injurious effects to junior appropriators would result if the entire amount of the water rights were transferred. *Id.* at 577, 588, 272 P.2d at 630, 641.

72. L. RICE & M. WHITE, ENGINEERING ASPECTS OF WATER LAW 78 (1987).

73. *See* Danielson v. Kerbs Agric., Inc., 646 P.2d 363, 373 (Colo. 1982) (en banc).

stream.[74]

The trial court decree quoted in *Green*[75] provides a good example of the analysis applied to a proposed change of water right from irrigation to urban use also involving a change in point of diversion and place of use. Apparently no records of diversion existed. Consequently, the court started with a calculation of the duty of water—the amount of water necessarily consumed by plant life to produce a maximum crop. This amount was determined to be ninety acre-feet of water per year. The court then assumed an efficiency rate of twenty-five percent so that the diversion of 360 acre-feet of water resulted in a consumptive use of ninety acre-feet of water. The court further determined that another five acre-feet of water was lost to the stream during conveyance from the stream to the field.[76] Thus, the court calculated total consumptive use to be ninety-five acre-feet. It then went on to note that Fort Collins would return fifty percent of the water it diverted to the stream. Therefore the court allowed the city to divert 190 acre-feet of water. The court limited the rate of diversion to no more than eight cfs and restricted diversion to the irrigation season.[77]

While most injury questions seem to turn on whether there will be an enlargement in use, a change in the location or timing of return flows may also cause injury. In *Monte Vista Canal Co. v. Centennial Irrigating Ditch Co.*,[78] the applicant proposed to change the place of use of a water right from river bottom land to land a considerable distance away from the river. Return flows from this new place of use would reach the river at a different time and place than under the original right. The court protected the downstream junior appropriators whose diversions depended on the historical pattern of return flows from the original use. More recently, in *Southeastern Colorado Water Conservancy District v. Fort Lyon Canal Co.*,[79] the supreme court reaffirmed the need to protect historical return flow patterns and clarified that this requirement extended to changes in use of storage rights as well as direct flow rights.

Colorado courts have emphasized that the determination of injury is fact specific and individual to each case. In *Vogel v. Minnesota Canal & Reservoir Co.*,[80] the court stated: "No inflexible rule, applicable in all cases where such change is sought, can be laid down. The right to have the change depends upon, and must be controlled by, the facts of each particular

74. *See Id.*

75. 150 Colo. 91, 371 P.2d 775 (1962).

76. *Id.* at 101, 371 P.2d at 780. The court attributed this loss to evaporation and seepage. Seepage that returns to stream is not consumptively lost so this holding appears to be in error. Apparently, evaporation losses during conveyance are beneficial uses that may be credited for purposes of the transfer.

77. *Id.* The irrigation season in this region is April 15 to October 15. *Id.*

78. 24 Colo. App. 496, 135 P. 981 (1913).

79. 720 P.2d 133 (Colo. 1986) (en banc). This case was a joint application for a change of storage rights in three reservoirs to enable the creation of a permanent wildlife and recreational pool in the John Martin Reservoir. The court held that this change would "cause increased consumptive use and diminished return flows, thereby injuring the vested rights of the . . . appropriators on the Arkansas River." *Id.* at 147.

80. 47 Colo. 534, 107 P. 1108 (1910).

case."[81] Consequently, even though the supreme court has considered numerous cases over the years centering on the matter of injury, there is remarkably little guidance to be found in these decisions.

In 1989 the Colorado legislature enacted a law requiring the applicant to provide a proposed decree to the water court in any case in which a statement of opposition has been filed.[82] The proposed decree is to prevent injury to other water rights.[83] This requirement is intended to encourage discussions between the applicant and opponents prior to any formal hearing on the merits of the application.

1. *Terms and conditions*

Colorado law encourages transfers of water rights by providing that injury to other water rights may be offset by imposing terms and conditions upon the transfer.[84] The statute suggests several types of terms and conditions that the court may impose.[85] In addition, all change decrees now must include a condition providing for judicial reconsideration on the question of injury for some period determined to be necessary or desirable.[86]

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81. *Id.* at 538, 107 P. at 1110.

82. S. 166, 57th Leg., 1989 Colo. Sess. Laws (codified at COLO. REV. STAT. § 37-92-305(3) (1973)).

83. *Id.*

84. COLO. REV. STAT. § 37-92-305(3) (1973). The original statutory provision for changing a point of diversion was amended in 1903 to add: "and if such injury appear, the court shall decree the change only upon such terms and conditions as may be necessary to prevent such injurious effect, or to protect the parties affected or if impossible so to do, may deny said application." Act of March 27, 1903, ch. 124, 1903 Colo. Sess. Laws 279. Early interpretation of this provision considered it to be discretionary. Thus, in Wadsworth Ditch Co. v. Brown, 39 Colo. 57, 60, 88 P. 1060, 1060 (1907), the court said: "if injury would result by allowing the change to be made absolutely, or without restrictions, nevertheless, if it can be made upon terms and conditions that necessarily will prevent or obviate the injury and protect the parties so affected, the court *may* decree the same upon such terms and conditions; . . ." (emphasis added). Then in City of Colorado Springs v. Yust, 126 Colo. 289, 294, 249 P.2d 151, 154 (1952), the court said that the right to the change "includes not only the right to change without condition, if such change can be made without substantial injury to the vested rights of others, but also the right to change subject to conditions, if injury to rights of others may thereby be avoided." In Mannon v. Farmers' High Line Canal & Reservoir Co., 145 Colo. 379, 390, 360 P.2d 417, 423 (1961) (en banc), the court tried to reconcile the cases: "[O]ur interpretation of these authorities is that they require the court to make inquiry as to whether terms and conditions are feasible and that it be satisfied as to impossibility of imposing conditions before it is justified in entering an order of dismissal of a petition."

85. The statutory language is:

(4) Terms and conditions to prevent injury . . . may include:

(a) A limitation on the use of the water which is subject to the change, taking into consideration the historic use and the flexibility required by annual climatic differences;

(b) The relinquishment of part of the decree for which the change is sought or the relinquishment of other decrees owned by the applicant which are used by the applicant in conjunction with the decree for which the change has been requested, if necessary to prevent an enlargement upon the historic use or diminution of return flow to the detriment of other appropriators;

(c) A time limitation on the diversion of water for which the change is sought in terms of months per year;

(d) Such other conditions as may be necessary to protect the vested rights of others.

COLO. REV. STAT. § 37-92-305(4) (1973).

86. COLO. REV. STAT. § 37-92-304(6) (Supp. 1988). This approach originally was approved in Cline v. McDowell, 132 Colo. 37, 284 P.2d 1056 (1955) (en banc). In this case, the applicant proposed to irrigate more land under the changed right than had been irrigated under the original right. He justified this request on the basis that the new use would be much less consumptive. The supreme court upheld a trial court decision approving the change subject to several conditions, in-

The imposition of conditions to prevent injury is illustrated in *Green*.[87] There the court limited diversions to an amount that would assure no increase in the consumptive use of water and also limited the rate and period of diversion to that historically used.[88] The case of *Farmers' Reservoir & Irrigation Co. v. Town of Lafayette*[89] provides another example of the practice of imposing conditions to prevent injury. Lafayette desired to change downstream irrigation ditch rights it had purchased for upstream domestic use. The supreme court approved several conditions imposed by the trial court to prevent injury: a limit on the rate of diversion as well as the total volume of the diversion, a limit on the period of diversion to that allowed under the original right, and a limit specifying that a certain stream flow must be available at the ditch's headgate before the city's upstream diversion can be made. The court also explicitly reduced the diversion right of the ditch company to account for the transferred ditch shares.[90]

2. *Burden of proof*

By statute, the applicant for a water right change carries the burden of showing that there will be no injurious effect.[91] In *New Cache La Poudre Irrigating Co. v. Water Supply & Storage Co.*,[92] the Colorado Supreme Court provided a rationale for this rule:

> If a change is made, it disturbs the existing order and manner of distributing water diverted from our natural streams into irrigating ditches, which is performed by public officers, and causes a modification to be made in the general adjudication decree. It is fitting that a party who asks such relief should bear the burden of proving that the vested rights of others will not thereby be infringed if it is granted. It is only the burden which is usually imposed upon the moving party in a lawsuit.[93]

In effect, the applicant carries the burden of proving a negative.[94] Perhaps because of the difficulties inherent in so doing, several decisions indicate that there may be a requirement that the protestants demonstrate some injury.[95] In *City of Colorado Springs v. Yust*,[96] the court stated: "The bur-

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cluding a five year trial period which would provide the experience needed to determine if the "experiment" was successful and that no injury had resulted.

87. 150 Colo. 91, 371 P.2d 775 (1962); *see supra* text accompanying notes 75-77.

88. *Id.* at 107, 371 P.2d at 783-84.

89. 93 Colo. 173, 24 P.2d 756 (1933).

90. Attention in this case focused on the amount of diversion rather than on the consumptive use of water. However, the court was concerned about depletion to the stream and sought to address this concern by reducing the rate of diversion allowed for the changed right and by limiting the right to divert to times when there was at least one cfs at the downstream headgate. *Id.* at 177, 24 P.2d at 758.

91. COLO. REV. STAT. § 37-92-304(3) (Supp. 1988).

92. 49 Colo. 1, 111 P. 610 (1910).

93. *Id.* at 4-5, 111 P. at 611.

