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## Water Law - Cessation of Return Flow as a Means of Complying with Pollution Control Laws

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## COMMENTS

### WATER LAW—CESSATION OF RETURN FLOW AS A MEANS OF COMPLYING WITH POLLUTION CONTROL LAWS\*

The Federal Water Pollution Control Act of 1972 has set a course of water quality improvement for this nation which translates into increasingly stringent effluent limitations for water users.<sup>1</sup> As a consequence, municipalities and industrial plants in some locations are finding it more economical to cease all water discharge than to restore the quality necessary for water returned to the streams from which it is diverted.<sup>2</sup> The total containment, no-discharge pollution control systems implemented by these users substitute evaporation of water from sewage and industrial effluent for treatment and discharge of purified water. All opportunities for subsequent use of the water downstream are thereby terminated. The purpose of this Comment is to examine questions of policy and legality with respect to the creation and continuation of total containment water quality control systems.

Underlying water laws and policies is the goal of obtaining "maximum social satisfactions" from the water.<sup>3</sup> To achieve this goal, rules of reasonable use and beneficial use have been developed within the basic water law doctrines of riparian rights and prior appropriation. Under the general concept of reasonable beneficial use,<sup>4</sup> maximum utilization is promoted by restricting water rights to those users who can make some productive or purposeful use of the water and limiting the amount of each right to that necessary for achieving the user's purpose.<sup>5</sup>

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1. Federal Water Pollution Control Act of 1972, 33 U.S.C. §§ 1251-1376 (Supp. V 1975).
2. A total containment system has been in use, for example, in Cheyenne, Wyoming, and the systems are contemplated in the Wyoming communities of Buffalo and Rawlins.
3. *TRELEASE, CASES AND MATERIALS ON WATER LAW—RESOURCE USE AND ENVIRONMENTAL PROTECTION* 18 (2d ed. 1974).
4. See generally Trelease, *The Concept of Reasonable Beneficial Use in the Law of Surface Streams*, 12 Wyo. L.J. 1 (1957).
5. See text accompanying notes 8-12, *infra*.

The legality of total containment systems under riparian law, as it has been adopted in many American jurisdictions,<sup>6</sup> will depend on the reasonableness of use in light of the correlative rights of all riparian owners. While much of the following discussion will be relevant to the determination of reasonableness under the riparian reasonable use doctrine, the analysis herein will be phrased principally in terms of the legal viability of total containment systems under the prior appropriation doctrine adopted in the states of the arid West where the water allocation problems are far more crucial.

Only one facet of the legal problem presented by total containment systems is answered by the beneficial use determination under prior appropriation law. When an established water user seeks to implement a total containment system, it must be determined whether this change which increases consumption is, on the one hand, a reuse or more efficient use—which is usually permissible without qualification—or, on the other hand, a change of use—which is contingent on preserving the rights of other water users.<sup>7</sup> The reasons supporting this distinction appear never to have been clarified by the courts. It can be surmised, however, that the goal of maximum utilization and considerations of practical accommodation lie behind the distinction. Incremental improvements in the internal economies of individual users are encouraged since the change is consistent with efficiency in the complete economic system—improvement in one portion improves the whole. Yet, to prevent disruption of the economic system, the established rights of all users are protected from significant changes by one user who increases internal economies at the expense of other users—because of the offsetting effects, the whole system does not necessarily benefit from such a change. Whether the differing cases can be explained with this policy distinction is questionable, but each decision and rule presumably has some basis in the goal of maximum utilization of water as a scarce resource.

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6. *Crawford Co. v. Hathaway*, 67 Neb. 325, 93 N.W. 781, 790 (1903).

7. See text accompanying notes 38-67, *infra*.

Proceeding now to an analysis of the beneficial use concept, this Comment will subsequently examine the reuse-change of use dichotomy in greater detail and conclude with an analysis of the social and economic issues raised by the problem of cessation of return flow incident to the operation of a total containment pollution control system.

### THE RIGHT TO CONSUME ALL WATER DIVERTED

The initial question presented in determining the legality of a total containment system is whether a water user can ever acquire a right to consume by evaporation all water diverted and thereby allow no return flow to the stream from which the original diversion is made. At this point, the discussion deals not with questions of relative priority, but with the question of whether the intentional disposal of water by evaporation incident to industrial or municipal uses is a beneficial use for which water may be appropriated.

The general policy of the western states, where water is among the most important of scarce resources, is to encourage the most efficient uses of water.<sup>8</sup> To that end, waste of water is generally prohibited by constitution or statute and beneficial use is made the basis, measure and limit of the right to use water.<sup>9</sup> Stated differently, wasteful application is not included in the term "use" for which an appropriation may be made.<sup>10</sup>

Because the amount of an appropriation is limited to the amount necessary for the actual needs of the appropria-

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8. *Simonson v. Moon*, 72 Idaho 39, 237 P.2d 93, 98 (1951); *Scherck v. Nichols*, 55 Wyo. 4, 95 P.2d 74, 78 (1939).
  9. *E.g.*, ARIZ. REV. STAT. § 45-101(B) (1956); CAL. CONST. art. XIV, § 3 and CAL. WATER CODE §§ 100, 1240 (West 1971); N.M. CONST. art. XVI, § 3 and N.M. STAT. ANN. § 75-11-2 (1953); ORE. REV. STAT. §§ 540.610, .720 (1975); S.D. COMPILED LAWS ANN. §§ 46-1-4, -1-8, -5-5 (1967); UTAH CODE ANN. § 73-1-3 (1953); WYO. STAT. § 41-2 (1957).
  10. *In re Water Rights of Deschutes River & Tributaries*, 134 Or. 623, 286 P. 563, 577, *modified*, 134 Or. 623, 294 P. 1049 (1930), *modified*, 148 Or. 389, 36 P.2d 585 (1934). If the running of effluent into an evaporation pond is thought to require reservoir rights, the beneficial use problem persists, for storage rights are strictly limited to the amount which can be beneficially used. *Kearney Lake, Land & Reservoir Co. v. Lake DeSmet Reservoir Co.*, 475 P.2d 548, 550 (Wyo. 1970), *supplemented*, 487 P.2d 324 (Wyo. 1971). Storage itself is not a beneficial use. *Lindblom v. Round Valley Water Co.*, 178 Cal. 450, 173 P. 994, 997 (1918).

tor or the specific purpose for which appropriation is made,<sup>11</sup> a water user has the duty to return to the stream all surplus or waste water so that future use can be made of it.<sup>12</sup> Therefore, if the consumption of water by evaporation as a pollution control method is to be recognized as rightful, it must be found to be a beneficial use in itself or part of the principal beneficial use for which the water has been diverted, rather than wasteful application or improper retention of surplus.

