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WATER SAVED OR WATER LOST: THE CONSEQUENCES OF INDIVIDUAL CONSERVATION MEASURES IN THE APPROPRIATION STATES*

In the arid West where water is scarce there is an overwhelming interest in obtaining sufficient water for irrigation and other uses, especially by those junior appropriators whose rights are tenuous at best.¹ Vast quantities of water are lost each day from surface streams.² Significant quantities of water are lost through percolation into the ground and from evaporation. Loss into the ground varies according to the type of bed and soil the stream is flowing through. An irrigator's ditch may lose much water through the same processes. The quantity of water lost through evaporation is dependant on the surface area of the water body. Phreatophytes, water loving plants, suck vast quantities of water through their root systems and evaporate it into the air.³ These plants literally act as pumps, forcing water out of the streams and through their systems.

There are ways to save this water from loss. One method to expand the available water supply is to conserve or reuse water that an irrigator is already using. This may be accomplished by more careful use or by renovating one's works to avoid loss of water. Another way is to establish more efficient methods of getting water to the land or more efficient use on the land. Finally, the water user may, either through active search or construction, find new water from a source not previously appropriated. This Comment explores the legal effect of the use of water conservation methods by a water user in the appropriation states of the Western United

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1. Dickinson, *Installation of Water Saving Devices As a Means of Enlarging an Appropriative Right to Use of Water*, 2 NATURAL RESOURCES LAWYER 272 (1969).
2. Twenty to 25 million acre-feet are lost annually to phreatophytes alone. TRELEASE, *WATER LAW: RESOURCE USE AND ENVIRONMENTAL PROTECTION* 58 (2d ed. 1974).
3. S.E. Colo. Water Conservancy Dist. v. Shelton Farms, Inc., ___ Colo. ___, 529 P.2d 1321, 1323, 1325 (1975). A phreatophyte is "a deep-rooted plant that obtains its water from the water table or the layer of soil just above it." WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY (1971).

States.⁴ The basic problem, then, is how does an individual's water conservation practices affect his rights to use the water so conserved? The bulk of this problem revolves around the law of salvaged⁵ and developed waters.⁶ These terms and the concepts they represent are often confused with waste, seepage and return waters.⁷ In some cases the terms are closely related, such as seepage through dams, or carry water lost from ditches. In addition, the two concepts are themselves closely related and sometimes confused.⁸ "The water of two classes are similar in that in both cases the water is made available as a result of artificial work and artificial devices through the efforts of man."⁹

The general textbook rule is that the one who salvages or develops water has the right to such waters,¹⁰ and generally the salvager's or developer's rights are superior to all others.¹¹ This rule as to salvaged waters has recently been called into question.¹² The law in this area has been well settled for a considerable period of time. But with many, if not most, of the rivers of the West over-appropriated, these issues are returning to the courts and there has been some hesitancy on the part of the courts to apply these rules.¹³ Commentators have criticized both the application of the general textbook rule and the traditional rigid classification of water.¹⁴ Thus, there is considerable question now as to what an indi-

4. There are 18 states which recognize and apply the appropriation doctrine. All these states are west of the Mississippi River. These jurisdictions are: Alaska, Arizona, California, Colorado, Idaho, Kansas, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Texas, Utah, Washington, and Wyoming. See 1 HUTCHINS, WATER RIGHTS LAW IN THE NINETEEN WESTERN STATES 226 (1971).

5. See note 15, *infra*, and accompanying text.

6. See note 48 *infra*, and accompanying text.

7. Clark, *Background and Trends in Water Salvage Law*, 15 ROCKY MT. MIN. L. INST. 421 (1969).

8. *Id.*

9. 2 HUTCHINS, WATER RIGHTS LAW IN THE NINETEEN WESTERN STATES 565 (1974).

10. *Id.* at 565-66.

11. As to salvaged waters see *Basinger v. Taylor*, 36 Ida. 591, 211 P. 1085, 1085-86 (1922). As to developed waters see *Churchill v. Rose*, 136 Cal. 576, 69 P. 416, 417 (1902).

12. *S.E. Colo. Water Conservancy Dist. v. Shelton Farms, Inc.*, *supra* note 3, at 1325. See discussion *infra*, notes 37 through 47 and accompanying text.

13. *Id.*

14. "What is apparent, is that the law's traditional classification of water has limited usefulness in a new, overall view of management of all available water supplies." Clark, *supra* note 7. See also Trelease, *Alaska's New Water Use Act*, 2 LAND & WATER L. REV. 1, 15 (1967).

vidual appropriator may do to increase his water rights by the use of conservation measures. To understand the role that salvaged and developed waters play in this problem, the background of the law in these areas must first be explored.

THE LAW OF SALVAGED AND DEVELOPED WATERS

Salvaged Waters

Salvaged waters have been defined as:

[P]arts of a particular stream or other water supply that have been lost, as far as any beneficial use is concerned, to any established users, but are saved from further loss from the supply by artificial means and so are made available.¹⁵

The right to use water which has been salvaged belongs to the one making the improvement which leads to an increase in stream flow.¹⁶ "This rule is based upon the general equity concept that he who invests time and funds in such a project is entitled to receive the fruits of his labor."¹⁷ Water may be claimed as salvaged through a variety of conservation methods, including: phreatophyte eradication,¹⁸ ditch lining,¹⁹ piping,²⁰ repair of faulty appliances,²¹ and removal of obstructions.²² The problems raised by these salvage methods center around ascertaining what salvaged waters are. The generally accepted definition requires that the waters be lost to any beneficial use,²³ that is, the water must be lost to the system being administered. Though when viewing the hydro-

15. 2 HUTCHINS, *supra* note 9.