94. *See* Farmers' High Line Canal & Reservoir Co. v. Wolff, 23 Colo. App. 570, 579, 131 P. 291, 294, *error dismissed*, Wolff v. Farmers' Highline Canal & Reservoir Co., 55 Colo. 457, 135 P. 789 (1913): "[T]herefore one who asserts the right to a change in the place of diversion has the burden of proving that the changes will not injuriously affect the vested rights of others, although this may involve the proof of a negative." *Id.*

95. Ackerman v. City of Walsenburg, 171 Colo. 304, 310, 467 P. 2d 267, 270 (1970); CF&I Steel Corp. v. Rooks, 178 Colo. 110, 114, 495 P.2d 1134, 1136 (1972).

den of proof on petitioner in such a proceeding requires him to meet only the ground of injury to protestants asserted by them." Subsequent decisions suggest, however, that the burden on the protestants only arises at the point that an applicant has made a "prima facie" showing of no injury.[97]

E. *Exchanges and Substituted Supplies*

Under Colorado law, rights to use water may be exchanged as well as changed. As one commentator explains:

> Exchange plans can be quite complicated in operation, but they rest on a simple concept. A user diverts water from the stream at a point which is physically desirable but at which the user has no senior diversion right. This diversion is legal if the user introduces an equivalent amount of water into the stream at another acceptable location.[98]

The practice of exchanging water developed in the late 1800s in the Cache La Poudre River and Big Thompson River valleys in northern Colorado. Water exchanges provided a means of better capturing flows in these rivers by allowing junior upstream reservoirs to divert water based on downstream senior priority rights in exchange for releases of stored water.[99] Legislation enacted in 1897 gave legal status to this practice.[100] It authorizes the owner of a reservoir to deliver stored water into a ditch or stream in exchange for an equal amount of water, less reasonable deduction for transport losses, further upstream.[101] Exchanges may only be made when they do not cause other users injury.[102]

In 1969, the legislature authorized the involuntary substitution of a water supply in exchange for the right to use another's entitlement.[103] Under this provision, a party may take a senior appropriator's entitlement so long as substituted water "of a quality and continuity to meet the require-

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96. 126 Colo. 289, 297, 249 P.2d 151, 155 (1952).

97. *In re* Application for Water Rights of Certain Shareholders in the Las Animas Consolidated Canal Co., 688 P.2d 1102, 1108 (Colo. 1984): "[H]owever, once an applicant has made a *prima facie* showing that no injury will result from a proposed change in water rights, the burden of going forward with evidence of potential injury shifts to the objectors." *Id.* (cite omitted).

98. Hallford, *Water Reuse and Exchange Plans*, 17 COLO. LAW. 1083 (1988) (footnote omitted).

99. Elwood Mead described the practice as follows:

> The beginning of reservoir construction was delayed somewhat by legal and economic obstacles. Many of the natural sites are so located that they cannot be made to serve the lands lying under the ditches which fill them. They are high enough to irrigate lands under other ditches, but without some agreement with the owners of low-lying lands the ditches which supply these lands with water could not be utilized. What was necessary was a system of exchanges of water, by which the upper ditch could throw the water stored in its reservoirs into the lower ditches and be permitted to take in lieu thereof an equivalent amount of water from the stream. A system of transfer of this kind has been worked out. At first it was based only on custom and neighborhood agreement, but later it was sanctioned by law and is an important contribution to irrigation legislation, not only in Colorado, but as an example in other States.

E. MEAD, *supra* note 42, at 171-72.

100. Act of April 9, 1897, ch. 58, 1897 Colo. Sess. Laws 176. This law, virtually unchanged, presently is codified at COLO. REV. STAT. §§ 37-83-101 to -104 (1973).

101. COLO. REV. STAT. § 37-83-104 (1973). Measuring devices must be constructed and maintained to allow the division engineer to administer the exchange. *Id.* at § 37-83-102.

102. *Id.* at § 37-83-104.

103. *Id.* at §§ 37-80-120(2) to -120(4).

ments of use to which the senior appropriation has normally been put" is provided.[104] Approval by the state engineer of these substitute supply plans is necessary.[105]

In 1981, the Water Right Determination and Administration Act was amended to provide for water court approval of an exchange.[106] In an exchange proceeding, the original priority date of the exchange will be recognized and preserved unless, to do so, would be contrary to the manner in which such exchange has been administered.[107]

The City of Denver started the practice of seeking a decree for an exchange as a beneficial use of water.[108] This approach recognizes that exchanges require the utilization of flows between different points on a stream and that there is a limited capacity in any stream to make such exchanges. The effect of obtaining an exchange decree is to protect the priority of right to use the stream for this purpose. Such decrees have become more common in recent years.

The sufficiency of an exchange arrangement depends on several factors including the quantity of the exchange water, the location of exchange water deliveries, the timing of those deliveries, and the quality of the exchange water.[109] As required by statute, the exchange water must be sufficient in quality and quantity to meet the senior appropriator's normal requirement of use.[110] Water courts now are defining the meaning of these and other requirements associated with the use of exchanges.[111]

F. *Plans for Augmentation*

Colorado water law contains a unique provision authorizing the creation of plans for augmentation.[112] Originally envisioned as a device for integrating existing appropriations of tributary groundwater into the priority system for surface diversions,[113] the major use of augmentation plans is to allow new, out-of-priority uses of water to proceed so long as "augmenta-

104. *Id.* at § 37-80-120(3).

105. Such approval is not explicitly required by the statute but may be implied. The statute does provide that such plans "may be confirmed by court order as provided for determining water rights." *Id.* at § 37-80-120(2).

106. COLO. REV. STAT. § 37-92-302(1)(a) (Supp. 1988): "[A]ny person who desires . . . approval of a proposed or existing exchange of water under section 37-80-120 or 37-83-104 . . . shall file with the water clerk in quadruplicate a verified application setting forth facts supporting the ruling sought. . . ."

107. *Id.* at § 37-92-305(10).

108. Saunders, *Reflections on Sixty Years of Water Law Practice*, Natural Resources Law Center Occasional Paper 17-18 (1989).

109. Hallford, *supra* note 98, at 1084.

110. COLO. REV. STAT. § 37-92-305(5) (1973). *See also id.* at § 37-80-120(3).

111. For a discussion of recent water court decisions see MacDonnell, *Water Quality and Water Rights in Colorado* (Natural Resources Law Center Research Report, July 1989).

112. COLO. REV. STAT. § 37-92-103(9) (Supp. 1988). An augmentation plan is defined as:

> [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 a pooling of water resources, by water exchange projects, by providing substitute supplies of water, by the development of new sources of water, or by any other appropriate means.

113. *See Underground Water, supra* note 3.

tion" actions are taken to protect existing water rights.[114] Augmentation plans permit the development and use of tributary groundwater in fully appropriated areas by replacing all depletions to the stream resulting from that use—typically through the retirement of an existing consumptive water right.[115] Many changes in water rights in Colorado occur in connection with plans for augmentation.

Applying for an augmentation plan is similar to applying for other water rights; the proponent must file an application with the water court.[116] The water court then uses the same standard of review it uses for a change of water right—that the plan will not result in injury to existing water rights.[117] The water court may impose terms and conditions to offset injury, and the court must retain jurisdiction for some period to reconsider the matter of injury.[118] The statute requires consideration of the depletions "in quantity and in time" associated with the use of water under the augmentation plan and the amount and timing of the replacement water being provided.[119] Decrees approving augmentation plans must require curtailment of any out-of-priority diversions when the associated depletions are not being replaced so as to prevent injury.[120]

A major attraction of the augmentation plan provision is that it permits new uses of water to occur in heavily appropriated areas so long as means are found to replace depletions from the new use. Common sources of replacement water include existing direct flow and storage rights, effluent from use of imported water,[121] and nontributary groundwater. Exchanges and substitute supplies may be used as part of an augmentation plan. Concern has been raised about the hydrologic uncertainties and the complexity in administration associated with many augmentation plans.[122] Experience to date, however, has been generally positive.[123]

G. *Temporary Changes of Water Rights*

Colorado law authorizes the temporary loan or exchange of a water right.[124] The exchange or loan may only be between those taking water from the same stream, and it must be either for the purpose of saving crops or for using the water in a more economical manner.[125] There is no need to obtain a court decree for a temporary loan or exchange;[126] however, notice

114. *See* MacDonnell, *Plans for Augmentation: A Summary* in TRADITION, INNOVATION, AND CONFLICT: PERSPECTIVES ON COLORADO WATER LAW (L. MacDonnell ed. 1987) [hereinafter *Augmentation Plans*].

115. *See, e.g.*, Cache La Poudre Water Users Ass'n v. Glacier View Meadows, 191 Colo. 53, 550 P.2d 288 (1976).

116. COLO. REV. STAT. § 37-92-302(1)(a) (1973).

117. *Id.* at § 37-92-305(3).

118. COLO. REV. STAT. § 37-92-304(6) (Supp. 1988).

119. *Id.* at § 37-92-305(8). *See also* Weibert v. Rothe Bros., 200 Colo. 310, 618 P.2d 1367 (1980).

120. COLO. REV. STAT. § 37-92-305(8) (Supp. 1988).

121. *See* the discussion of imported water *infra*, text accompanying notes 159-65.

122. *See Augmentation Plans, supra* note 114, at 157-60.

123. *Id.* at 161.