Beneficial use is, in some respects, a vague legal concept, the parameters of which are difficult to define.<sup>13</sup> The Alaska Legislature has undertaken to provide some guidance by defining "beneficial use" as "a use of water for the benefit of the appropriator, other persons or the public, that is reasonable and consistent with the public interest."<sup>14</sup> Presumably, any particular application of water will not be attempted unless beneficial to the appropriator, so the determination of beneficial use is based essentially on the standards of reasonableness and public interest; consequently,

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11. *McKinney v. Smith*, 21 Cal. 374, 381-84 (1863); *Ortman v. Dixon*, 13 Cal. 33, 38 (1859); *Pulaski Irrigation Ditch Co. v. City of Trinidad*, 70 Colo. 565, 203 P. 681, 682 (1922); *Nichols v. Hufford*, 21 Wyo. 477, 133 P. 1084, 1086 (1913).
  12. *Pulaski Irrigation Ditch Co. v. City of Trinidad*, *supra* note 11; *Brian v. Fremont Irrigation Co.*, 112 Utah 220, 186 P.2d 588, 590 (1947). *But see* *Natural Soda Products Co. v. City of Los Angeles*, 23 Cal. 2d 193, 143 P.2d 12 (1943), *cert. denied*, 321 U.S. 793 (1944), which held the City of Los Angeles liable for damages caused by the return of surplus water to a stream which had previously been entirely diverted by the city. The court refused to accept the city's argument that it was not only permitted, but required to return surplus water to the stream. *Id.* at 16.  
The rule for disposition of water under riparian law is equivalent to the general prior appropriation rule: all surplus water—that in excess of a reasonable amount for consumptive use—must be returned to the stream. *Hackensack Water Co. v. Village of Nyack*, 289 F. Supp. 671, 677 (S.D.N.Y. 1968). Consequently, a user that diverts large quantities of water from a stream, depositing all of the excess over consumptive uses in a different watershed, has been found to be diverting water unreasonably when lower riparian owners are thereby deprived of needed water. *Id.*
  13. *See generally* 1 HUTCHINS, WATER RIGHTS IN THE NINETEEN WESTERN STATES 9-19, 522-46 (1971), Trelease, *supra* note 4.
  14. ALASKA STAT. § 46.15.260 (1971). *See also* S.D. COMPILED LAWS ANN. § 46-1-6(6) (1967) which defines "beneficial use" as "any use of water that is reasonable and useful and beneficial to the appropriator, and at the same time is consistent with the interests of the public in the best utilization of water supplies"; and TEXAS WATER CODE ANN. tit. 2, § 5.002 (Vernon 1972) which defines "beneficial use" as "use of the amount of water which is economically necessary for a purpose authorized by this chapter, when reasonable intelligence and reasonable diligence are used in applying the water to that purpose."

it necessarily depends on the circumstances of each case.<sup>15</sup> A few states have listed those activities which constitute beneficial use,<sup>16</sup> but the lists do little to answer the beneficial use question as it relates to a specific new application of water since a determination must still be made, on the basis of public interest and reasonableness, of whether the new application is a contemplated part of one of the uses enumerated.

When the criteria of public interest and reasonableness are applied, the beneficial use determination is, at least partially, based on a comparative consideration of the relative values which can be produced by alternative applications of water.<sup>17</sup> A consumptive use which makes no significant contribution to increased productivity or to efficiency through cost saving is likely to fail the beneficial use test and be termed waste, for it makes no contribution to attainment of the goal of maximum utilization of water.

Whether consumption of water in a particular manner is a beneficial use depends not only on the relative benefits which can be produced with the water when applied in different ways, but also on the availability of alternative means of accomplishing a certain task which would not involve the consumption of water. For example, the use of water to carry debris from a reservoir to keep it out of hydroelectric plant turbines is wasteful where other means of debris disposal are available or can be devised to accomplish the same end.<sup>18</sup>

15. *See City & County of Denver v. Sheriff*, 105 Colo. 193, 96 P.2d 836, 842 (1939).

16. ALASKA STAT. § 46.15.260 (1971) lists domestic, agricultural, irrigation, industrial, manufacturing, mining, power, public, sanitary, fish and wildlife, and recreational uses; ARIZ. REV. STAT. § 45-141 (Supp. 1976) lists domestic, municipal, irrigation, stock watering, water power, recreation, wildlife and mining uses; TEXAS WATER CODE ANN. tit. 2, § 5.023 (Vernon 1972) lists domestic, municipal and industrial uses, irrigation, mining, hydroelectric power, navigation, recreation and pleasure, stock raising, public parks, and game preserves. The listing provided by the California Legislature may, however, be more useful in determining whether the application under discussion is a beneficial use, for, in addition to the common uses (domestic, irrigation, municipal, industrial, preservation and enhancement of wildlife, recreational, mining and power purposes), "any uses specified to be protected in any relevant water quality control plan" are specifically included within the contemplated beneficial uses. CAL. WATER CODE § 1257 (West 1971).

17. *See, e.g.*, CAL. WATER CODE § 1257 (West 1971).

18. *In re Water Rights of Deschutes River & Tributaries*, *supra* note 10.

Applying a similar analysis to the total containment problem, the Colorado Supreme Court has indicated that disposal by evaporation might be permitted where other methods of disposal or treatment are relatively expensive.<sup>19</sup> For public policy reasons, however, "this right to destroy the water by evaporation can exist only when there is no other practicable method of disposing of the sewage . . . ."<sup>20</sup> Consequently, where there are not compelling physical or economic reasons for implementation of total containment operations, the duty to return surplus water to the stream following the initial use would likely require purification and discharge.

### *Beneficial Use as a Changing Concept*

A most notable aspect of the beneficial use concept is that it is not constant. An application which is a beneficial use before demands on the water supply become excessive may not be considered beneficial in an era of scarcity.<sup>21</sup> Conversely, it may be only after the passage of time that courts and legislatures recognize the importance of new uses such as the maintenance of stream flow adequate to dilute polluted effluent<sup>22</sup> or to preserve aesthetic values and recreational opportunities.<sup>23</sup> The changing nature of beneficial use indicates that the determination of whether disposal of waste water by evaporation is within a user's appropriation rights must be made in light of the needs and constraints of the time. In particular, increasingly stringent water quality standards may require economical innovations in pollution disposal, while simultaneously expanding demands on the water supply suggest that treatment for subsequent use may be necessary even though the financial burden on the polluter may be heavy.