16. HUTCHINS, *SELECTED PROBLEMS IN THE LAW OF WATER RIGHTS IN THE WEST* 372 (1942). See also 2 HUTCHINS, *supra* note 9, at 565-66.

17. 2 HUTCHINS, *supra* note 9, at 566. Cf. *Pomona Land & Water Co. v. San Antonio Water Co.*, 152 Cal. 618, 93 P. 881, 884 (1908).

18. *S.E. Colo. Water Conservancy Dist. v. Shelton Farms, Inc.*, *supra* note 3.

19. *Salt River Valley Water Users' Ass'n v. Kovacovich*, 3 Ariz. App. 28, 411 P.2d 201 (1966).

20. *Pomona Land & Water Co. v. San Antonio Water Co.*, *supra* note 17; *Basinger v. Taylor*, *supra* note 11.

21. *Evans v. Prosser Falls Land & Power Co.*, 62 Wash. 178, 113 P. 271 (1911); *Dannenbrink v. Burger*, 23 Cal. App. 587, 138 P. 751 (1913).

22. *Platte Valley Irrigation Co. v. Buckers Irrigation, Milling & Improvement Co.*, 25 Colo. 77, 53 P. 334 (1898); *Reno v. Richards*, 32 Ida. 1, 178 P. 81 (1918).

23. See note 15 *supra*, and accompanying text.

logical cycle as a whole, water is never lost,²⁴ there has been a tendency to treat water systems independently. Therefore, water may be lost, in this scheme, when it seeps from a surface stream to groundwater or vice versa.

The use of salvaged waters must not injure a prior appropriator.²⁵ The application of this principle has led to some significant limitations on the general rule. In *Evans v. Prosser Falls Land & Power Co.*²⁶ a water company, whose old dam seeped from 50 to 100 cubic feet per second (cfs), replaced that dam with a new one which prevented any loss of water. The company, which was in the business of supplying water to customers, then contracted to supply a new customer, the City of Prosser, claiming that the waters sold to the city were salvaged waters.²⁷ The Washington Supreme Court rejected the company's contention and stated:

If the appellant had, by turning additional streams into the river, or by some form of works, prevented loss by seepage, evaporation, or the like, and thereby increased its natural flow, it might with some reason claim the additional waters as salvage waters, and appropriate them to an independent use. But the natural flow of waters saved by the reconstruction of its own dams are in no sense such salvage waters.²⁸

Cases such as this and *Dannenbrink v. Burger*²⁹ have led to an exception to the general rule: water saved by repair or replacement of faulty appliances is not salvaged in the sense that such works do not give an individual a prior right to such water.³⁰ The reasoning in these cases cannot be criticized because in each situation the waters were not truly lost to any beneficial use but rather only lost to the original

24. See Trelease, *supra* note 14.

25. *Hill v. Green*, 47 Ida. 157, 274 P. 110, 110-11 (1928); *Wiggins v. Muscupiabe Land & Water Co.*, 113 Cal. 182, 45 P. 160, 164 (1896).

26. *Evans v. Prosser Falls Land & Power Co.*, *supra* note 21.

27. *Id.*, 113 P. at 271-72.

28. *Id.*, 113 P. at 272.

29. *Dannenbrink v. Burger*, *supra* note 21. Here a party tightened his dam to prevent seepage. Other water users though had appropriated that water which had for 25 years previous seeped through the dam. Held: those who appropriated the seepage water obtained a prescriptive right to that water.

30. *Id.*

appropriator. In the case of leaky dams the water remained a part of the stream and subject to appropriation downstream, much like the case of return flow.³¹ The court in *Evans* recognized this when it discussed previous salvage water cases and concluded that they were based on an increase in the natural flow.³² Therefore, the mere repair of "imperfect appliances" does not lead to the salvaging of water. Rather, in the imperfect appliances situation, the water had been a part of the stream and available for appropriation by others.

The installation of pipe to replace a diversion ditch or even creek bed can lead to the salvaging of waters. In *Basinger v. Taylor*,³³ a corporation installed a pipe a certain distance upstream from the original point of diversion of the corporation's water. Previously the stream had lost eight cfs between the new point of diversion and the old. The loss was even greater in the corporation's old ditch—the corporation was diverting 47 cfs to apply 22 cfs to its lands, a loss of 25 cfs.³⁴ The court allowed the corporation a prior right to the water saved by changing its point of diversion and installing the pipe.³⁵ But the court denied the corporation a prior right to the water saved by replacing its ditch with a pipe, reasoning that the previous loss was not reasonable and could have been stopped by others with water rights in an action based on waste.³⁶ This reasoning seems to place another significant limitation on the doctrine of salvaged waters: one cannot salvage and lay claim to waters which he, through his own unreasonable action or inaction, previously let go to waste.

A serious blow was dealt to these longstanding rules by the Colorado Supreme Court in *Southeastern Colorado Water Conservancy District v. Shelton Farms, Inc.*³⁷ Two irriga-

31. *Farmers Highline Canal & Reservoir Co. v. Golden*, 129 Colo. 575, 272 P.2d 629, 635 (1954).

32. *Evans v. Prosser Falls Land & Power Co.*, *supra* note 21, 113 P. at 272.

33. *Basinger v. Taylor*, *supra* note 11.

34. *Id.*, 211 P. at 1086.