124. COLO. REV. STAT. § 37-83-105 (1973).

125. *Id.*

126. Fort Lyon Canal Co. v. Chew, 33 Colo. 392, 401, 81 P. 37, 40 (1905).

in writing must be given to the division engineer and must include the length of time during which the loan or exchange will last.[127]

This provision, originally enacted in 1899, was challenged as unconstitutional in the 1905 case of *Fort Lyon Canal Co. v. Chew*.[128] The Colorado Supreme Court provided somewhat grudging approval of the temporary transfer, noting that since it had already approved permanent changes of water rights, "[i]t would seem to follow from this that the lesser right temporarily to exchange or loan water should be attended with the same results. . . ."[129] Just as a permanent change is conditioned by the requirement that there be no injury to other water rights, so too must such temporary changes be limited. In the event of a challenge to any loan or exchange the proponent of the temporary change must affirmatively demonstrate that no injury will result.[130]

H. *Transfers Involving Special Categories of Water*

The Colorado legal system has managed to transform the physically uniform substance of water into a sometimes bewildering array of distinctive legal categories. These legal distinctions can be important in understanding Colorado water transfer law. This section discusses designated groundwater, nontributary groundwater, imported water, salvaged water, conditional water rights, contract water, interstate transfers, and tribal water.

1. *Transfers of designated groundwater*

The special statutory scheme that applies to groundwater within Colorado's eight designated basins authorizes the change in a permit right.[131] The specific changes authorized include the acreage served, the volume of appropriation,[132] the place, time, or type of use, and the well location.[133] Application for the change is made to the Colorado Ground Water Commission which then provides public notice of the application and date of hearing.[134] The change may only be granted subject to "such terms and conditions as will not cause material injury to the vested rights of other appropriators."[135]

In *Danielson v. Kerbs Agriculture, Inc.*[136] the Colorado Supreme Court ruled that the standards governing a change in a designated groundwater right should be the same as those applying to other appropriative water rights. That case involved the standard of review for changing the place of use of designated groundwater appropriated under a permit specifying its use on certain land. The court specifically required that the issues of possi-

127. COLO. REV. STAT. § 37-83-105 (1973).
128. 33 Colo. 392, 394, 81 P. 37, 37 (1905).
129. *Id.* at 402, 81 P. at 40.
130. Bowman v. Virdin, 40 Colo. 247, 90 P. 506 (1907).
131. COLO. REV. STAT. § 37-90-111(1)(g) (Supp. 1988).
132. *Id.* The volume may not be increased beyond that permitted prior to basin designation.
133. *Id.*
134. COLO. REV. STAT. § 37-90-112 (1973) requires notice to be published in a newspaper of general circulation in the county or counties where the activities are located.
135. COLO. REV. STAT. § 37-90-111(1)(g) (Supp. 1988).
136. 646 P.2d 363, 372 (Colo. 1982).

ble increases in historical consumptive use and reductions in return flows be considered in determining if the change would cause material injury.[137] The court equated the "material injury" standard with the "injuriously affected" standard and concluded that both express the policy that a change of a water right may be allowed only when the change will not cause unreasonable harm to a prior appropriator.[138]

Under the Colorado Ground Water Management Act, groundwater management districts may be established.[139] These districts are authorized to regulate the use, control, and conservation of the groundwater within their area.[140] Among the powers available to these districts is the power to prohibit use of groundwater outside their district boundaries if this use would materially injure other users within the district.[141]

W-Y Ground Water Management District v. Goeglein[142] clarified the procedure for changing places of use involving designated groundwater. In this decision the Colorado Supreme Court explained that a change in place of use of designated groundwater must first be authorized by the ground water commission.[143] Then the change may be approved by the district board if it has established such a requirement.

The case of *Danielson v. Vickroy*[144] illustrates the relationship between designated groundwater and other water in the context of a change proceeding. Vickroy held a ditch right for water diverted from Kiowa Creek, an intermittent stream. Using a water court proceeding, Vickroy sought to change the point of diversion to a well in the alluvial aquifer underlying the creek. The proposed well was within the boundaries of a designated ground water basin and a ground water management district. The district objected to the change on the basis that the ground water commission had exclusive jurisdiction to consider this application. After reviewing the separate statutory schemes for designated groundwater and other appropriable water, the Colorado Supreme Court concluded that the creation of a designated basin places the groundwater within that basin under the jurisdiction of the ground water commission.[145] If the commission or, upon appeal, the district court determines that the groundwater being sought in the change proceeding is not designated groundwater then the application may be considered by

137. *Id.* at 370. One additional consideration was whether there was unappropriated water available for the increased usage.

138. *Id.* at 372.

139. COLO. REV. STAT. § 37-90-118 (Supp. 1988).

140. COLO. REV. STAT. § 37-90-130(2) (1973 & Supp. 1988).

141. COLO. REV. STAT. § 37-90-130(f) (1973). A procedural issue involving this provision was decided in North Kiowa-Bijou Management District v. Ground Water Comm'n, 180 Colo. 313, 505 P.2d 377 (1973). There the district board had denied an application to use designated groundwater outside the district area. The case concerned whether the appeal from this denial should go to the Ground Water Commission or to the district court. The court held that the commission does not have authority to review such decisions by the district.

142. 196 Colo. 230, 585 P.2d 910 (1978).

143. *Id.* at 233, 585 P.2d at 911. The court referred to COLO. REV. STAT. § 37-90-107(1) (1973) which states: "[T]he place of use shall not be changed without first obtaining authorization from the ground water commission."

144. 627 P.2d 752 (Colo. 1981).

145. *Id.* at 759.

a water court.[146]

2. *Transfer of nontributary groundwater*

In 1985, the Colorado legislature firmly established a right to groundwater in certain locations and formations based on land ownership rather than appropriation.[147] Complex legislation, commonly known as Senate Bill 5, established two categories of groundwater: "nontributary" groundwater[148] and groundwater within aquifers in the area known as the Denver Basin.[149]

Allocation of nontributary and Denver basin groundwater is based on two factors: the quantity of water underlying the land and an aquifer life of 100 years.[150] The state engineer determines the total water recoverable from a specific aquifer, and the water then is apportioned based on overlying acreage.[151] Total annual withdrawals are limited to one percent of the total recoverable water underlying the land area.[152]

Either the landowner or one having the consent of the landowner may use the nontributary groundwater.[153] Before a well is installed, a permit must be obtained from the state engineer.[154] Rights to nontributary groundwater may also be adjudicated in a water court proceeding.[155] Once established, the nontributary groundwater right closely resembles other appropriative groundwater rights. It provides the right to pump a certain quantity of water annually from a specified well location for designated types and places of use. Presumably, changes in these water rights would be subject to the traditional no injury requirement.

The transferability of nontributary groundwater should be facilitated by its status as water effectively owned by the overlying landowner. This water is not available for appropriation, and its development is contingent upon a determination of replacement to the stream necessary to offset depletions.[156] By statute, developed nontributary groundwater becomes available for appropriation when no longer under the dominion of the user.[157] If dominion

146. *Id.* at 759-60.

147. Act of June 6, 1985, ch. 285, 1985 Colo. Sess. Laws 1160 (codified as COLO. REV. STAT. § 37-90-102 (1973)). *See generally* Paddock, *Nontributary Ground Water: A Continuing Dilemma* in TRADITION, INNOVATION AND CONFLICT: PERSPECTIVES ON COLORADO WATER LAW (L. MacDonnell ed. 1987) (background on nontributary groundwater law and critique of the legislation).

148. Nontributary groundwater is defined as "that groundwater, located outside the boundaries of any designated groundwater basins in existence on January 1, 1985, the withdrawal of which will not, within 100 years, deplete the flow of a natural stream, . . . at an annual rate greater than one tenth of one percent of the annual rate of withdrawal." COLO. REV. STAT. § 37-90-103(10.5) (Supp. 1988).

149. *Id.* at § 37-90-137(4)(a). Within the Denver Basin aquifers there is a subcategory referred to as "not nontributary." *Id.* at § 37-90-137(9)(c).

150. *Id.* at § 37-90-137(4)(b).

151. 2 COLO. CODE REGS. § 402-7, Rule 8 (1986).

152. *Id.*

153. COLO. REV. STAT. § 37-90-137(4)(b)(II) (Supp. 1988).

154. *Id.* at § 37-90-137(1).

155. *Id.* at § 37-90-137(6); *id.* at § 37-92-302(2) & 305(ii).

156. Replacement requirements vary depending on whether the water is nontributary or in one of the Denver Basin formations. *Id.* at § 37-90-137(9)(b) & (c).

157. *Id.* at § 37-82-101(1).

over nontributary groundwater is maintained, then it may be used to extinction without regard to return flow obligations. In this sense, nontributary groundwater is treated the same as imported or foreign water.[158]

3. *Imported or foreign water*

Water introduced into a stream system from a completely unconnected stream system, known as imported or foreign water, is accorded special status under Colorado law. By statute, the appropriator of imported or foreign water "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 with which it is introduced."[159] In *City and County of Denver v. Fulton Irrigating Ditch Co.*,[160] the supreme court held that Denver was entitled to reuse, make successive use of, and, after use, make disposition of water that it imports to the Front Range from the West Slope of Colorado.[161] The appropriator must keep careful records accounting for the quantities of imported water that it uses. When released from the dominion of the user, imported water becomes available for use by downstream users but no permanent rights to this water may be established by these users.[162]

Because this water, like nontributary groundwater, is not part of the native flows upon which in-basin appropriators may rely for satisfying their rights, imported water provides an unusually flexible source of supply. So long as it remains within the dominion and control of the user, imported water may be used and reused to extinction.[163] Thus, for example, the effluent from the use of imported water may be the basis for exchange, allowing the user to trade this water for another's right to use water.[164] The effluent could be released as substitute supplies under a plan for augmentation allowing the user to divert additional water.[165] The effluent resulting from use of the imported water also could be leased or sold to another for their use. These kinds of additional uses of imported water are increasing.