19. Pulaski Irrigation Ditch Co. v. City of Trinidad, *supra* note 11.

20. *Id.* at 683.

21. Trelease, *supra* note 4, at 17. This is not to say that an appropriation will expire when the use to which the water is put becomes uneconomical due to changed conditions, but that a new appropriation may not be permitted for the use which was considered sufficient to support an appropriation under the circumstances of a prior period in time. *But see* the text accompanying notes 24 and 27, *infra*, which suggests that an old application of water once considered acceptable, may, in fact, be terminated when it is considered wasteful under changed circumstances.

22. *Id.* at 20.

23. State Dept. of Parks v. Idaho Dept. of Water Administration, 96 Idaho 440, 530 P.2d 924, 928 (1974).

Because of the changing nature of beneficial use, the right to demand or keep water for an application merely incidental to the user's purpose in diverting water is somewhat similar to a water user's right to continue utilization of an old means of diversion under changed conditions. In cases involving the protection of means of diversion, the right to make use of water in a quantity in excess of that actually needed for the user's principal operation exists where reasonable and efficient under the particular conditions.<sup>24</sup> Some courts have held, however, that more sophisticated methods must be adopted as demands on the water supply increase with the passage of time and formerly acceptable methods of handling water are termed unduly wasteful.<sup>25</sup> Where the application of water in a particular fashion is outlawed as wasteful despite a record of prior application in such fashion, the court may find that a *right* to so apply the water never existed; the user was merely acting under a *privilege* which existed only so long as did an abundance of water.<sup>26</sup>

So it is that evaporation of water to meet pollution restrictions may have been or may be a privilege in times and places of abundant water supplies. In conditions of scarcity, however, such an application may not be a beneficial use and the user may have no right to continue such consumption of water.<sup>27</sup>

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24. *State ex rel. Crowley v. District Court of Sixth Judicial Dist.*, 108 Mont. 89, 88 P.2d 23, 29 (1939).

25. *In re Willow Creek*, 74 Or. 592, 144 P. 505, 523 (1914), *modified*, 74 Or. 592, 146 P. 475 (1915).

26. *Warner Valley Stock Co. v. Lynch*, 215 Or. 523, 336 P.2d 884 (1959).

27. The utilization of total containment systems may turn out to be an ephemeral phenomenon for a very different reason. The structure of the Federal Water Pollution Control Act of 1972, 33 U.S.C. §§ 1251-1376 (Supp. V 1975) with increasing water quality standards and requirements that increasingly advanced technology be applied to control water pollution may have implications for the permanence of the systems as solutions to effluent disposal problems. While a total containment system may be included within the category of "best practicable control technology currently available" for limitation of effluents which the Act requires to be in use in 1977, § 301(b)(1)(A) of the Act, 33 U.S.C. § 1311(b)(1)(A), it may not be the "best available technology economically achievable" which must be implemented by 1983, § 301(b)(2)(A) of the Act, 33 U.S.C. § 1311(b)(2)(A). On the other hand, a total containment system, since it completely eliminates polluted discharge, may be the best available technology and, therefore, usable or even required under the 1983 standards. The ambiguity and lack of interpretation of these standards makes speculation either way quite risky.

*Special Rights of Municipalities*

The indication of some cases has been that a disposition which may be termed wasteful or unreasonable in the case of an industrial plant or other private entity may be a reasonable and beneficial use for a municipality. Some courts have adopted special rules in cases involving use of water by cities, holding that a city is not limited in its appropriation to the amount needed by its citizens at the time its right is adjudicated, but is entitled to appropriate sufficient water for probable future demands,<sup>28</sup> that a city can dispose of surplus water up to the amount of its diversion even though it returns no water for junior appropriators,<sup>29</sup> and that a city can impound water for emergencies against the claim of junior appropriators that it is not put to beneficial use.<sup>30</sup>

On the other hand, some courts have, in effect, declared that the rights of a city can be no greater than the rights of any other appropriator. Decisions have been rendered limiting the right of a city to dispose of its surplus water<sup>31</sup> and denying a city the right to impound water in excess of its actual needs.<sup>32</sup>

Special municipal water rights, where they exist,<sup>33</sup> may extend so far as to permit a city to consume its entire appropriation by evaporation when such disposition would not be permissible in the case of a non-public entity; the Wyoming Supreme Court, in *Wyoming Hereford Ranch v. Hammond Packing Co.*,<sup>34</sup> has recognized this possibility:

Even in this state, where the conservation of water for irrigation is so important, we would not care to

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28. *City & County of Denver v. Sheriff*, *supra* note 15; *Beus v. City of Soda Springs*, 62 Idaho 1, 107 P.2d 151 (1940); *Holt v. City of Cheyenne*, 22 Wyo. 212, 137 P. 876, 880 (1914).

29. *Wyoming Hereford Ranch v. Hammond Packing Co.*, 33 Wyo. 14, 236 P. 764 (1925); *Holt v. City of Cheyenne*, *supra* note 28.

30. *Van Tassel Real Estate & Live Stock Co. v. City of Cheyenne*, 49 Wyo. 333, 54 P.2d 906, 915, *cert. denied*, 299 U.S. 574 (1936).

31. *Pulaski Irrigation Ditch Co. v. City of Trinidad*, *supra* note 11.

32. *Gwynn v. City of Philipsburg*, 156 Mont. 194, 478 P.2d 855, 857 (1970).

33. Special rights for municipal users also exist under the reasonable use rule of the riparian doctrine. Consequently, that which is an unreasonable use for an individual may be deemed reasonable if it is a municipal activity. *City of Valparaiso v. Hagen*, 153 Ind. 337, 54 N.E. 1062 (1899).