35. "To that extent it [the corporation] has materially augmented the amount of water available from the stream for beneficial use and should have a prior right to its use." *Id.*

36. *Id.*

37. *S.E. Colo. Water Conservancy Dist. v. Shelton Farms, Inc.*, *supra* note 3.

tors removed phreatophyte growth from the Arkansas River and claimed the water salvaged by such clearing. The trial court awarded one irrigator 181.72 acre feet and the other 181 acre feet, free from any river call.³⁸ The Colorado Supreme Court reversed and remanded the case holding that any water awarded because of salvage efforts must fit within the priority system.³⁹ The court decreed that one who salvages water is entitled only to a priority from the date the claim to that water is made and not superior to the other appropriators on the river. The court reasoned that in a salvaged water situation, the water had once been a part of the stream, but it was taken away. There was nothing new added to the river, the salvagers were only returning to the river what had been lost, and in returning this water to the river, those who cleared the river banks could not take what the court considered a "windfall".⁴⁰

The court in *Shelton Farms* drew a distinction between developed water—water added to a stream—and salvaged water—water saved. Developed water, it said, was never a part of any stream, and therefore could be free from river call.⁴¹ But to allow a prior right to salvaged water would be taking from those by whom the water was previously taken.⁴²

The facts presented in this case seem the ideal salvage water situation. Here the vegetation literally sucked the water out of the river and put it into the atmosphere and that water was lost to the Arkansas river system. Though it may have fallen as rain somewhere else, the water was lost for all practical purposes. Thus, under the traditional concept of salvaged water, those who removed the vegetation should have been given a superior right.

No superior right was given, however. The court was concerned with the effect of awarding decrees superior to

38. *Id.* at 1323.

39. *Id.* at 1327.

40. "To grant appellees an unconditional water right therefore would be a windfall which cannot be allowed, for thirsty men cannot step into the shoes of a 'water thief' (the phreatophytes)." *Id.* at 1325.

41. *Id.* at 1325.

42. See note 40, *supra*.

all appropriators on the priority system.⁴³ The expressed concern was that to award a superior right to one who merely saves what has previously been lost would render a priority system unmanageable.⁴⁴ This concern, it is submitted, was one which moved the court to hold as it did.

Finally, a consideration that played no small part in the court's determination was the effect of phreatophyte removal on the river itself. The court recognized the threat that a decision allowing a superior water right for the removal of phreatophyte vegetation would impose upon all forms of vegetation along Colorado's river banks.⁴⁵ Not only was the court concerned with uncontrolled denuding of river vegetation but also that suddenly there would be a booming business created in salt cedar seed.⁴⁶

Though the Colorado Supreme Court denied that its decision in *Shelton Farms* was any change in the existing law, there was, nevertheless, a significant step away from the old concepts of giving one who salvages water a superior right to that water. The question remains of the effect of that decision on the law of salvaged waters and the advisability of a change in the area. This question is considered later.⁴⁷

Developed Water

Developed waters are "new waters which prior to the work of the developer were not part of the source of supply, but are added to a stream or other source by artificial means."⁴⁸ Though most frequently developed waters are groundwater, all groundwater is not developed water. The water one claims to be developed must have never been a

43. S.E. Colo. Water Conservancy Dist. v. Shelton Farms, Inc., *supra* note 3, at 1327.

44. *Id.*

45. "Also squarely before us is the equally serious question of whether the granting of such an unique water right will encourage denuding river banks everywhere of trees and shrubs which, like the vegetation destroyed in these cases, also consume the river water." *Id.* at 1324.

46. Salt cedar, or tamarisk, is a common variety of phreatophyte in the West. *Id.* at 1327.

47. See notes 96 through 112 *infra*, and accompanying text.

48. 2 HUTCHINS, *supra* note 9, at 565.

part of an appropriable source. This requirement is the basis for developed waters. The limitation is the state's statutory or constitutional definition of waters subject to appropriation. In New Mexico it has been held that a drainage district draining land had developed waters which were not subject to appropriation by others. The court reasoned that these waters did not fit into the statute's definition of waters subject to appropriation which was defined as all *natural waters*.⁴⁹

By instituting conservation measures such as drainage of surface or groundwaters, one may claim these to be developed waters. One may claim that the waters of the marsh he drained never reached the stream.⁵⁰ One may also claim that through unrelated activities, he discovered water and made it available.⁵¹ Finally, one who makes available waters from a spring may claim those waters to be developed.⁵²

The principles governing developed waters are similar to those controlling salvaged waters. Generally the waters so developed belong to the developer.⁵³ This is to reward an individual who through his own efforts makes available a supply of water which before was not available.⁵⁴ In addition, a developer of water may be allowed successive use of the water he makes available.⁵⁵

One state has provided, in a limited way, for developed water in its statutes.⁵⁶ The statute defines "by-product"

49. The New Mexico statute read: "All natural waters flowing in streams and water courses . . . belong to the public and are subject to appropriation for beneficial use." *Hagerman Irrigation Co. v. E. Grand Plains Drainage Dist.*, 25 N.M. 649, 187 P. 555, 556 (1920).

50. *Cf. Pikes Peak Golf Club, Inc. v. Kuiper*, 169 Colo. 309, 455 P.2d 882 (1969); *Smith v. Duff*, 39 Mont. 382, 102 P. 984 (1909); *Hagerman Irrigation Co. v. E. Grand Plains Drainage Dist.*, *supra* note 49; *Jones v. Warm Springs Irrigation Dist.*, 162 Ore. 186, 91 P.2d 542 (1939).

51. An example is mining. *Leadville Mine Dev. Co. v. Anderson*, 91 Colo. 536, 17 P.2d 303 (1932); *Silver King Consol. Mining Co. v. Sutton*, 85 Utah 297, 39 P.2d 682 (1934); *Mountain Lake Mining Co. v. Midway Irrigation Co.*, 47 Utah 346, 149 P. 929 (1915).

52. *Churchill v. Rose*, *supra* note 11. This situation would rarely happen. Generally springs are an appropriable source.

53. 2. HUTCHINS, *supra* note 9, at 565-66.