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158. *See infra* text accompanying notes 159-65.

159. COLO. REV. STAT. § 37-82-106(1) (Supp. 1988).

160. 179 Colo. 47, 506 P.2d 144 (1972).

161. The court defined "reuse" as the subsequent use of imported water for the same purpose as the original use, "successive use" as the subsequent use by the water imported for a different purpose, and "disposition" as selling, leasing, exchanging or otherwise disposing of the already used water. *Id.* at 56-58, 506 P.2d at 146-47.

162. The statute provides: "[S]uch water, when released from the dominion of the user, becomes a part of the natural surface stream when 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. . . ." COLO. REV. STAT. § 37-82-106(2) (Supp. 1988).

163. In Water Supply & Storage Co. v. Curtis, 733 P.2d 680 (Colo. 1987), applicants sought the right to maintain control of and reuse native water—that is, water originating in and part of the watershed in which the use was proposed. The court denied this request because there was no demonstrated beneficial use for the reuse water. *Id.* at 685.

164. *See* Hallford, *supra* note 98.

165. *See* Porzak, *Innovative Transfer and Exchange Plans* in TRADITION, INNOVATION AND CONFLICT: PERSPECTIVES ON COLORADO WATER LAW 200-02 (L. MacDonnell ed. 1987). *See also supra* text accompanying notes 112-23.

4. *Transfers of salvaged water*

Generally, the transfer of a water right is limited to its historical consumptive use—essentially the depletion of the stream caused by the diversion of water and application of that water to beneficial use.[166] In the case of irrigation, depletions result from use by crops, evaporation losses, use by other vegetation, and ground seepage that is lost to the stream. Salvaged water is water otherwise unavailable for beneficial use that is saved by some means and made available.[167] The law in Colorado concerning the legal status of salvaged water is unclear.

An effort to gain rights to salvaged water through eradication of phreatophytes such as willow and cottonwood trees along the Arkansas River was struck down by the supreme court.[168] The water consumed by these plants, the court held, belonged to the stream—not to the salvager.[169] In another decision the court struck down an effort to create a water right based on evaporation and transpiration losses that would be eliminated through removal of peat moss.[170] In another case the court refused to recognize a water right based on reduction in evaporation by cutting down pine trees.[171] In these cases the Colorado Supreme Court has determined that a water right independent of the priorities of other existing rights cannot be established by a reduction of consumptive use.

Still unanswered, however, is whether someone may be able to salvage a portion of an existing right that presently is being evaporated, consumed, or otherwise lost to beneficial use and either expand his own use or transfer the salvaged water provided no injury to other water rights results. At least one early Colorado case seems to approve the idea that economical use of one's water could enable the use of the saved portion on additional lands.[172] A recent note in the *University of Colorado Law Review* argues that the salvager of water historically consumed or otherwise lost to other beneficial use under an irrigation right should be able to make another use of the salvaged water with the original priority date so long as there is no injury to other appropriators.[173] It also seems possible that water salvage activities, other than those

166. *See supra* text accompanying notes 41-54.

167. Strictly speaking, salvaged water should only refer to water previously consumed or otherwise unavailable for beneficial use by another appropriator.

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

169. *Id.*

170. R.J.A., Inc. v. Water Users Ass'n of Dist. No. 6, 690 P.2d 823 (Colo. 1984).

171. Giffen v. City & County of Denver, 690 P.2d 1244 (Colo. 1984). The applicant argued that the branches of pine trees catch snow and much of the water content of the snow evaporates before it ever reaches the ground. Cutting the tree would allow the snow to reach the ground thereby providing additional water to the system.

172. Cache La Poudre Irr. Co. v. Larimer & Weld Reservoir Co., 25 Colo. 144, 150, 53 P. 318, 321 (1898), *overruled on other grounds*, Enlarged Southside Irr. Ditch Co. v. John's Flood Ditch Co., 116 Colo. 580, 183 P.2d 552 (1947). "An 'enlarged use' may mean that more land is being irrigated with the same quantity of water than formerly was employed in irrigating fewer acres. It does not necessarily imply that a greater volume is required. . . . Might not the same quantity be used, through more economical methods of spreading the water, or possibly by not so complete saturation?"

173. Note, *Water Use Efficiency and Appropriation in Colorado: Salvaging Incentives for Maximum Beneficial Use*, 58 U. COLO. L. REV. 657, 658 (1988).

involving phreatophyte removal, could be developed as part of a plan for augmentation.[174] The absence of any such efforts to date, however, may reflect the relatively small amount of water that can be realized in most situations compared with the cost. Better technical analysis of the amount of water salvageable without injury to other water users is needed.

5. *Transfer of a conditional water right*

A conditional water right[175] is considered a vested property interest under Colorado law.[176] Changes of conditional water rights are specifically authorized by statute.[177] As a general matter the rules applying to the change of any water right also apply to a change of a conditional water right.

In fact, however, there are some peculiarities in the case of conditional water rights that raise special issues. No water has ever been diverted and applied to a beneficial use in the case of a conditional water right; there is only the specific intent to do so, coupled with overt actions sufficient to give notice of that intent.[178] These rights are protected only to the extent that due diligence in pursuing actual development is exercised.[179] A change may involve a completely different use of the water in contravention of the intent upon which the right was granted. Or the change may be made as a means of developing an otherwise infeasible project.[180]

Nevertheless, changes of conditional water rights have been permitted in several Colorado cases.[181] The special problems in evaluating injury have been considered in these cases. *Twin Lakes Reservoir and Canal Co. v. City of Aspen*[182] involved the change of a water right supplied by transmountain diversions from irrigation to municipal, industrial, and other uses. Much of the water right had been conditional between 1930 when it was originally initiated and 1973 when it was made absolute.[183] In considering whether the change would injure junior appropriators on the West Slope, the water court determined that the total diversion after the change proposed by the applicant would not equal the total diversion "contemplated" under the original conditional decree so that there would be no injury.[184] The supreme court

174. COLO. REV. STAT. § 37-92-103(9) (Supp. 1988): " '[P]lan for augmentation' does not include the salvage of tributary waters by the eradication of phreatophytes, nor does it include the use of tributary water collected from land surfaces which have been made impermeable, thereby increasing runoff but not adding to the existing supply of tributary water."

175. *See supra* text accompanying notes 14-15.

176. Mooney v. Kuiper, 194 Colo. 477, 479, 573 P.2d 538, 539 (1978).

177. COLO. REV. STAT. § 37-92-103(5) (1973). "The term 'change of water right' includes changes of conditional water rights as well as changes of water rights." *Id.*

178. Hallford, *Developments in Conditional Water Rights Law*, 14 COLO. LAW. 353, 354 (1985).

179. COLO. REV. STAT. § 37-92-301(4) & -305(9)(b) (1973 & Supp. 1988). Rocky Mtn. Power Co. v. White River Elec. Ass'n, 151 Colo. 45, 376 P.2d 158 (1962); Colorado River Water Conservation Dist. v. City & County of Denver, 642 P.2d 510 (Colo. 1982).

180. Harrison & Wigington, *Converting Conditional Water Rights to Instream Flow Protection: A Property Transfer Strategy*, Proceedings from Water as a Public Resource: Emerging Rights and Obligations at 10-11 (June 1987) (Natural Resources Law Center, University of Colorado School of Law) [hereinafter Harrison & Wigington].

181. *Id. See also* Hallford, *supra* note 178.

182. 193 Colo. 478, 568 P.2d 45 (1977).

183. *Id.* at 481, 568 P.2d at 47.

184. *Id.* at 483-84, 568 P.2d at 49-50.

upheld this approach.[185]

A change in use has been permitted for a conditional water right originally intended to be part of a hydropower project.[186] An oil shale company purchased a conditional right and wanted to change the right's use as well as its point of diversion since the original point had been included in a wilderness area.[187] Against the argument that the original conditional right had been rendered worthless because diversion facilities could no longer be constructed in the planned location, the water court held that a change in point of diversion is fundamental and must be permitted subject only to the no injury requirement.[188] The water court explicitly used the "contemplated diversion" standard to determine the transferable quantity of water.[189]

6. *Transfers of contract water*

Water may be supplied for use under contract by another individual or entity holding the appropriative water right.[190] The rights to such water are primarily defined by the terms of the contract, and are voluntarily established.[191] Colorado law does affect contract rights in some circumstances. For example, a carrier ditch company[192] is required by statute to provide water to the classes of users it is incorporated to serve "whenever it has water in its ditch unsold,"[193] and to have the rates for furnishing such water fixed by the board of county commissioners.[194] Contract provisions have been struck down in several cases because they were found to be inequitable

185. Since this water is transferred out of basin there is no return flow issue. Hallford suggests that the standard should be characterized as "contemplated consumption" rather than contemplated draft or diversion. Hallford, *supra* note 178, at 358.

186. *In re* Gulf Oil Corp., No. W-2686, (Water Division No. 5, Colo. Dec. 5, 1979).

187. *Id.*

188. In his written decree in this case, Judge Lohr discussed the policy issues involved in changing a conditional water right stating:

> [F]undamental questions of policy inhere in a decision whether conditional water rights should be subject to changes of points of diversion and of use—a conditional water right which might be uneconomical to develop at its original location might become economically attractive at a new point of diversion or for application to a different beneficial use. Thus, a change of such a conditional water right might result in development of a project which would never have burdened the stream were the change not permitted.