34. *Supra* note 29.

hold that in disposition of sewage the city could not adopt some means that would completely consume it. It might, we think, be diverted to waste places, or to any chosen place where it would not become a nuisance, without any consideration of the demands of water users who might be benefited by its disposition in some other manner.<sup>35</sup>

*Wyoming Hereford Ranch* held that the City of Cheyenne could dispose of its sewage water by sale and deposit the water directly into the ditch of the buyer despite the claims of downstream appropriators. On strikingly similar facts, however, the Colorado Supreme Court held, in *Pulaski Irrigating Ditch Co. v. City of Trinidad*,<sup>36</sup> that the City of Trinidad had no right to sell its purified sewage water to an irrigating company in lieu of returning it to the stream. Yet, the Colorado court, in dictum, noted that disposal of city sewage by evaporation might be recognized as a rightful disposition of water in the proper circumstances.<sup>37</sup>

In a rational system structured to attain maximum utilization of a scarce resource, the existence of special rights for municipalities is difficult to justify. It may be quite true that the domestic needs of city water users constitute a higher priority item than do agricultural, industrial, power and recreational needs. Also, the fact that cities have generally followed predictable growth patterns which have permitted competent planning for steady expansion of water needs may explain the variations in beneficial use rules for cities. But neither the priority of use nor the planning capabilities justify rules permitting cities to withhold water from other productive uses at the expense of other users. Although the high priority of municipal needs may require special tools such as the power of eminent domain, municipalities cannot reasonably be excepted from the operation of basic water utilization laws. Consumption of a scarce resource in a wasteful manner makes no sense, regardless of the consuming entity. The goal of maximum utilization cannot be at-

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35. *Id.* at 772.

36. *Supra* note 11.

37. *See* text accompanying note 20, *supra*.

tained where any user, even a high priority municipal user, is able to prevent the utilization of water by subsequent users or the transfer of water to a use which may be of greater importance.

Despite the absence of sound economic reasons for distinguishing city water rights from others, the weight of authority appears to recognize special municipal water rights for which the reasonable beneficial use concept is construed much more liberally; consequently, the identity of a user proposing a total containment system may be a crucial factor in determining the system's legality insofar as it depends on application to a beneficial use. While Wyoming has recognized and Colorado has indicated that it would recognize the right of a city to cease return flow on which other water users have relied, it is by no means clear that such a right would be recognized on the part of municipalities in other states or on the part of private users in any state.

Whether the water user seeking to initiate a total containment program is a municipal user or a private user, the question of whether consumption by evaporation is a beneficial application of water such that the contemplated disposition can be defended is not answered clearly by the definition of beneficial use standing alone. The factors of reasonableness and public interest suggest that the question of whether such an application is to be termed a beneficial use rather than waste can best be answered through an analysis of the relevant social and economic considerations. Following a discussion of the relative rights of appropriators in situations where the pattern of application of water is changed, the social and economic factors involved here will be analyzed more thoroughly.

#### RIGHTS OF JUNIOR APPROPRIATORS TO RETURN FLOW

Assuming that, in at least some cases, disposition of polluted water by total containment and evaporation is found to be a reasonable beneficial use so that it is possible to acquire a right to so utilize water, the question of viability of

the system to withstand legal challenges revolves around the relative rights of the user planning to cease discharge and other water users affected thereby.

Generally, appropriators senior to the no-discharge user will have the right, if upstream, to divert all water necessary to satisfy their prior appropriations and, if downstream, to compel the no-discharge user to reduce or cease diversion of water altogether until the senior appropriations are satisfied. Consequently, the question of whether the cessation of return flow is permissible does not arise in the context of a conflict with a prior appropriator. The question will arise with respect to the relative rights of the no-discharge user and junior appropriators—both downstream juniors who depend directly on the return flow to satisfy their appropriations and upstream juniors who will lose their water to the calls of downstream appropriators senior to themselves if those downstream users no longer have the no-discharge user's return flow to satisfy their appropriations.

The language of western case law has distinguished those situations in which the application of water in a manner differing from that in the past is a "change of use," which is subject to strict limitations, or is no more than a "reuse" or "more efficient use" within the contemplation of the original appropriation. Cases have applied rules which differ widely depending on this classification; each category of cases is discussed separately in the following material.

### *Change of Use*

The obstacle facing an appropriator intending to change his place of diversion or place or manner of use is the burden of proving that the change will not injure junior appropriators. The well-known *Farmers Highline Canal & Reservoir Co. v. City of Golden*<sup>38</sup> case held that junior appropriators have vested rights in the continuation of stream conditions as they existed at the time of their appropriations and

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38. 129 Colo. 575, 272 P.2d 629 (1954).

may resist proposed changes which will adversely affect their rights. The right of an appropriator to change his place of diversion or place or nature of use will, therefore, be denied where the change will result in increased consumption or will otherwise injuriously affect junior appropriators.<sup>39</sup> The rules protecting junior appropriators from changes in use or place of use which result in increased consumption or injury have been codified by some states such as Wyoming where the appropriator making such a change is limited to the historic amount of diversion, historic rate of diversion and historic consumption, and is not permitted to decrease the historic amount of return flow or otherwise injure existing appropriators.<sup>40</sup>

A great number of the cases providing for the protection of the vested rights of junior appropriators to continuation of stream conditions at the time of their appropriations deal with proposals of prior appropriators to change points of diversion.<sup>41</sup> These cases clearly make such changes conditional on preservation of junior rights. Yet, the Colorado Supreme Court has recently held, in *Metropolitan Denver Sewage Disposal District No. 1 v. Farmers Reservoir & Irrigation Co.*,<sup>42</sup> that changes of point of return of waste water are not governed by the same rules as changes of point of diversion. The court denied the existence of a vested right in downstream appropriators to maintenance of the same point of return flow. On its surface, the *Metropolitan Denver* decision appears to effectively deny junior appropriators a right to return flow since the prior user is free to move his point of discharge from above to below any junior appropriator's point of diversion. Yet, the decision was rendered on the assumption that the waste water, although it could be returned at a different point, had to be returned to the

39. *Id.*; *Lindsey v. McClure*, 136 F.2d 65 (10th Cir. 1943); *Kidd v. Laird*, 15 Cal. 161 (1860); *Fort Collins Milling & Elevator Co. v. Larimer & Weld Irrigation Co.*, 61 Colo. 45, 156 P. 140 (1915); *East Bench Irrigation Co. v. Deseret Irrigation Co.*, 2 Utah 2d 170, 271 P.2d 449 (1954), *reaffirmed*, 5 Utah 2d 235, 300 P.2d 603 (1956).

40. WYO. STAT. § 41-4.1 (Supp. 1975).

41. *Farmers Highline Canal & Reservoir Co. v. City of Golden*, *supra* note 38, at 635; *Farmer's Reservoir & Irrigation Co. v. Town of Lafayette*, 93 Colo. 173, 24 P.2d 756, 758 (1933).