54. *Leadville Mine Dev. Co. v. Anderson*, *supra* note 51, 17 P.2d at 303.

55. *Denver v. Fulton Irrigating Ditch Co.*, 179 Colo. 47, 506 P.2d 144 (1973). Successive use is "subsequent use by the [developer] for a different purpose." 506 P.2d at 147.

56. WYO. STAT. §§ 41-121.2 and 41-121.3 (Supp. 1975).

water as "water which has not been put to prior beneficial use, and which is a by-product of some non water-related economic activity and has been developed only as a result of such activity."⁵⁷ The statute provides for appropriation of by-product water in the same manner as groundwater.⁵⁸

Burden of Proof

One may obtain a prior right to water he saves so long as he does not injure prior appropriators. This basic statement of the law, simple on its face, has in practice proved difficult to apply for the individual water user who institutes certain conservation methods. The reason for this is the heavy burden of proof this rule thrusts upon the party claiming to have salvaged these waters.

After instituting water-saving measures at what is probably considerable expense, the claimant must go to the further expense of developing the proof required to validate his claim to this water. The justness of this requirement is considered below.⁵⁹ The one claiming to have salvaged these waters must show that the waters he claimed to have saved were not previously appropriated.⁶⁰ Not only must a lack of prior use be shown, but the difficult obstacle is that it must be proven that the waters salvaged were not part of the watercourse's surface flow or subflow.⁶¹ In other words, it must be demonstrated that the water salvaged was, prior to the institution of the conservation measures, not otherwise available for appropriation. Not only does the one claiming salvaged waters have to bear this significant burden of proof, but in one case, at least, the court added a presumption that the waters so salvaged were a part of the stream.⁶² Finally,

57. WYO. STAT. § 41-121.2 (Supp. 1975).

58. WYO. STAT. § 41-121.3 (Supp. 1975). There are other requirements too detailed to discuss here.

59. See notes 107 through 110 *infra*, and accompanying text.

60. Hill v. Green, *supra* note 25, 274 P. at 111; Howcroft v. Union & Jordan Irrigation Co., 25 Utah 311, 71 P. 487, 488-89 (1903).

61. Hill v. Green, *supra* note 25, 274 P. at 110-11.

62. With these physical conditions present, it will be presumed that water flowing in a natural channel, which reaches the banks of a stream, and there disappears in the sands of the bed, augments the flow in the main stream by percolation, until the contrary is shown; and the burden of proof is on the party diverting such

the salvager must bear the burden of showing the amount saved.⁶³ This onerous burden has been placed upon the appropriator claiming these waters to protect others appropriating from that same source of supply.

The burden of proof placed upon the one who claims to have developed hitherto unavailable waters is, like salvaged waters, significant. The one who claims these waters bears the burden throughout the proceedings. In addition to proving the quantity of water developed, a significant burden in itself, the claimant must also show that these waters would never have become a part of any stream or appropriable aquifer.⁶⁴ In some jurisdictions this includes overcoming a presumption that all waters, no matter how slowly, eventually percolate or travel to a stream.⁶⁵

Therefore, to obtain a right to this water, which is free from the priority system, the developer must demonstrate, by clear and convincing evidence, three things. First, he must show that he will not harm other appropriators. Second, he must show that the water he claims to have developed was never a part of any appropriable system. To demonstrate this, he may have to overcome a presumption that those waters do eventually reach an appropriable stream or aquifer. Finally, the developer must prove the actual quantity of water developed. For the individual irrigator, these requirements can become a substantial economic burden.⁶⁶

These problems of proof are difficult but not insurmountable. One possible method would be to measure the

water to establish that it does not mingle with the main waters of the stream.

Platte Valley Irrigation Co. v. Buckers Irrigation, Milling & Improvement Co., *supra* note 22, 53 P. at 336.

63. Howcroft v. Union & Jordan Irrigation Co., *supra* note 60, 71 P. at 488-89.

64. But to entitle him to such use, he must prove that the water thus added to the stream was produced and contributed by him, and that, if not interfered with but left to flow in accordance with natural laws, it would not have reached the stream; and he must prove this by clear and satisfactory evidence.

Leadville Mine Dev. Co. v. Anderson, *supra* note 51, 17 P.2d at 303.

65. Mountain Lake Mining Co. v. Midway Irrigation Co., *supra* note 51, 149 P. at 934. There have been instances when dewatering of deep mines has interfered with surface use. See *Eckel v. Springfield Tunnel & Dev. Co.*, 87 Cal. App. 617, 262 P. 425 (1927); *O'Leary v. Herbert*, 5 Cal. 2d 416, 55 P.2d 834 (1936).

66. The difficulties of the burden in this area are graphically demonstrated in *Smith v. Duff*, *supra* note 50.

surface flow before the operations commence and after their completion. This would involve the installation of expensive water measuring devices. If groundwater is involved, however, the problems are more difficult; here it must be shown that the groundwater is not a part of the subflow of a stream and that it does not augment the flow of that stream.⁶⁷ To meet this burden, it seems the claimant must advance expert geological and hydrological evidence. The cost of obtaining this evidence frequently may be considerably beyond the value of the water claimed to be salvaged or developed. Where the required burden has been met, the courts have remained consistent in awarding a superior water right.⁶⁸ But the additional water is obtained at a tremendous cost, for added to the costs of obtaining the water are these costs of proving the quantity of water.