Id.

Harrison & Wigington, *supra* note 180, at 3-4, argue that allowing market transactions in conditional water rights promotes efficient use of water resources since it assures that ultimate water development under a conditional water right may be determined not just by the original conditional appropriator but by the market test of who is willing to spend the money needed to develop the resource. They state:

> [I]n terms of the most economic, efficient, or optimal public allocation of water, the first proposed plan may not be the best one. But it may nevertheless enjoy the doctrine of relation back, and since the plan also constitutes transferable property, the problem of a less than optimal allocation can be addressed in a private market transaction. In effect, one test of whether a later plan is clearly better is whether it can buy out the earlier.

Id.

189. Once again, this case involved a transbasin diversion so return flows were not an issue.

190. For a discussion of water supply organizations see *infra* text accompanying notes 236-76.

191. *Id.*

192. A carrier ditch company supplies water to users for profit. A mutual ditch company supplies water to its shareholders and does not carry water for general sale. Nelson v. Lake Canal Co., 644 P.2d 55 (Colo. Ct. App. 1981).

193. COLO. REV. STAT. § 7-42-107 (replaced 1986).

194. *Id.*

to the water users.[195]

A recent Colorado decision upheld the right of owners of a carrier ditch to obtain a change of use for water after the contract consumers had forfeited the use.[196] Objectors argued that as contract users on the ditch they should have a preferential right to contract for any water that becomes available before the owners take the water for their own use.[197] The court found no such duty either as a matter of Colorado law or the carrier ditch's charter or by-laws.[198]

There are important differences between the legal right to change a water right and the right to change a water contract. The decision in *Green v. Chaffee Ditch Company*[199] illustrates the nature of these differences. Holders of a contract right for irrigation water supply sought to sell this right to a city.[200] Originally, the right had been based on an appropriation but the appropriative right was conveyed to a ditch company in 1870 in return for a contract right to an equivalent amount of water for the irrigation of certain described land.[201] The supreme court noted that "[s]uch a contracted right is far different from the 'water right' acquired by [the original appropriator]. Originally the right [of this appropriator] had the status of real property and could be conveyed without reference to the land on which it had been used."[202] Following his agreement with the ditch company, the former appropriator "becomes only a consumer whose rights were determined by contract. . . ."[203] The supreme court held that the contract did not allow the proposed transfer.[204]

The limitations of changing a water contract are further illustrated in *Merrick v. The Fort Lyon Canal Company*.[205] In this case the supreme court considered an augmentation plan to use out-of-priority tributary groundwater in a new greenhouse.[206] The plan sought to replace depletions by foregoing use of a portion of water supplied by a canal company under a "water deed."[207] The water deed had been established in 1890 and provided permanent rights to the delivery of a specified amount of water during the irrigation season in exchange for the conveyance of the appropriative water rights.[208] Because the agreement limited use of the water to domestic and irrigation uses on the described lands, the canal company objected to the

195. *See, e.g.*, Wheeler v. Northern Colo. Irr. Co., 10 Colo. 532, 17 P. 487 (1887) (fee for the water in addition to the carriage charge struck down); White v. Farmers' Highline Canal & Reservoir Co., 22 Colo. 191, 43 P. 1028 (1896) (contract provision allowing users to determine the amount of water to which he is entitled and to take that amount regardless of other users' rights struck down).

196. City of Westminster v. City of Broomfield, 769 P.2d 490 (Colo. 1989).

197. *Id.* at 491-92.

198. *Id.* at 494.

199. 150 Colo. 91, 371 P.2d 775 (1962).

200. *Id.* at 94, 371 P.2d at 777.

201. *Id.* at 98, 371 P.2d at 777.

202. *Id.* at 99, 371 P.2d at 779.

203. *Id.*

204. *Id.*

205. 621 P.2d 952 (Colo. 1981).

206. *Id.* at 953.

207. *Id.* at 954.

208. *Id.* at 953.

proposed augmentation use.[209] The court ruled that the use of water is limited by the terms of the deed and denied the application to change its use to allow groundwater development under an augmentation plan.[210] Thus the transferability of contract water rights in Colorado depends on the terms of the contract.

The U.S. Bureau of Reclamation is a major supplier of contract water in Colorado and other western states. Bureau of Reclamation projects supplied about 2.4 million acre-feet of water for use in Colorado in 1986.[211] In most cases, a conservancy district established under Colorado law[212] holds the appropriative water rights and allocates the water from the Reclamation project to users within the district on some kind of contract or allotment basis.[213] There are considerable differences in approach among the districts. For example, the Southeastern Colorado Water Conservancy District allocates water from the Fryingpan-Arkansas project by administrative decision of the board of directors.[214] In contrast, the Northern Colorado Water Conservancy District provides water from the Colorado-Big Thompson project on the basis of permanent allotment contracts that may be freely traded among users with minimal oversight by the District.[215] Colorado law specifically empowers conservancy district boards to allocate and reallocate water and provide for the transfer of water.[216]

7. *Interstate transfers*

Colorado law subjects the right to transport water out of state to several conditions.[217] The proposed use of water outside of Colorado either must be expressly authorized by interstate compact, be credited as a delivery under a compact, or be determined not to impair Colorado's ability to comply with its legal obligations to other states.[218] The use must be found consistent with the reasonable conservation of Colorado's water resources.[219] And the proposed out-of-state use must not limit in-state beneficial uses of water allo-

209. *Id.* at 954.

210. *Id.* at 955-56.

211. Bureau of Reclamation, 1986 Summary Statistics, Vol. 1, Water, Land, and Related Data, at 73.

212. Statutory provisions governing conservancy districts are found at COLO. REV. STAT. §§ 37-45-101 to -153 (1973 & Supp. 1988).

213. A repayment contract entered into between the district and the Bureau of Reclamation establishes the payment requirements. It may also contain provisions affecting the transferability of water provided by the Bureau project.

214. Allocation Principles adopted on November 29, 1979 specify that a minimum of 51 percent of project water goes to municipal and domestic uses. This water is specifically apportioned among the Fountain Valley Pipeline (the Colorado Springs area), Arkansas Valley towns east of Pueblo, and Pueblo. Irrigation water is allocated two times per year on the basis of applications to the board. The water is considered supplemental and will only be provided to those already holding base supply irrigation water rights. Project water will not be supplied to persons or entities to replace water rights that have been sold. Southeastern Colorado Water Conservancy District, Water Allocation Policy (amended October 22, 1981).

215. Howe, Schurmeier & Shaw, *Innovation in Water Management: Lessons from the Colorado Big Thompson Project and Northern Colorado Water Conservancy District*, in SCARCE WATER AND INSTITUTIONAL CHANGE (K. Frederick ed. 1986).

216. COLO. REV. STAT. § 37-45-134(c) & (d) (1973).

217. COLO. REV. STAT. § 37-81-101(3) (Supp. 1988).

218. *Id.* at § 37-81-101(3)(a).

219. *Id.* at § 37-81-101(3)(b).

cated for use by interstate compact or by judicial decree.[220] In addition, a fee of $50 per acre-foot is assessed against all water exports.[221]

This legislation replaced provisions that essentially prohibited the transport of surface water or groundwater for use out-of-state. It was enacted in response to *Sporhase v. Nebraska*,[222] a U.S. Supreme Court decision that treats water as an article of interstate commerce and requires that any restrictions on the export of water not constitute an unreasonable burden on such commerce.[223] The Colorado Attorney General has issued an opinion that the export fee fails to comply with the requirements of *Sporhase* because no comparable fee is assessed on the use of water within Colorado.[224]

8. *Transfers of tribal water*

Federal law restricts the rights of tribes to lease or sell their property rights.[225] The trust limitation, however, may be waived in specific circumstances by Act of Congress. In fact Congress has enacted several pieces of legislation authorizing certain tribes to lease or sell water for off-reservation use.[226] To help settle the reserved right claims of the only two tribes with reservations in Colorado, Congress enacted the Colorado Ute Indian Water Rights Settlement Act in 1988.[227] This act essentially ratified the 1986 agreement among the Ute Mountain Ute Indian Tribe, the Southern Ute Indian Tribe, the State of Colorado, and the United States concerning the reserved rights of the tribe.[228] Water from the Dolores and Animas-La Plata projects is to be supplied to the tribes in satisfaction of these reserved water rights.[229] The agreement makes special provision for the repayment of project costs for this water.[230] An additional appropriation of $49.5 million is authorized to support tribal development.[231]