42. 179 Colo. 36, 499 P.2d 1190 (1972).

stream for the benefit of junior appropriators.<sup>43</sup> The essence of the Colorado controversy, as the court noted, was merely whether Denver, the prior appropriator which changed its discharge point, or the subsequent users for irrigation must bear the cost of lifting the city's effluent from the city's new discharge point upstream to the irrigators' point of diversion.<sup>44</sup> It is true, as explained later in this Comment, that the cessation of return flow issue is, also, largely a cost allocation question. But the *Metropolitan Denver* court made it clear that cessation of return flow and change of point of return flow are separate issues—junior appropriators do have the right to return flow and are subject only to the senior appropriator's right to change the point of return flow.

Although the holding of *Metropolitan Denver* is not directed at the issue of cessation of return flow, an argument can be made that the case is authority, in an analogous fact situation, for an exception to the rule protecting junior appropriators from changes in stream conditions. The holding of the case has, however, been subject to pointed criticism.<sup>45</sup> A change in point of return flow can directly cause loss to juniors (a loss of use of the return flow or a loss due to the cost of pumping the return flow to the junior appropriators' diversion points) just as can a change of point of diversion. Thus, it is anomalous to protect junior appropriators from changes in point of diversion, but not changes in point of discharge.<sup>46</sup>

In view of the assumption of the *Metropolitan Denver* court that continuation of return flow is required, and in that the holding seems inconsistent with the basic law protecting the vested rights of subsequent appropriators, it is doubtful that any valuable analogy can be made to that case for the purpose of solving the cessation of return flow issue.

In the common cases in which return flow is relied upon by junior appropriators, both upstream and downstream, to

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43. *Id.* at 1192.

44. *Id.*

45. See Williams, *Optimizing Water Use: The Return Flow Issue*, 44 U. COLO. L. REV. 301 (1973).

46. *Id.* at 306.

satisfy downstream appropriations, the general rule under which junior appropriators have the right to prevent changes which adversely affect their rights is likely to prevent implementation of a total containment system which eliminates all return flow. A senior appropriator cannot exercise his rights to the detriment of junior appropriators by "an enlarged or another use, measured either by volume or time."<sup>47</sup> Where an appropriator has taken water for a specified purpose (e.g., mining), he cannot, to the detriment of junior appropriators, extend the application of water to a new use or different or additional purpose (e.g., agriculture or another separate mining operation).<sup>48</sup> A decision that the construction of evaporation ponds for pollution control reasons would be equivalent to the construction of a storage reservoir would not place the total containment user in any better position since western courts have specifically denied senior appropriators the right to change direct flow rights into storage or reservoir rights where such change would infringe on the rights of junior appropriators.<sup>49</sup>

The change of use rules have not been subject to exception, even for municipalities.<sup>50</sup> Consequently, the no-discharge user has a thin chance of success in defending his right to cease all return flow under change of use rules where junior appropriators have relied on his return flow for their appropriations.

### *Reuse of Water*

A viable argument can be made, however, that the initiation of a system of total consumption of polluted water by evaporation is not a change of use which is subject to the law protecting junior appropriators, but is a reuse or more efficient use which is permitted and even encouraged by some

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47. Colorado Milling & Elevator Co. v. Larimer & Weld Irrigation Co., 26 Colo. 47, 56 P. 185, 187 (1899).

48. McKinney v. Smith, *supra* note 11.

49. Colorado Milling & Elevator Co. v. Larimer & Weld Irrigation Co., *supra* note 47; Piute Reservoir & Irrigation Co. v. West Panguitch Irrigation & Reservoir Co., 13 Utah 2d 6, 367 P.2d 855 (1962).

50. Farmers Highline Canal & Reservoir Co. v. City of Golden, *supra* note 38, at 635; Farmer's Reservoir & Irrigation Co. v. Town of Lafayette, *supra* note 41.

case law.<sup>51</sup> The appropriator has been said, by some courts, to be the owner of water and entitled to possession after the time of diversion for as long as the water remains on his property or under his control.<sup>52</sup> The phraseology of other courts indicates that water is continually in public ownership, but that the state cedes control during periods of beneficial use by an appropriator.<sup>53</sup> Before the water leaves his control, the user can recapture it and reuse it as he wishes.<sup>54</sup> As long as he is acting in good faith, a water user is not obligated to continue to supply appropriators of his waste water.<sup>55</sup> Thus, since he cannot be compelled to waste water, if he utilizes the water in such a manner that it is entirely consumed, no junior appropriator can complain.<sup>56</sup>

However, where an appropriator has permitted water to return to the stream for a considerable period of time, a subsequent appropriator may acquire a prescriptive right under which he can prevent the discontinuance of such waste by improvements in the initial appropriator's system.<sup>57</sup> Since some cases limit the amount of an appropriation to that contemplated within the scope of the original appropriation<sup>58</sup> or actually applied to beneficial use within a reasonable time after initial notice of intent to appropriate,<sup>59</sup> the lapse of time before an attempt to recapture and reuse waste water may show abandonment of the right to reuse.<sup>60</sup>

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51. "It would seem that an appropriator should be commended for recapturing water that has already been used by himself and applying it again in a beneficial manner." *Barker v. Sonner*, 135 Or. 75, 294 P. 1053, 1054 (1931).

52. *Rock Creek Ditch & Flume Co. v. Miller*, 93 Mont. 248, 17 P.2d 1074, 1080 (1933); *Smithfield West Bench Irrigation Co. v. Union Central Life Ins. Co.*, 105 Utah 468, 142 P.2d 866, 867 (1943), *reaffirmed*, 113 Utah 356, 195 P.2d 249 (1948).

53. *Willey v. Decker*, 11 Wyo. 496, 73 P. 210 (1903). And see *Tucker v. Missoula Light & Water Co.*, 77 Mont. 91, 250 P. 11, 15 (1926).

54. *Lambeye v. Garcia*, 18 Ariz. 178, 157 P. 977 (1916); *Rio Grande Reservoir & Ditch Co. v. Wagon Wheel Gap Improvement Co.*, 68 Colo. 437, 191 P. 129 (1920); *Barker v. Sonner*, *supra* note 51; *Lasson v. Seeley*, 120 Utah 679, 238 P.2d 418, 422 (1951); *Smithfield West Bench Irrigation Co. v. Union Central Life Ins. Co.*, *supra* note 52, 195 P.2d at 252.