PROBLEMS RESULTING FROM CONSERVATION MEASURES

An irrigator wants more water. His ditch, which is not lined, loses significant amounts of water; there are vast amounts of salt cedar growing along the river bank as it passes his farm; and a farm equipment salesman has shown him how he can save a quantity of water by installing a sprinkling system.⁶⁹ The farmer has gone through his own cost/benefit analysis of the projects.⁷⁰ If he decides that these projects would be worthwhile only if he can obtain a superior right to the water saved and apply that water to his presently unirrigated grazing land, problems develop. Under the general rule of salvaged water, the irrigator would obtain a superior right for the water saved by the lining of his ditch or any other method of salvage,⁷¹ but under a variety of rationales, barriers may be raised to prohibit the irrigator from using the water he saved. One is the concept of appur-

67. *Hill v. Green*, *supra* note 25, 274 P. at 110-11; *Platte Valley Irrigation Co. v. Buckers Irrigation, Milling & Improvement Co.*, *supra* note 22, 53 P. at 336.

68. *See Pikes Peak Golf Club, Inc. v. Kuiper*, *supra* note 50.

69. Professor Trelease discusses the value of irrigation by sprinkling. *TRELEASE*, *supra* note 2, at 73-4.

70. Professor Trelease claims all private decisions are made partly through a private economic cost/benefit analysis. Trelease, *Policies for Water Law: Property Rights, Economic Forces, and Public Regulation*, 5 *NATURAL RESOURCES J.* 1, 9 (1965).

71. *See* note 11 *supra*, and accompanying text.

tenancy of a water right.⁷² Another problem is the concern for maintaining a manageable system of water rights.⁷³ Other considerations entering into the decision making process include the environmental effects,⁷⁴ the effect on the rights of other appropriators,⁷⁵ and other costs to the state and the individual.⁷⁶

Appurtenancy

In most instances, a senior right to water saved would be of little use if the water could not be used on lands other than those which already have an appropriation.⁷⁷ This is generally the most important issue in the consideration of the legal effect of an individual's conservation effort. Without the ability to apply the water saved to new lands, the salvager has a very limited right to that water. This problem is limited to salvaged waters, for it is clear with developed waters that the developer has a right to that water which is somewhat more than a mere usufructory right.⁷⁸ The problem is with the concept of the appurtenancy of water rights, wherein the use of water is limited to the land for which it was initially appropriated. The net result, therefore, is that one who makes more efficient use of his water, or salvages water by reducing its loss, is precluded from applying that water to new lands.

This problem of appurtenancy was graphically illustrated in *Salt River Valley Water Users Association v. Kovacovich*.⁷⁹ Kovacovich and Ward had both, through improvements in their ditches, conserved a significant quantity of water. These irrigators used this water to irrigate new

72. See notes 77 through 89 *infra*, and accompanying text.

73. *S.E. Colo. Water Conservancy Dist. v. Shelton Farms, Inc.*, *supra* note 3, 529 P.2d at 1325.

74. This concern was much in evidence in *S.E. Colo. Water Conservancy Dist. v. Shelton Farms, Inc.*, *id.*

75. *Cf. Salt River Valley Water Users' Ass'n v. Kovacovich*, *supra* note 19, 411 P.2d at 204.

76. *Trelease*, *supra* note 70, at 9, 10.

77. However, there will always be some instances where the individual conserving the water would want to apply it to the same land. This may occur when his lands are receiving insufficient water, or, in the case of a farmer, he wishes to change crops, or, the water is to be put to a different use.

78. See notes 48 through 58 *supra*, and accompanying text.

79. *Salt River Valley Water Users' Ass'n v. Kovacovich*, *supra* note 19.

lands.⁸⁰ The question was not whether the water conserved was salvaged water (the term is never mentioned in the opinion), but whether these two individuals could use the water they had saved and apply the water to new lands not previously irrigated under their appropriation.⁸¹ The Arizona Court of Appeals concluded they could not.⁸²

The court looked at the overall water scheme in Arizona and concluded that the doctrine of beneficial use precluded applying saved water to new lands without an appropriation; and that the already existing appropriation could not be extended to adjacent lands.⁸³ In Arizona this doctrine makes a water right the right to irrigate only specific land, that is the appropriation is limited to use on that land for which it is appropriated. As it is a right to irrigate specific land, appropriators are prevented from expanding their use to other lands by conserving their water.

This doctrine of beneficial use has consistently been applied by the Arizona courts to require appropriated water to be appurtenant to the land for which it is appropriated.⁸⁴ This interpretation has been derived from Arizona's statutorily defined water scheme.⁸⁵ The statutory language is that beneficial use shall be the basis, measure, and limit to the use of water.⁸⁶ Similar language is found in the constitutions or statutes of all appropriation states.⁸⁷ Courts in

80. Thirty-five and 40 acres respectively. *Salt River Valley Water Users' Ass'n v. Kovacovich*, *supra* note 19, at 202.

81. In essence this case involves the narrow issue of whether or not an owner of land having a valid appurtenant water right may through water-saving practices apply the water thus saved to immediately adjacent lands owned by that person, without need to apply for the right to use such additional waters under the State Water Code.

Id.

82. *Id.* at 204.

83. *Id.* at 203. The court cited a number of Arizona cases including *Gillespie Land & Irrigation Co. v. Buckeye Irrigation Co.*, 75 Ariz. 377, 257 P.2d 393 (1953), and *Tattersfield v. Putnam*, 45 Ariz. 156, 41 P.2d 228 (1935).

84. See cases cited in note 83 *supra*.

85. *Salt River Valley Water Users' Ass'n v. Kovacovich*, *supra* note 19, 411 P.2d at 203.