Authority for the tribes to lease or sell water off-reservation proved

220. *Id.* at § 37-81-101(3)(c).
221. *Id.* at § 37-81-104(1).
222. 458 U.S. 941 (1982).
223. *Id.*
224. Op. Colo. Att'y Gen. No. ONR 8504066/AON (Sept. 10, 1985).
225. 25 U.S.C. § 177 (1983). Known as the Indian Non-Intercourse Act, this provision states: "[N]o purchase, grant, lease, or other conveyance of lands, or of any title or claim thereto, from any Indian nation or tribe of Indians, shall be of any validity in law or equity, unless the same be made by treaty or convention entered into pursuant to the Constitution." *Id.* It is generally assumed that this provision requires Congressional assent for tribal water transfers. Getches, *Management and Marketing of Indian Water: From Conflict to Pragmatism*, 58 U. COLO. L. REV. 515, 542 n.144 (1988).
226. *See* Water Right Claims—Ak-Chin Indian Community, Pub. L. No. 95-328, 92 Stat. 409 (1978), *amended*, Ak-Chin Indian Community Water Rights, Pub. L. No. 98-530, 98 Stat. 2698 (1984) (Ak-Chin Settlement); Southern Arizona Water Rights Settlement Act of 1982, Pub. L. No. 97-293, § 306(c)(1), 96 Stat. 1274 at 1281 (1982) (Papago Settlement); Southern Arizona Water Rights Settlement Act of 1982, Pub. L. No. 97-293, § 306(c)(2), 96 Stat. 1274 at 1281 (1982) (Fort Peck Settlement); Salt River Pima-Maricopa Indian Community Water Rights Settlement Act of 1988, Pub. L. No. 100-512, § 8(d), 102 Stat. 2549 at 2555 (1988) (Salt River Pima-Maricopa Settlement); San Luis Rey Indian Water Rights Settlement Act—All American Canal Lining, Pub. L. No. 100-675, 102 Stat. 4000 (1988) (San Luis Rey Settlement).
227. Pub. L. No. 100-585, 102 Stat. 2973 (1988) [hereinafter Colorado Ute Settlement Act].
228. Colorado Ute Indian Water Rights Final Settlement Agreement, December 10, 1986.
229. Colorado Ute Settlement Act, *supra* note 227, at § 4(a).
230. *Id.* at § 6.
231. *Id.* at § 7.

highly controversial in this situation. Lower Colorado River Basin states opposed allowing the tribes to sell their water to users in that area.[232] The bill as enacted provided a general waiver of the Nonintercourse Act concerning water rights established as a part of the settlement.[233] The legislation stipulated, however, that no water supplied from the Dolores or Animas-La Plata projects may be disposed of for use in the Lower Colorado River Basin unless such a right to sell or lease water under private appropriative rights is established as the result of a compact agreement or by a decision of the U.S. Supreme Court.[234] Moreover, the legislation requires that water provided under this settlement that is to be leased or sold for off-reservation use must be established as a water right under Colorado state law and, as such, becomes subject to all laws governing state water rights.[235]

I. *Transfers and Water Service Organizations*

Much of Colorado's water has been developed for use through the efforts of water service organizations.[236] Most of these entities originally were established to provide water for irrigation. Some are organized specifically to provide water for municipal purposes.[237] This section examines the transferability of the water and water rights held by mutual ditch companies, irrigation districts, water users associations, conservancy districts, and municipalities in Colorado.[238]

1. *Mutual ditch/mutual reservoir companies*

The shareholders of a mutual ditch or reservoir company are also the beneficial users of the water and the equitable owners of the water rights and the conveyance and storage facilities.[239] Shareholders are entitled to receive a pro rata quantity of the water available to the company under its water rights based on the number of shares of stock held by the shareholder.[240] The priority of shareholders' rights to water within a mutual supply company may vary, often according to different classes of stock.[241]

A mutual supply company shareholder holds both a real and a personal

232. Protection of their interests resulted in the addition of a special restriction on disposal of waters into this part of the Basin. *Id.* at § 5(b).

233. *Id.* at § 5(a).

234. *Id.* at § 5(b).

235. *Id.* at § 5(c). This means that any arrangement to transport tribal water out of state would be subject to the limitation of COLO. REV. STAT. § 37-81-101 (Supp. 1988). *See supra* text accompanying note 217.

236. G. VRANESH, COLORADO WATER LAW § 8 (1987).

237. *Id.*

238. Carrier ditch companies have already been considered in the section on contract water. *See supra* text accompanying notes 192-98.

239. Jacobucci v. District Court, 189 Colo. 380, 387-88, 541 P.2d 667, 672-73 (1975); City & County of Denver v. Miller, 149 Colo. 96, 99, 368 P.2d 982, 984 (1962).

240. Great W. Sugar Co. v. Jackson Lake Reservoir & Irr. Co., 681 P.2d 484, 490 (Colo. 1984) (citing *Jacobucci*, 189 Colo. 380, 541 P.2d 667); Kendrick v. Twin Lakes Reservoir Co., 58 Colo. 281, 144 P. 884 (1914); and Rocky Ford Canal, Reservoir, Land, Loan & Trust Co. v. Simpson, 5 Colo. App. 30, 36 P. 638 (1894).

241. *See* Robinson v. Booth-Orchard Grove Ditch Co., 94 Colo. 515, 31 P.2d 487 (1934). It is reasonable for the company to place a greater assessment on the classes of stock with an earlier priority to reflect the benefits that each class of stock receives. This assumes that the earlier the priority, the more frequent the service. Alternatively, priority may be established by contract be-

property right.[242] Shares of stock are deemed personal property[243] that may be transferred in a manner consistent with state law and the company's bylaws.[244] A transfer involves both the assignment of the stock certificate and the application of water to a beneficial use by the transferee.[245] If the transfer involves a change of the water right, the transfer must be judicially approved.[246]

As with other appropriative rights, such a change is subject to the no injury rule.[247] Because of the unique interrelationship among shareholders in a mutual company, courts have developed a more restrictive reading of the no injury rule in shareholder change proceedings.[248] Established patterns of usage may not be altered to the detriment of other shareholders.[249]

The water court can use its general authority to impose terms and conditions on the transfer to prevent potential injury to the remaining shareholders.[250] For example, irrigation lands that were severed from their ditch company water right have been ordered dried up and taken out of the mutual ditch company system.[251] The water court may require the transferor to guarantee the delivery to other shareholders of their pro rata share of the

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tween the company and the shareholder. *See* Perdue v. Ft. Lyon Canal Co., 184 Colo. 219, 223, 519 P.2d 954, 956 (1974).

242. *See Jacobucci*, 189 Colo. at 387-90, 541 P.2d at 672-74.

243. COLO. REV. STAT. § 7-42-104(4) (Repl. 1986). *C.f.* Comstock v. Olney Springs Drainage Dist., 97 Colo. 416, 419, 50 P.2d 531, 532 (1935) (shares of stock are personal property but ownership of stock in a mutual irrigation company "is but incidental to ownership of a water right") (Butler, C.J., concurring), and Southeastern Colo. Water Conservancy Dist. v. Ft. Lyon Canal Co., 720 P.2d 133, 141 (Colo. 1986) (stock ownership in a mutual company constitutes ownership of a real property interest rather than a personal property interest because these companies are not "true" corporations in a legal sense).

244. *See* Ft. Lyon Canal Co. v. Catlin Canal Co., 642 P.2d 501 (Colo. 1982). Transfer restrictions in the company's bylaws must be reasonable and not against public policy. Model Land & Irr. Co. v. Madsen, 87 Colo. 166, 285 P. 1100 (1930). The restriction will be struck down if found to be arbitrary, capricious, and/or unreasonable. *See* Zoller v. Mail Creek Ditch Co , 31 Colo. App. 99, 498 P.2d 1169 (1972); Costilla Ditch Co. v. Excelsior Ditch Co., 100 Colo. 433, 436, 68 P.2d 448, 449 (1937). A company may be found to have waived a transfer restriction by conduct recognizing the transfer. *See* Grand Valley Irr. Co. v. Lesher, 28 Colo. 273, 65 P. 44 (1901). The stock certificates should have printed on their face the restriction or a notice of availability of restrictions. *See* COLO. REV. STAT. § 7-4-108 (Repl. 1986).

245. *See* Combs v. Agricultural Ditch Co., 17 Colo. 146, 151-52, 28 P. 966, 968 (1892), followed in *Jacobucci*, 189 Colo. at 390, 541 P.2d at 674.

246. COLO. REV. STAT. § 37-92-302 (1973 & Supp. 1988).

247. *See supra* text accompanying notes 67-82.

248. *See* Brighton Ditch Co. v. City of Englewood, 124 Colo. 366, 374, 237 P.2d 116, 121 (1951) (distinguishing obligations of shareholders in a mutual ditch company).

249. *See Great W. Sugar*, 681 P.2d at 492 (citing Wadsworth Ditch Co. v. Brown, 39 Colo. 57, 88 P. 1060 (1907)). This principle ensures the ability of mutual ditch companies to carry out the fundamental purpose that distinguishes them from other forms of corporate endeavor—the spirit of mutual cooperation that is essential to ensure a fair distribution of available water to all interested parties. *Great W. Sugar*, 681 P.2d at 492 (citations omitted).

Even the loss of available water that may never be needed by the remaining shareholders may constitute an injury. *See Id.* at 493. However, as to non-shareholders, there is no such restrictive concept of injury. The fact that a shareholder intends to change his diversion point to irrigate a larger tract of land does not presumptively establish that more water will be used nor that injury will occur. *See* Fulton Irr. Ditch Co. v. Meadow Island Irr. Co., 35 Colo. 588, 86 P. 748 (1906); Cache La Poudre Irr. Co. v. Larimer & Weld Reservoir Co., 25 Colo. 144, 53 P. 318 (1898).

250. *See supra* text accompanying notes 84-90.