See generally Note, *Rights of the Original Appropriator to Recapture Water Used in Irrigation*, 11 Wyo. L.J. 39 (1956).

55. *Tongue Creek Orchard Co. v. Town of Orchard City*, 131 Colo. 177, 280 P.2d 426, 428 (1955).

56. *Bower v. Big Horn Canal Ass'n*, 77 Wyo. 80, 307 P.2d 593, 601 (1957).

57. *Dannenbrink v. Burger*, 23 Cal. App. 587, 138 P. 751 (1914). *Contra*, *Binning v. Miller*, 55 Wyo. 451, 102 P.2d 54, 61 (1940).

58. *Oliver v. Skinner*, 190 Or. 423, 226 P.2d 507, 513 (1951).

59. *Union Mill and Mining Co. v. Dangberg*, 81 F. 73, 110 (C.C.D. Nev. 1897).

60. *Jones v. Warm Springs Irrigation Dist.*, 162 Or. 186, 91 P.2d 542 (1939).

Except in cases where there may be abandonment of the reuse right or acquisition of a prescriptive right to receive waste water, the general rule appears to be that the rights of junior appropriators to prevent increased consumption by a senior appropriator are dependent on whether the senior appropriator has relinquished control of the water before his reuse begins.<sup>61</sup> The holding of *Wyoming Hereford Ranch v. Hammond Packing Co.*<sup>62</sup> clarifies the distinction between usage by the original appropriator before relinquishment of control and after such event. A junior appropriator has no right to interfere with a city's practice of selling water to another user where the transfer is accomplished by depositing city sewage effluent directly into the user's ditch.<sup>63</sup> However, sewage deposited back into a stream channel after having been used to the full extent intended by the city becomes part of the state waters, again subject to appropriation on the basis of priority, and a buyer of city sewage effluent has no right to take the water out of the stream by virtue of his contract with the city.<sup>64</sup>

There is authority, therefore, to support the proposition that any disposition of water is legal if done by the appropriator, at least if that appropriator is a municipality, before the water leaves its dominion and control. And the weight of authority holds that any appropriator can recapture waste water before it leaves his control to reuse it or can reduce waste flow to make more efficient use of the water.

#### *Total Containment Pollution Control—Change of Use or Reuse?*

The rules with respect to change of use and recapture of waste water are fairly clear. The right to change the

61. Courts differ as to the specific time and place at which relinquishment of control is said to occur: when the water begins its journey back to the stream, *Rio Grande Reservoir & Ditch Co. v. Wagon Wheel Gap Improvement Co.*, *supra* note 54; when the water leaves the appropriator's land, *Barker v. Sonner*, *supra* note 51; or when the water reenters a natural stream, *Lasson v. Seeley*, *supra* note 54.

62. *Supra* note 29, at 772-73.

63. *But see* *Pulaski Irrigation Ditch Co. v. City of Trinidad*, *supra* note 11, which denied a city the right to sell its purified sewage water.

64. *See also* *Lasson v. Seeley*, *supra* note 54.

manner of use is dependent upon the vested rights of junior appropriators, so a change which involves increased consumption and diminished return flow may be prevented by the junior appropriators.<sup>65</sup> On the other hand, recapture and reuse of waste water is, in the absence of abandonment of the right, nearly always held to be within the rights of an appropriator and no junior appropriator can compel continuation of the waste flow. Although the rules themselves can be easily stated, the question of which rule applies to the instant problem is not so easily solved.

While some actions on the part of an appropriator may be classified without much difficulty as changes of use (e.g., a change from agricultural use to municipal use<sup>66</sup>) or as reuse or more efficient use (e.g., use for irrigation of a more productive crop than was previously grown, which leads to consumption of a greater quantity of water<sup>67</sup>), the no-discharge pollution control system seems capable of falling into either category. Since the immediate discussion presumes a finding by the court that the utilization of a total containment system is a beneficial use, and since the implementation of the system is a use new and different from the purification and discharge operation which the system supposedly replaces, there are characteristics of a change of use. Yet, the appropriator is taking the waste water which remains after he first uses the water for ordinary municipal or industrial use and, before it leaves his control, reapplying it in a manner which allows his operation to work more efficiently than if he purified and discharged the water; this looks like a reuse or more efficient use.

From the cases noted in the above discussion, it can be inferred that the rules protecting the rights of junior appropriators have generally arisen from situations in which water rights have been sold to new users for new uses. Attempts

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65. The change of use rule is not applied in the case of water imported from another watershed, as to which the importer has unrestricted rights to reuse, make successive uses, or make any other disposition of the surplus. *Denver v. Fulton Irrigating Ditch Co.*, 179 Colo. 47, 506 P.2d 144 (1973).

66. *City of Westminster v. Church*, 167 Colo. 1, 445 P.2d 52 (1968); *Farmers Highline Canal & Reservoir Co. v. City of Golden*, *supra* note 38.

67. *Lasson v. Seeley*, *supra* note 54.

by an appropriator to improve the efficiency of his own system are more likely to avoid categorization as changes of use and will be encouraged. This distinction between transfers and internal improvements indicates a significant probability that implementation of a total containment system will be viewed favorably by courts and classified as a reuse or more efficient use of water.

However, as was indicated in the introduction to this Comment, the most valid reason for a distinction between cases protecting junior rights and cases permitting change without qualification is that junior appropriators should be protected from major, disruptive changes by another appropriator, yet incremental improvements in the internal efficiency of one appropriator's system should be encouraged in order to promote maximum utilization of water. Since no change could be more significant than total cessation of return flow, there is a valid reason to subject the user who implements a total containment system to change of use rules.

The reuse-change of use issue is likely to be hotly debated in future cases involving the relative rights of users implementing total containment systems and junior appropriators injuriously affected thereby. But the above discussion should serve to illustrate that the argument twists itself into no more than a game of semantics. It is submitted by this author that the issue of legality of total containment systems should turn, not on an arbitrary classification of the problem as one subject to the change of use rule or one subject to the reuse or more efficient use rule, but on a policy determination based on the economic and social considerations pervading the problem. A court may answer the classification question after first analyzing the social and economic impacts of its decision so that the classification made will give the "right" result; a court with a more direct approach may recognize the irrelevance of the classification and base its decision solely on the policy considerations which point quite directly to an answer to the question of whether a total containment right is consistent with our legal structure and the goal of maximum utilization of water.