86. ARIZ. REV. STAT. ANN. § 45-101B (1956).

87. See ALASKA CONST. art. VIII, § 13; COLO. CONST. art. XVI, § 3; IDAHO CONST. art. 15, § 3; KAN. STAT. ANN. § 82a-703 (1969); MONT. CONST. art. IX, § 3(3); N.M. CONST. art. XVI, § 3; NEV. REV. STAT. § 533.035 (1973); N.D. CENT. CODE, § 61-01-02 (Supp. 1975); NEB. REV. STAT. § 46-204 (1974); OKL. STAT. ANN. tit. 82, § 105.2A (Supp. 1975); ORE. REV. STAT. § 537-120 (1974); S.D. COMP. LAWS ANN. § 46-5-5 (1967); TEXAS WATER CODE ANN. § 5.026 (1972); UTAH CODE ANN. § 73-1-3 (1953); WYO. CONST. art. 8, § 3.

other jurisdictions have emphasized the appurtenancy of an appropriative right,⁸⁸ and some other states' statutory language would indicate this result.⁸⁹

Unless an individual appropriator needs additional water for lands to which he is already applying water, the concept of appurtenancy to land is a significant limitation. Its strict application would thwart any incentive to institute conservation measures, for there would be no reward for the costs expended.

Statutory

There is some question as to whether developed or salvaged waters are subject to appropriation and therefore subject to a state's statutory scheme. In designating the waters which are subject to appropriation, some statutes speak of waters of "natural streams", "springs", "lakes", and "other natural collections of water";⁹⁰ while others speak of "all sources of water supply".⁹¹ Clearly if these definitions are strictly construed some types of salvaged or developed waters may not be subject to appropriation.

Salvaged waters should be subject to appropriation statutes, for these waters, though lost to the system, were once a part of an appropriable system.⁹² Upon salvage the water is returned to the source. Though the salvager may be entitled to a senior right to that water, his right must be acquired in the same way as the rest of the water from that source, including the issuance of a permit.⁹³

88. *Middle Rio Grande Water Users' Ass'n v. Middle Rio Grande Conservancy Dist.*, 57 N.M. 287, 258 P.2d 391, 398 (1953); *Means v. Pratt*, 138 Colo. 214, 331 P.2d 805, 808 (1958); *Anderson v. Cummings*, 81 Ida. 327, 340 P.2d 1111, 1115 (1959).

89. WYO. STAT. § 41-2 (1957).

90. WYO. CONST. art. 8, § 1; COLO. CONST. art. 16, § 5.

91. NEV. REV. STAT. § 533.025 (1960); ORE. REV. STAT. § 537-110 (1953); UTAH CODE ANN. § 73-1-1 (1953).

92. See note 99 *infra*, and accompanying text.

93. All states except Colorado have a mandatory permit system. TRELEASE, *supra* note 2, at 137-39. See also Comment, *The Idaho and Montana Procedures for Obtaining Water Use Permits—Possible Sources for Improvement of Wyoming Law*, 10 LAND & WATER L. REV. 435 (1975). In Colorado, priority is determined by a Water Court. COLO. REV. STAT. ANN. § 148-21-18 (Supp. 1969).

Developed waters raise different considerations. An unusual aspect of developed water is that there is sometimes allowed successive use of such water.⁹⁴ There are compelling reasons for subjecting this water to appropriation. These considerations, developed below,⁹⁵ include: (1) determining priorities among developers, (2) determining the quantity of water which reaches the developer if the water is carried by a stream for any distance, and (3) various management considerations. These considerations are equally applicable to salvage waters.

Identification

A major hurdle for one claiming salvaged or developed waters is that he must demonstrate that the waters he claims were lost to the system, if salvaged, or never a part of an appropriable system, if developed. It is implicit in the definition of developed waters that they were never a part of an appropriable source.⁹⁶ The definition of salvaged waters dictates that these waters must have previously been lost to the system.⁹⁷ Two terms must be analyzed to give meaning to any discussion of salvaged and developed waters; these terms are "system" and "lost".

The term "system" is not limited to just a surface stream or appropriable aquifer. Rather, in some instances, the relationship between groundwater and surface streams has long been recognized.⁹⁸ Today it is recognized that groundwater and surface streams are interrelated and may constitute one system.⁹⁹ This view of a system must be kept in mind when considering whether water has been conserved.¹⁰⁰

For waters to be "lost", they must not have just gone from one part of the system to another. Rather, they must

94. See note 55 *supra*, and accompanying text.

95. See notes 102 through 112 *infra*, and accompanying text.

96. See note 48 *supra*, and accompanying text.

97. See note 15 *supra*, and accompanying text.

98. *Platte Valley Irrigation Co. v. Buckers Irrigation, Milling & Improvement Co.*, *supra* note 22, 53 P. at 336.

99. *Templeton v. Pecos Valley Artesian Conservancy Dist.*, 65 N.M. 59, 332 P.2d 465 (1958); *Hall v. Kuiper*, 181 Colo. 130, 510 P.2d 329 (1973).

100. The broadest view of a system would encompass the entire hydrological cycle. This view has never been adopted by any jurisdiction and would seem to this writer to be unmanageable because of sheer size.

be lost to the system for subsequent salvage to operate to give a prior right. Thus water going from surface to groundwater which is part of the same system is not truly lost. But water sucked up by phreatophytes and evaporated into the air would be truly lost, for it is no longer available to that system.

When considering whether to embark on a conservation program to develop or salvage water, the prospective claimant must ensure that he has a firm grasp of these concepts. He will have to demonstrate to the body determining his rights to the water that the water claimed is actually salvaged or developed. The claimant, then, should know the bounds of the "system" with which he is dealing, to be sure he is actually salvaging or developing water.

PROPOSALS FOR GOVERNING CONSERVATION EFFORTS

The ultimate goal of any system of water law should be to bring water to its most efficient use.¹⁰¹ To reach this goal the governing rules must encourage conservation, yet ensure that those with established rights to use water are not harmed. In addition environmental and aesthetic interests must be protected. To encourage conservation of water, waters truly saved or developed should be awarded to the one saving that water, and the application of those waters to new lands should be allowed. The remainder of this Comment deals with the determination of what waters are actually saved from loss to the system, and what waters are actually developed.