251. *See In re* Application For Water Rights of Certain Shareholders in the Las Animas Consol. Canal Co., 688 P.2d 1102, 1109 (Colo. 1984).

ditch company's water rights.[252] A shareholder will likely continue to be liable for his share of the ditch assessment even though he no longer takes his water from the ditch.[253] Under a recent addition to the statutes, the shareholder seeking the change may have to compensate the remaining shareholders for any increased costs caused by the requested change.[254]

Mutual ditch companies may establish requirements in their by-laws affecting the right of shareholders to transfer their shares. The legality of such provisions first was considered in *Model Land & Irrigation Co. v. Madsen*[255]. In this case a shareholder wanted to transfer water from one tract of land to another some distance away. Company by-laws required that transfers of water be approved by the board of directors. Because of concerns about loss of water to the company canal system, the board denied the proposed transfer. The supreme court upheld this denial, finding that the by-law was not against public policy or unreasonable.[256]

A few years later, the supreme court considered a dispute between two mutual ditch companies in which one had acquired stock of the other in order to use the acquired water rights on its land.[257] Here the by-law requiring approval of a transfer of water by the board of directors had been adopted after sale of the shares at issue. Under these circumstances, the court held that such a by-law could not be applied.[258]

More recently, the court considered an argument that a by-law restricting transfers of mutual ditch water should not be allowed because it would interfere with the exclusive right of the water courts to make decisions regarding water rights.[259] The court responded:

> Although the Water Right Act provides protection against a change of water right that would injuriously affect other vested water rights or decreed conditional water rights, . . . , this is not inconsistent with or frustrated by private agreements contractually limiting an owner's right to a change of water right so long as those limitations are reasonable. As the *Model* opinion recognized, severe adverse effects can result from a reduction in the volume of water flowing through a canal system. We are reluctant to deny force and effect to private agreements protecting against these adverse effects where those agreements supplement rather than frustrate the purposes of the Water Right Act.[260]

Thus, in the case of mutual ditch shares of a water right, general Colorado

252. *Id.*
253. *See Wadsworth*, 39 Colo. at 64, 88 P. at 1062.
254. COLO. REV. STAT. § 37-92-304(3.5) (Supp. 1988). An objector demonstrating material injury may be awarded his fees and costs, including the cost of any structures or measures needed to insure the continuation of his historically available surface water supply, unless the applicant has built such protective conditions into his change proposal. The applicant may be awarded fees and costs if the objector fails to show material injury or the applicant has built sufficient protective conditions into his change request and the objection has been maintained frivolously or for the purpose of harassment.
255. 87 Colo. 166, 285 P. 1100 (1930).
256. *Id.* at 168, 285 P. at 1101.
257. *Costilla Ditch Co.*, 100 Colo. 433, 68 P.2d 448.
258. *Id.* at 435, 68 P.2d at 449.
259. Ft. Lyon Canal Co. v. Catlin Canal Co., 642 P.2d 501 (Colo. 1982).
260. *Id.* at 507.

law authorizing changes of water rights may be modified by the rules and procedures established by ditch company members.

2. *Irrigation districts*

The structure of ditch companies made them inadequate for financing large irrigation projects. Responding to the need for a quasi-municipal corporation to facilitate such development, Colorado authorized irrigation districts in 1901.[261] An irrigation district holds title to the district's water rights in trust.[262] The district has the power to transfer its water rights, although prior electorate approval and a court order may be required.[263] Transfers by the district are not limited to the district boundaries. No sale of water rights may infringe on other water rights or conflict with state water law.[264] Districts formed under the 1921 Act may lease surplus waters for use within or without the district boundaries.[265]

3. *Water users associations*

Water users associations were authorized in 1905 as another type of entity able to contract with the Bureau of Reclamation to receive project water.[266] Colorado law authorizes water users associations to assess its members as necessary to repay its obligations to the Bureau.[267] There is no state statutory restriction on the transfer of water by the association or its shareholders.

4. *Conservancy districts*

Conservancy districts have an ability to tax all lands within the district irrespective of whether they directly receive water.[268] The board of directors of a conservancy district is given broad power to obtain and dispose of property, to enter contracts, and to levy taxes and assessments.[269] The board has

261. *See* Moses, *Irrigation Corporations*, 32 ROCKY MTN. L. REV. 527, 529 (1960). There are three statutory sections providing for the creation and operation of irrigation districts: COLO. REV. STAT. §§ 37-41-101 to -160 (1973) (based on the 1905 Act); COLO. REV. STAT. §§ 37-42-101 to -140 (1973) (based on the 1921 Act); and COLO. REV. STAT. §§ 37-43-101 to -189 (1973) (based on the 1935 Act and applying to districts established under either of the other two laws).

262. *See* COLO. REV. STAT. §§ 37-41-113(3), -115, 37-42-113(1) (1973).

263. *See Id.* at §§ 37-41-156, 37-42-137, 37-43-124. Under the 1905 and 1921 Acts, no electorate approval is required, but § 37-43-124, which applies to all districts, requires the approval of a two-thirds majority of the legally qualified electors. This is further confused by the Editors Note to Article 43 stating that Article 43 neither amends nor repeals other statutes. When it comes to changing a point of diversion, an irrigation district must conform to the same procedure as a private appropriator and has no greater rights. Trinchera Ranch Co. v. Trinchera Irr. Dist., 83 Colo. 451, 459, 266 P. 204, 208 (1928).

264. COLO. REV. STAT. § 37-43-128 (1973).

265. *Id.* at § 37-42-135.

266. COLO. REV. STAT. §§ 7-44-103 to -107 (replaced 1986). Federal law authorizes the Bureau of Reclamation to contract with "any . . . water user's association, . . . which is organized under state law and which has capacity to enter into contracts with the United States pursuant to the federal reclamation laws." 43 U.S.C. §§ 485(h)(d) & 485(a)(g) (1982).

267. COLO. REV. STAT. § 7-44-103 (replaced 1986).

268. COLO. REV. STAT. § 37-45-122 (1973). *See also* Kelly, *Water Conservancy Districts*, 22 ROCKY MTN. L. REV. 432, 441-45 (1950).

269. COLO. REV. STAT. §§ 37-45-118, -119, -121, -131, -134, -138 (1973 & Supp. 1988).

the authority to allocate and reallocate water within the district,[270] and to permit a beneficial user to transfer his water to other lands within the district.[271] District boundaries may be altered by petition from landowners or municipalities to either the board or the water court for inclusion of their lands within the district.[272] In 1989, the Colorado legislature authorized districts to lease or exchange water for use outside district boundaries.[273]

5. *Municipalities*

The major source of new demands for consumptive use of water in Colorado is related to urban growth. Water supplies for municipal purposes, including commercial activities, commonly are supplied either by city water departments or by special water districts in Colorado. Municipalities may obtain water by appropriation, by purchase, by condemnation, or by leasing.[274] Because of their need to plan for future growth and development, courts have allowed cities to appropriate water beyond their immediate needs.[275] Moreover, courts have allowed cities to lease surplus water for use outside of their city limits.[276]

IV. SOME SUGGESTED MODIFICATIONS

The practice of transferring the use of water is well established in Colorado. There are a number of factors, however, suggesting the need to review the present approach. These factors relate to ways to improve the existing process, to eliminate unnecessary state restrictions, and to broaden the considerations in reviewing transfer proposals.

A. *Improving the Water Transfer Review Process*

While Colorado water transfer law is extensive and somewhat complex, disputes in change-of-water-right cases turn largely on factual rather than legal issues.[277] Yet these change applications are handled as legal proceedings. Other water right holders are expected to object if they believe their rights may be injured by the change.[278] The result is an adversarial process in which a legally trained judge makes decisions largely about technical matters concerning hydrology and engineering. All participants in the case

270. COLO. REV. STAT. § 37-45-134(1)(d) (1973).
271. COLO. REV. STAT. § 37-45-134(1)(e) (1973).
272. COLO. REV. STAT. § 37-45-136 (1973 & Supp. 1988).
273. H.R. 1112, 1989 Colo. Sess. Laws (to be codified at COLO. REV. STAT. § 37-83-106).
274. G. VRANESH, COLORADO WATER LAW 950 (1987).
275. Known as the "Great and Growing Cities Doctrine," this special status was first fully articulated in City & County of Denver v. Sheriff, 105 Colo. 193, 96 P.2d 836 (1939).
276. *See, e.g.*, City of Colorado Springs v. Colorado City, 42 Colo. 75, 94 P. 316 (1908); Bd. of Comm'rs of Larimer County v. City of Ft. Collins, 68 Colo. 364, 189 P. 929 (1920). The water supply system that has been developed by the Denver Water Board considerably exceeds the needs of the City and County of Denver. Service outside of this area provides an important share of the water used in the metropolitan area. This service has had a controversial history. See the discussion in G. VRANESH, *supra* note 274, at 956-64.
277. L. HARTMAN & D. SEASTONE, WATER TRANSFERS: ECONOMIC EFFICIENCY AND ALTERNATIVE INSTITUTIONS 18-19 (1970).
278. Statements of opposition were registered in about 59 percent of the change of use cases in Colorado filed between 1975 and 1984 and approved by July 1988.

must generate legal and engineering information in support of their respective positions. A recent study of the transaction costs in change of use cases in four western states indicates that the costs in Colorado are the highest.[279]

Colorado law now allows the state engineer to file a statement of opposition in any case, and he may formally protest a ruling by the referee.[280] The referee is to consult with the division engineer or the state engineer (or both).[281] The consulted engineer is to file a written report with the referee concerning the application and any statements of opposition. If the case is again referred to the water judge by the referee, the division engineer is to file a written recommendation with the water judge. The judge may also request a written report from the state engineer.[282]

Consideration should be given to making the division engineer the finder of fact in water right cases. Under this approach, the division engineer would review all applications for their factual analysis that no injury will result. He would also review the evidence of injury presented in any statements of opposition. The conclusions of the division engineer with respect to issues of fact would be appealable to the state engineer. Since there are normally very few issues of law in such cases the division engineer could establish the proposed decree that could then be presented to the water judge for review of legal matters and final approval, disapproval, or modification.[283]

The advantage of such an approach would be to make better use of the technical expertise of the division engineer's office and the detailed knowledge of the hydrologic system among his staff. The division engineer's office already reviews the resumé of all change applications and provides technical assistance as requested by the referee and the water judge. The issues in change cases are largely factual. Giving direct authority to the division engineer to make factual determinations on questions of injury and other fact-based matters would place these issues in the hands of those with the expertise and knowledge to address them. Moreover, it might have the effect of reducing the need for other water right holders to oppose transfers, sometimes at considerable expense, in order to insure full consideration of whether their rights will be injured.