## ECONOMIC IMPACT AND POLICY CONSIDERATIONS

An economic analysis of the total containment problem indicates that, as with many cases of conflicting rights,<sup>68</sup> the determination of whether cessation of return flow as part of a total containment waste disposal system is rightful as against other affected parties will rarely determine whether or not such systems are implemented; the determination of legal rights will serve principally to allocate costs among the affected parties.

A proposal for a total containment system may come from any water user for whom the evaporation system is less expensive than the treatment required by state and federal laws<sup>69</sup> for water returned to the stream. Whether such a system will be implemented, however, will be dependent on the relative costs and benefits to the polluter and to those who would utilize the polluter's waste water.

In any case where the cost to the user who is producing impure effluent of purifying the water before returning it to the stream is greater than the benefits it produces for subsequent users, the original user will not expend the money necessary to purify the water, and a total containment system is likely to be utilized. This consequence will follow regardless of whether the initial user is held to have the right to cease return flow—in which case those who would have been subsequent users will bear the loss, their supply of water from the first user's return flow being terminated without compensation—or whether the initial user is held to be without the right to cease return flow to the detriment of junior appropriators—in which case the initial user will, instead of purifying his effluent, find it preferable to buy the water rights of the subsequent users at a price greater than the discounted benefits which those users will forfeit by parting with their water rights and less than the discounted costs to the initial user of operating a continuing purification program.

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68. See generally Coase, *The Problem of Social Cost*, 3 J. LAW & ECON. 1 (1960).

69. Federal Water Pollution Control Act of 1972 §§ 301-405, 33 U.S.C. §§ 1311-1345 (Supp. V 1975); WYO. STAT. § 35-502.18 (Supp. 1975).

On the other hand, in those situations where the cost of treating the polluted effluent and returning it to the stream is less than the benefits which can be produced by subsequent appropriators' reuse of the water, it is unlikely that the no-discharge, total containment system would be implemented. Again, this is true regardless of whether the initial user is held to lack the right to cease return flow—in which case he will be obligated to bear the expense of purification as part of the cost of his operation—or whether the use of a total containment system by the initial user is declared legally permissible—in which case the subsequent appropriators will pay the initial user to restore the water to usable quality and return it to the stream since there will be a price which will cover the initial user's purification costs and still allow the subsequent users to produce a net benefit.

The above propositions may be a bit overly-broad in that they ignore the transaction costs present in the real world and the constraints imposed by our present legal system which may frustrate the actions necessary to achieve the optimum economic result. Thus, in situations where the purification costs and the benefits which can be produced from subsequent use are not far apart or where relationships are structured legally for considerations other than optimization of production, the determination of relative rights may, in fact, be determinative of whether a total containment system will be implemented. But the propositions, truisms in the normative situation, indicate that generally the determination of whether total containment is rightful serves principally to allocate costs. Consequently, social policy considerations indicating which party *should* bear the costs involved will play an important role in determining how the rights of the parties are to be defined.

In view of the fact that the polluted discharge is a by-product of the initial user's operation, it would appear that the costs of purification or of compensating subsequent users for the loss of water which will result if a total containment system is implemented should be internalized into the initial user's operation rather than allowed to fall on other members

of the economic community. The internalization of social costs can be accomplished best by denying users the right to meet pollution control requirements by containing and evaporating polluted effluent. It will follow from denial of this right that purification will occur at the expense of the polluter when the cost of doing so does not exceed the benefits which can be produced by subsequent users relying on the return flow, and that subsequent users will not be deprived of the return flow on which they rely unless compensated at the expense of the polluter.

However, one branch of economic-legal theory teaches that a judgment such as this concerning which party is creating a problem and should bear the cost is all too hasty if it fails to take account of the reciprocal nature of the problem of allocating social costs.<sup>70</sup> To say that the initial user is polluting and evaporating water is not to conclude, necessarily, that it is he who is imposing an external cost upon other members of the economic system. One would not be without support in identifying the cost of water treatment as an expense associated with the operations of subsequent users who are imposing a cost on the polluter by demanding the continued flow of clean water. It is improper, therefore, to identify either polluters or those who demand preservation of the environment in its status quo as creators of the pollution problem, for no problem would exist without both.

This analysis will not fully answer any question; it serves merely to put the question in perspective. The identification of the members of one group within the economic community as the villains upon whom the obligation to internalize social costs should fall is nothing other than a social judgment. And that initial judgment has been made. The producer of pollution is recognized in our system as the creator of the pollution problem; the parties demanding preservation of the water supply in a state near natural quality are within their rights.<sup>71</sup> To say, then, that the social costs

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70. Coase, *supra* note 68.

71. Federal Water Pollution Control Act of 1972 §§ 101, 301(a), 33 U.S.C. §§ 1251, 1311(a) (Supp. V 1975).

of water pollution are externalities of the polluter's operation is correct, for our collective judgment is that it is he who is acting outside the bounds of his rights and who should be forced to internalize the social costs of water pollution.

In order to avoid undue complexity of overlapping rights in the legal system and to minimize the transaction costs inherent in the arrangements spawned by the private sector to fit its productive organization within that system,<sup>72</sup> it is important that newly formed legal rules be aligned rationally with the established structure. Having made a socio-political decision at an earlier time that the acts of polluters are to be discouraged, our legal system is now structured so that increasingly heavy restrictions are falling upon producers of water pollution.<sup>73</sup> Denial of total containment rights is a determination which will not only be consistent with present social philosophy identifying the polluter as the outlaw, but will serve to align liability for the pollution problem on one party—the polluter. Resulting from this will be greater simplification of the process of negotiation between economic entities to move resources—especially, clean water—to the producer of greatest marginal benefit.

An additional factor supporting the policy conclusion that total containment rights should be denied in order that the costs of correcting the polluted water problem fall on the polluter is an observation of the identity of the parties. The producer of large quantities of heavily polluted effluent—the entity likely to propose a total containment system—will usually be a municipality or industrial plant with the capacity to

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72. One of the complications which may arise in private transactions among water users and which deserves special mention is the uncertainty of the time period for which total containment systems can be legally used. As explained in note 27, *supra*, total containment may be merely an interim solution to a water user's pollution control problem. Because of the requirements that increasingly effective technology be applied by polluters and because of the possibility that "better than best" technology may be required on particular waterways, see Goldfarb, *Better Than Best: A Cross-current in the Federal Water Pollution Control Act Amendments of 1972*, 11 LAND & WATER L. REV. 1 (1976), the uncertainties in the application of the law may be such that the parties fail to reach the economic solution that theoretically should be reached. Thus, it is even more important that the legal rules be structured to guide activities toward the goal of maximum utilization of water.