Management and Technical Considerations

Any water saved from being lost to the system should be awarded to the salvager. Any water truly developed should be awarded to the developer. As discussed above, any concept of a system must provide for the interrelationships that might exist between groundwaters and surface waters.¹⁰²

101. Professor Trelease feels that this is the ultimate goal of any system of law. Trelease, *supra* note 70, at 3.

102. See notes 96 through 100 *supra*, and accompanying text.

This is of vital importance when determining whether waters are actually salvaged or developed. Any body determining rights to salvaged or developed waters should consider the totality of the system when making a decision whether these waters are truly salvaged or developed.

To insure that the totality of the system is considered, the burden of proving the development or salvage of waters must remain on the claimant. Under present established rules, the claimant does bear this burden.¹⁰³ This insures that the claimant must demonstrate that, in the case of salvaged waters, the water was lost to the system and was subsequently saved from that loss. The claimant will have to show that the grant of a superior right to him will work no harm on other appropriators.¹⁰⁴ This burden will have to be heavy to force consideration of the entire system and to ensure that allegedly developed waters are developed from truly independent sources. Again by forcing the claimant to demonstrate that no appropriator will be harmed, this burden will give reasonable assurance that the system in its entirety will be considered.¹⁰⁵ Finally, by placing the burden of proof on the claimant, he will not be able to claim groundwaters which may ultimately affect a surface stream or an inter-connected aquifer.

One who salvages or develops water should be given a right to that water which is free from the river call—that is, if there is insufficient water to satisfy all appropriations, his right to use that water will not be diminished. This rule would, however, lead to some management problems in keeping track of priorities.¹⁰⁶ To this writer, however, these do not seem insurmountable.

In the salvage water situation, the salvager only saves water that is lost at the point of his salvage operation. To save water, water must reach this point. To illustrate this, imagine a river running north to south with three points A,

103. See notes 59 through 68, *supra*, and accompanying text.

104. *Hill v. Green*, *supra* note 25, 274 P. at 111.

105. *Leadville Mine Dev. Co. v. Anderson*, *supra* note 51, 17 P.2d at 303.

106. *S.E. Colo. Conservancy Dist. v. Shelton Farms, Inc.*, *supra* note 3, at 1325.

B and *C*, with *A* furthest upstream, *C* downstream, and *B* in the middle. *B* is the salvager. *A* and *C* are senior appropriators, and *A* is senior to *C*. *A* may take all his water in all circumstances before *B*. If at *A*'s diversion there are 20 cfs in the stream and *A*'s appropriation is for 10 cfs, then *A* may take his 10 cfs. If *B*'s salvage right is for more than the water left in the stream at point *B*, then he will only get that much, because that is the quantity that would have reached that point prior to the institution of his conservation practices. *C* will get no water. But, *B* should be senior to *C* because prior to *B*'s salvaging practices that water would have been lost to the system. Both *A* and *C* in this situation have not been harmed by *B*'s salvage.

If the situation is reversed so that *C* is senior to *A*, if *C* calls the river because there is insufficient water, a different twist on this situation develops. Again if there are 20 cfs in the stream and *C*'s appropriation is 10 cfs, *A* must let sufficient water go by so that 10 cfs reaches *C*. If *B*'s salvage right is 10 cfs, then *A* must let all the water pass his point of diversion. *A* will not be harmed by *B* because that quantity of water would have been lost prior to *B*'s salvage and *A* would have had to let all the water go by. If there were only 15 cfs in the stream, *B* could still take his 10 cfs and *C* would only get 5 cfs. *C* though is not harmed by *B*'s salvage because prior to the salvage efforts that is the quantity of water *C* would have obtained.

The technical considerations of transportation losses must be taken into account when awarding developed water rights. This consideration arises, however, only where developed water is transported by a stream from the point of development to the point of use. There may be significant quantities of water lost while the water is being transported. Where this situation occurs, a developer should not be awarded the total amount he develops, but rather the amount that reaches his point of diversion.

To solve these problems and to ensure that the salvager and developer get no more or no less water than they are

entitled to, these rights should be incorporated into the water management system in that state. Those managing the system must make sure that the basic rule of salvaged and developed waters is followed: that is, to ensure that no other appropriators are harmed. Waters salvaged or developed should be allowed to be added to new lands. This again must be contingent upon a showing of no harm to other appropriators.

Economic Considerations

The established rule of placing upon the claimant the burden of proving that his claim will not harm other appropriators must remain in effect. This burden will be costly and difficult for one claiming salvaged or developed waters.¹⁰⁷ However, this burden of proof is necessary to protect other appropriators. Thus the claimant who stands to benefit must bear both the cost and burden of proving his claim—a requirement that is consistent with the basic concept of justice embodied in American law.

The claimant will be forced to take into consideration all costs of his conservation measures—including the costs of demonstrating that the project would inflict no harm on other appropriators.¹⁰⁸ His anticipated benefits then would have to outweigh this cost, in addition to the costs of the project itself and the cost of establishing the amount of water saved or developed. To provide greater rewards to one attempting to conserve water, water so saved or developed should be allowed to be applied to new lands. This would increase the possible benefits and help offset the high costs of proving his efforts actually saved or developed water. Other appropriators who might have an interest in the return flow of that water are protected by requiring the claimant to show that his actions will not harm others. To alleviate some of the costs and difficulties in this situation, conditional application of water to new lands could be allowed to test

107. See notes 59 through 68 *supra*, and accompanying text.

108. Professor Trelease claims all private decisions are made partly through a private economic cost/benefit analysis. Trelease, *supra* note 70, at 9.

the effects on other appropriators.¹⁰⁹ Though costly if harm to others is shown, this conditional use can be taken advantage of by those who, in their initial considerations, are sure that the water they claim is truly salvaged or developed.