B. *Eliminating State-Level Restrictions*

There are very few absolute restrictions on water transfers in Colorado. Colorado law does recognize restrictions established as a matter of contract between a supplier and a user.[284] Court decisions also have upheld the right of collective organizations such as mutual ditch companies to establish their

279. Colby, Rait, Sargent & McGinnis, *Water Transfers and Transactions Costs: Case Studies in Colorado, New Mexico, Utah, and Nevada* (University of Arizona Dept. of Agric. Econ., July 1989).

280. COLO. REV. STAT. § 37-92-302(1)(b) (Supp. 1988) (statements of opposition) and *id.* at § 37-92-304(2) (protest or support of referee ruling). *See also In re* Wadsworth, 193 Colo. 95, 562 P.2d 1114 (1977).

281. COLO. REV. STAT. § 37-92-302(4) (Supp. 1988).

282. *Id.*

283. Water Division Seven already follows an approach very similar to the one suggested here. Interview with Darius Lyle, Division Engineer, Water Division Seven, May 11, 1989.

284. *See supra* text accompanying notes 190-210.

own internal policies concerning transferability of shares of their water rights.[285] State laws restricting the transferability of irrigation district water[286] and conservancy district water[287] should be eliminated. The general state policy favoring transferability of water resources should apply to these entities.

C. *Broadening the Considerations*

At present, Colorado law requires review of transfer applications only respecting possible injury to other water rights.[288] As one commentator has noted, litigation concerning water right changes "has been purely a property quarrel between private interests, with the express object of protecting vested water rights."[289] Yet the interests implicated in a water transfer may be considerably broader than those protected by limiting the transfer to the quantity of water historically consumed.

For example, water quality effects are considered only in connection with exchanges and plans for augmentation. In these cases, Colorado statutes specifically require that the substituted water be of a quality that will meet the needs of the senior appropriator.[290] Presumably, any proposed change causing unmitigatible water quality injury to other water rights should be denied[291] but there are no reported cases where the injury alleged from a change was based on adverse water quality effects.[292]

Instream flow values are protected only if the Colorado Water Conservation Board holds an instream flow water right potentially injured by the proposed change.[293] As of 1988, more than 1,000 instream water rights had been established under Colorado's program, representing protection of flows on more than 7,000 miles of streams and rivers largely located in the moun-

285. *See supra* text accompanying notes 255-60.

286. *See supra* text accompanying notes 261-65.

287. *See supra* text accompanying notes 268-73.

288. *See supra* text accompanying notes 68-83.

289. Carlson, *supra* note 1, at 318. Carlson further notes that "[r]esearch does not disclose one case where changes were restricted or denied in order to accommodate the proprietary interest of the 'public' or the 'people' in water." *Id.*

290. COLO. REV. STAT. § 37-92-305(5) (1973); *id.* at § 37-80-120(3). *See* MacDonnell, *Water Quality and Water Rights in Colorado* (Natural Resources Law Center Research Report, July 1989) (discussion of water court cases involving exchanges and plans for augmentation where water quality issues have been raised).

291. *See* Wilmore v. Chain O'Mines, 96 Colo. 319, 44 P.2d 1024 (1935) (pollution from one's use of water to injury of another's use of water is prohibited).

292. Whether injury can be based on increased concentration of pollutants due to loss of dilutive streamflows has not yet been determined. MacDonnell, *supra* note 290, at 32. Problems related to loss of streamflows due to out-of-basin transfers are discussed in Pratt, *A Water Transfer Case Study of Third Party Impacts and Strategies*, 1987 Water Marketing Conf. Proc. 220-21 (University of Denver College of Law) [hereinafter Pratt].

293. The legal basis for these rights is set forth at COLO. REV. STAT. § 37-92-102(3) (Supp. 1988). *See also* Shupe, *Colorado's Instream Flow Program: Protecting Free-Flowing Streams in a Water Consumptive State*, in INSTREAM FLOW PROTECTION IN THE WEST (L. MacDonnell, T. Rice & S. Shupe eds. 1989). Most rights held by the Board are based on the protection of unappropriated water. In a few instances existing consumptive water rights have been transferred to the Board and changed to instream flow use. For example, in 1988 a mining company conveyed to the Nature Conservancy a conditional water right to 20,000 acre-feet of storage and 800 cfs of direct flows in the Gunnison River. *Company Acts to Preserve Rivers in Colorado*, N.Y. Times, Apr. 9, 1988, at A1, col. 3. The Nature Conservancy intends to transfer the rights to the Colorado Water Conservation Board to help protect streamflows through the Black Canyon of the Gunnison. *Id.*

tainous areas of the state.[294] There is no consideration of instream flow values in other locations. Moreover, the instream flow program itself seeks only to protect cold water fisheries.[295] Other water-based values such as recreation and wetlands are not considered at all.

Water transfers, especially from uses in rural areas, may raise economic, social, and cultural issues.[296] Among the possible effects associated with these transfers are reduction of assessed valuation of the formerly irrigated lands, limited alternative economic uses of the land, soil erosion on the land and growth of weeds that could spread to other lands still in cultivation, and reduction in agricultural activity upon which other businesses in the area depend.[297] While some of these effects may be addressed through negotiation and stipulation between the applicant and opposers, there is no requirement for review of any of these matters.[298]

Every western state except Colorado provides for some kind of public interest review of proposed new appropriations of water and eight states subject water transfers to this kind of review.[299] The factors considered and the process followed vary considerably from state to state.[300] The strength of including some kind of public interest review is that it can provide a way to consider legitimate but presently unprotected interests. While Colorado's review of water appropriations differs from that in other states, there is no constitutional barrier to establishing a requirement that changes of water rights be in conformance with protection of interests beyond those of other water right holders.[301]

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294. Shupe, *supra* note 293, at 242.

295. *Id.*

296. An excellent discussion of these concerns is presented in L. BROWN & H. INGRAM, WATER AND POVERTY IN THE SOUTHWEST (1987). *See also* Brown & Ingram, *The Community Value of Water: Implications for the Rural Poor in the Southwest*, 29 J. OF THE SOUTHWEST 179 (1987). These concerns were directly at issue in a water transfer case in New Mexico. Sleeper v. Ensenada Land & Water Ass'n, No. RA 84-53(C), slip op. (N.M. Dist. Ct. Apr. 16, 1985), *rev'd*, 107 N.M. 494, 760 P.2d 787 (Ct. App. 1988), *cert. quashed* 107 N.M. 413, 759 P.2d 200 (1988).

The traditional pattern of water transfer from agricultural to urban use has been urban encroachment onto previously irrigated farmlands. Anderson, Wengert & Heil, *Physical and Economic Effects on the Local Agricultural Economy of Water Transfer to Cities* (Colo. State. U. Environmental Resources Center Completion Rep. No. 75, Oct. 1976). More recently, cities have been acquiring rights to water used on lands in more remote locations—even in another river basin. For example, in 1983 the City of Aurora, which is adjacent to Denver and within the South Platte River basin, purchased shares in the Rocky Ford Ditch Company located in the Arkansas River basin. *See* Pratt, supra note 292, at 216.

297. For a discussion of these and other issues in the context of a transfer in Colorado see Pratt, *supra* note 292, at 219-22.

298. For a suggested approach in the context of out-of-basin transfers see MacDonnell & Howe, *Area-of-Origin Protection in Transbasin Water Diversions: An Evaluation of Alternative Approaches*, 57 U. COLO. L. REV. 527 (1986).

299. Grant, *Public Interest Review of Water Right Allocation and Transfer in the West: Recognition of Public Values*, Proceedings from Conference on Water as a Public Resource: Emerging Rights and Obligations (Natural Resources Law Center, June 1987).

300. *Id.*

301. Carlson, *supra* note 1, at 332. Carlson suggests that it would be necessary to carefully spell out the state interests. He analogizes this kind of requirement to the police-power-based limitations placed on the right to change uses of other types of property. *Id.*

V. CONCLUSION

Colorado water law and policy strongly support voluntary transfers of water among users in the state. This favorable attitude is reflected in the number of changes of water rights within the state. Flexibility in the use of water rights allows new uses to replace old ones within the existing priority system. It reduces the need to turn to the development of increasingly scarce unappropriated water supplies. Most changes are made without great difficulty.

Over the years the Colorado system of water allocation has become strongly legalistic and complex. Change of water right proceedings often are adversarial. Disputes that are fundamentally factual are handled as legal matters. The efficiency of the process would be improved by allowing the division engineer to make determinations regarding protection of the priority system.

Review of proposed water right changes has been limited to protection of other water rights. The need for protection of other legitimate interests affected by water transfers must be addressed. These interests need to be identified and mechanisms for their protection developed.

Water transfers are an essential component of the options available for meeting Colorado's changing water needs. Historically, the water transfer process has served Colorado well. To continue to serve Colorado's interests, however, this process needs to evolve in ways that will improve its efficiency and its equity. The suggestions provided here are a step in this direction.