73. Federal Water Pollution Control Act 1972 § 301, 33 U.S.C. § 1311 (Supp. V 1975).

absorb the costs of purification or of total containment (including the cost of compensating subsequent users for the loss of return flow). These costs will be passed on to the consumers of water provided by cities or of goods produced by industrial plants. Consequently, those persons receiving the benefits of the operations which have created the pollution problems will be obligated to pay the full cost, including external social costs, of producing the goods and services which they use.

If, however, the total containment process were held to be a legally permissible means of meeting water quality control requirements, a distorted cost allocation would result. The burden of bearing the external costs of the initial user would fall on subsequent users who would either suffer the loss caused by cessation of return flow or pay the price of purifying the initial user's effluent so that it could be returned to the stream for subsequent use rather than evaporated. If each junior right were subject to a right on the part of prior appropriators to cease return flow, downstream users would lose their ability to rely on return flow, with a resulting instability in this portion of the economic system and discouragement of further capital investment.

Thus, the social and economic realities indicate that an inequitable, inefficient allocation of resources will result if the implementation of total containment pollution control systems is permitted to occur as of right. This, in itself, should be a sufficient basis to determine the issue of whether there is a right to terminate all water discharge to avoid effluent treatment requirements, for it demonstrates that such action would be wasteful in its effect on the general economic system. The conclusion that pollution control by evaporation is wasteful will insure protection of the rights of present users and insure the opportunity for future applications to beneficial use by later appropriators who will be able to force termination of wasteful consumption by a no-discharge user.

Such a rule will, however, be of no consequence in those locations where water resources are of such abundance that

total containment and evaporation is an efficient disposition of water. The determination that consumption by evaporation is waste necessarily assumes a situation in which water resources are scarce and must be allocated among those making conflicting demands. As previously explained, the concept of beneficial use—the converse of waste—is relative and varies with changing circumstances. The conclusion of this article that total containment systems are wasteful in areas of scarcity does not affect the privilege<sup>74</sup> to make virtually unrestricted disposition of water until the time when increasing demands make a particular disposition unreasonable.<sup>75</sup>

If the utilization of a total containment pollution control system is regarded as a beneficial application of water even where there may be competing demands for the water, the above social and economic factors suggest, at least, that the implementation of such a system by an established water user not be at the expense of other established water appropriators. In order to have the cost of solving the pollution problem fall on the polluter rather than other members of the economic system, the implementation of the system appears to be most reasonably categorized, if categorization is necessary, as a change of use subject to junior rights rather than a reuse or more efficient use. This conclusion is less satisfactory than a determination that consumption by evaporation is waste because it provides no protection for future appropriators who will take subject to the consumption-by-evaporation appropriation and will be forced, therefore, to bear the external costs imposed by the operations of the no-discharge user. Although present water users may be equally well protected by a decision subjecting a total containment user to change of use rules as by a disallowance of the system as wasteful, the analysis of basic economic effects of the legal determination has indicated no reason for a distinction between affected producers presently established and those

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74. See *Warner Valley Stock Co. v. Lynch*, *supra* note 26.

75. Those states which make waste a criminal offense recognize that criminal waste does not occur unless there is a use to the detriment of others. ARIZ. REV. STAT. § 45-109(A)(5) (1956); N.M. STAT. ANN. § 75-7-4 (Supp. 1975); WYO. STAT. § 41-201 (1957).

who begin their operations in the future. In any case, the social costs of water pollution are properly imposed on the polluter.

Myriad cases have held that an appropriator's water right is a valuable property right.<sup>76</sup> But this right is worth little if upstream users have the right to terminate return flow on which downstream users have relied. If return flow is terminated by virtue of the right of the polluter to do so, there is no taking for which compensation need be paid since the determination that the cessation of return flow is within the rights of the initial user is a determination that the property rights of subsequent users are subject to this right. If, however, the right to consume one's entire diversion by evaporation of effluent is denied, the implementation of a total containment system will require negotiation and purchase of other water rights or exercise of the power of eminent domain by the total containment user, for the resulting alteration of conditions of return flow on which junior appropriators have relied at the time of their appropriations is, effectively, a taking of property of the other appropriators.

Thus, saying that a water user should be able to exercise a total containment right only if he compensates injured parties is equivalent to saying that there is no total containment right, for then the system will be implemented only if affected parties are compensated by purchase of their rights. Consequently, if total containment rights are denied, as our legal and economic structure suggests that they should be, total containment systems can exist only where the supply of water is so abundant that there are no adversely affected parties or where the benefits of subsequent use are sufficiently low that the no-discharge user is able to fully compensate all injured parties.

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76. *Lindsey v. McClure*, *supra* note 39, at 70; *Mitchell Irrigation Dist. v. Sharp*, 121 F.2d 964, 967 (10th Cir.), *cert. denied*, 314 U.S. 667 (1941); *Farmers Highline Canal & Reservoir Co. v. City of Golden*, *supra* note 38, at 631; *Harrer v. Northern Pac. Ry. Co.*, 147 Mont. 130, 410 P.2d 713, 715 (1966); *Wyoming Hereford Ranch v. Hammond Packing Co.*, *supra* note 29, at 765. Similarly, the right of a riparian proprietor to the reasonable use of water flowing past his land is property. *Crawford Co. v. Hathaway*, *supra* note 6, at 789.

## CONCLUSION

The concept of reasonable beneficial use and the change of use-reuse dichotomy can be used to effectively respond to the issue of legality of total containment water quality control systems only when applied in conjunction with considerations of the policy of maximum utilization of water, current social philosophy and the real economic effects of the legal determinations. Our legal and economic framework suggests that the social costs of each user's operation should be internalized—that the costs of implementing a total containment pollution control system or of its alternative, effluent treatment, should be absorbed by the polluter and the consumers who benefit from the operations causing the water pollution. Where a total containment system is a feasible pollution control alternative for a water user who discharges effluent unsuitable for return to the stream, the externalities of his operation will be internalized only if he is denied the right to cease return flow in lieu of treating and discharging his polluted effluent.

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