The high cost of salvaging or developing waters and the high cost of proving one's claim will tend to limit the number of conservation efforts. However, it is submitted that the price the system pays for protecting other appropriators is less than the cost of effective management that would result from a relatively free award of these conservation rights. These limits ensure that each effort toward conserving water is a step toward more benefits being produced.¹¹⁰

Environmental and Aesthetic Considerations

A major concern of the *Shelton Farms* court was the possible detrimental effects of allowing a superior right for water salvaged by phreatophyte removal.¹¹¹ To allow a senior right to inure to the salvager externalizes the environmental and aesthetic considerations. Decisions by those needing water to remove river bank vegetation, or to line a portion of the river, to reduce loss and then to lay claim to the water saved would be made with only the economic considerations in mind. In terms of water loss, certainly the most efficient method to conduct all water is through pipes. But no sane person would advocate that all the rivers of the United States be turned into giant piping systems. Somewhere a line must be drawn, and this decision cannot be left to the individual appropriators. Others have an interest in that water: the sportsmen, the environmentalists, and the wildlife dependent on the water.

These environmental and aesthetic interests must be weighed with other considerations. A water law system should not *encourage* the denuding of the river ecology. Therefore, senior rights should not be awarded in a manner

109. This is the proposal for transfer of water rights brought out in NATIONAL WATER COMMISSION, WATER POLICIES FOR THE FUTURE, Recommendation 7-28, at 263 (1973).

110. See Trelease, *supra* note 70.

111. S.E. Colo. Conservancy Dist. v. Shelton Farms, Inc., *supra* note 3, at 1327.

that would encourage this result. Water in a stream that is lost during the course of the stream may be working a benefit to something. Water lost to river bank vegetation contributes to the stabilization of the bank for the river, providing a balance of oxygen and carbon dioxide in the atmosphere and providing a habitat for wildlife.¹¹² All these considerations must enter into the decision making process to determine what water conservation measures should be taken on a particular stream or as a matter of state-wide policy.

To accomplish this, a state-wide policy which addresses the environmental limitations on salvaged and developed waters must be established. This decision by the legislature or the state's environmental protection agency may take many forms. For example, certain environmental decisions could be reserved to the body awarding water rights; or the state might require a statement of the environmental impact of such activities. Whatever the procedure, there should be concrete guidelines developed to assist the person instituting conservation measures and the body awarding water rights in making these determinations.

Proposed Solutions

To achieve the goal of an effective water law system to encourage the more efficient use of water, senior rights should be given for water that is truly developed or truly salvaged. To be developed, the water made available by the developer must be water which was previously not available for appropriation or brought to one system from another, *i.e.*, foreign waters. Developed waters are new waters added to a system. They should belong solely to the developer and be his to use and reuse, for it was his work which made this water available. The developer must be subject to a demonstration that his developing these waters will not harm other appropriators.

112. Professor Trelease gives some examples of wildlife affected by phreatophyte removal. See TRELEASE, *supra* note 2, at 59.

Salvaged waters are waters, previously a part of the system, but which have been lost to the system, and which are again made available by the works of the salvager. Here the vital consideration is what is meant by "lost to the system." Water percolating from a surface stream to groundwater will seldom be lost to the system because of the interrelationship between the stream and the groundwater. A system should include all waters for which this kind of relationship can be shown.

Protection against unwarranted attempts to gain water rights at the expense of other appropriators is provided by placing the burden upon the claimant of these waters to show he is not harming other appropriators. This should ensure that the alleged salvaged waters were actually previously lost to the system. It is recognized that the process of developing his proof may be costly, but the protections are worth the costs. To assist the claimant in his proof, it is submitted that conditional or temporary awards may be made to allow the claimant to take the water and see what the effect on other rights may be.

In addition to protecting other appropriators, protection of the environment must also be considered. This should be a matter of statewide policy. The uncontrolled denuding of river banks, or the uncontrolled lining of stream beds, must be prevented. Rules should be provided to guide the potential salvager and developer.

Care will have to be taken in the management of the systems. The developer or salvager should get no more or no less water than he is entitled to. This will require a management system which is capable of accounting for loss in a stream of developed water, and a system which can determine how much water actually would reach the point of salvage in a given situation. This data is essential to decisions on how much water to award. Furthermore, the awarding of a water right may be dependent on the type of loss that was avoided. Some losses may be constant no matter what the stream flow. These lend themselves to an award of

a definite flow or number of acre feet. Other losses may vary with the stream flow, and the proper award in these situations may be a percentage of stream flow. Awards of water rights will have to be determined on a case by case basis after careful measurement both before and after the institution of salvage efforts.

Use on new lands should be allowed to provide the incentive to institute conservation measures. This grant will be limited by the requirement that a salvager or developer must not harm other appropriators. Again this may be done by allowing a temporary or conditional right.

CONCLUSION

Individual water conservation measures should be encouraged. To accomplish this goal proper rewards must be given to those who institute conservation practices. These rewards should be rights to the water conserved or developed prior to all others, and the right to apply this water to lands for which water has not previously been appropriated.

There must, however, be limits on these conservation measures. Other appropriators cannot be harmed by these measures, or the whole purpose of the measures will be defeated. In addition, the environment cannot be destroyed in the process. A balance can be reached which will provide incentives to conserve and develop water resources without harm to man or the environment. The rules proposed above will accomplish this balance and provide a workable system.

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