

# A MODEL STATE WATER CODE FOR RIVER BASIN DEVELOPMENT

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## I

### INTRODUCTION

River basin development generally calls to mind the Tennessee Valley, the Missouri Valley, the Colorado Valley—large areas, covering several states or parts of states. Attention focuses on the basin and on the role that rivers, once thought of as barriers, have come to play as nationally or regionally unifying forces. The over-all problems seem, at first blush, primarily to be federal ones that transcend purely state or local interest. But the fact is that rivers form and cross the boundaries of several states, and these states, thus, have exerted and will continue to exert a great influence on their development. Moreover, no matter how unified a “river basin plan” may appear to be as a whole, it is composed of many separate subbasins and projects which may be totally contained within a single state and which must be internally coordinated as well as externally related to the major basin plan.

River basin development, accordingly, is seen to be not an exclusively federal function consisting entirely of the large works constructed by the federal government on the major rivers. The states, their lesser governmental units, and private agencies, too, play an important role. Thus, some states even engage in the actual construction of projects, through such agencies as the Montana Water Conservation Board<sup>1</sup> and the state-created “authorities” that have developed the Texas coastal rivers.<sup>2</sup> Irrigation, conservancy, public-power, flood-control, and drainage districts also construct works that individually and in the aggregate make significant contributions to full river basin development.<sup>3</sup> And much activity is directed by private interests, ranging from the large coordinated projects of the major power companies, cooperative water companies, and major industrial users to the individual efforts of a single farmer who controls the water on his fields. For the most part, these public and private agencies operate under state law, and these institutional laws, consequently, have an important effect upon river basin development. But the state laws that have even greater influence are those dealing with the private water rights of individuals.

Some features of river basin development may, of course, depend wholly upon

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<sup>1</sup> See MISSOURI BASIN SURVEY COMM'N, *MISSOURI: LAND AND WATER* 82-83, 255 (1953).

<sup>2</sup> See Gideon, *Rights in Impounded Water*, in *PROCEEDINGS OF THE WATER LAW CONFERENCES, UNIVERSITY OF TEXAS* 263 (1954).

<sup>3</sup> See MISSOURI BASIN SURVEY COMM'N, *op. cit. supra* note 1, at 252-60.

federal law, where, for example, navigation, flood control, and federal power are involved, and state-created rights of water allocation must give way.<sup>4</sup> And the recently declared reservation of water rights for federally-owned lands that are not "public lands"<sup>5</sup> has raised other possibilities that the federal government may engage in development in the western states without regard to state laws.<sup>6</sup> Yet, absent such an overriding federal interest, the component parts of even a federal river basin development plan will be profoundly influenced by state water law. For, any agency planning a project for the control and use of water must do so with reference to certain putative beneficiaries; and the allocation of the water rights, the eligibility for these rights, and the exercise of these rights will, in most cases, be governed by the law of the state in which the water is controlled and used. Under some state laws, a federal or regional project may be difficult to plan, its costs may be increased, or its benefits may be restricted or reduced in value. Indeed, the very existence of the project may depend upon state water law.<sup>7</sup>

What kind of state water law, then, would best implement river basin development? Possibly germane considerations may be, of course, whether the law is to be for Arizona or Vermont, for the basin of the Missouri River or of Horseshoe Creek, for the industrialized Connecticut Valley or the untamed reaches of the upper Colorado. Nevertheless, it is believed that some criteria can be defined that will have universal validity, the basic assumption being that all water allocation problems have one feature in common—there is not enough water for all possible uses, and some choice must be made among competing users or would-be users.

At the outset, the basic position propounded in this article should be stated: that prior appropriation, in the balance, seems to be the best extant system of law for river basin development in the United States. Let it be hastily added, however, that "prior appropriation" does not mean the uncontrolled exploitation of water resources by the first taker, nor the law of any particular western state, nor the expropriation of all riparian rights, nor any particular form of substitution of priorities for riparianism. Nor is prior appropriation the name for a homogeneous body of uniform law, for it

<sup>4</sup> *United States v. Appalachian Electric Power Co.*, 311 U.S. 377 (1940); *Oklahoma v. Guy F. Atkinson Co.*, 313 U.S. 508 (1941); *United States v. Gerlach Livestock Co.*, 339 U.S. 725 (1950).

<sup>5</sup> *FPC v. Oregon*, 349 U.S. 435 (1955) (the United States can, without regard to state law, dispose of water rights in a nonnavigable stream that are applicable to both lands within Indian reservations and lands withdrawn from entry and reserved for power purposes). The Desert Land Act, 19 STAT. 377 (1877), as amended, 43 U.S.C. §§321 *et seq.* (1952), had been held to reserve all nonnavigable sources of water "on the public lands" for the use of the public under state law. *California Oregon Power Co. v. Beaver Portland Cement Co.*, 295 U.S. 142 (1935). See *Hearings before the Subcommittee on Irrigation and Reclamation of the Senate Committee on Interior and Insular Affairs on S. 863*, 84th Cong., 1st Sess. (1956).

<sup>6</sup> Treaties with foreign nations and the Indian tribes may create other opportunities for federal development independent of state law. See Note, 17 ROCKY MT. L. REV. 251 (1945); *United States v. Ahtanum Irri. Dist.*, 236 F.2d 321 (9th Cir. 1956).

<sup>7</sup> The Secretary of the Interior, in carrying out the provisions of the Reclamation Act of 1902, must proceed in conformity with state laws relating to the control, appropriation, use, and distribution of water. 32 STAT. 390, 43 U.S.C. §383 (1952). In all but two of the seventeen western states to which the act is applicable, this involves the procuring, by the Secretary, of a permit from the state water officials. See *Rank v. (Krug) United States*, 142 F. Supp. 1, 124 (S.D. Cal. 1956).

exhibits wide variations in the laws of the western states. Moreover, some of its manifestations are good; some are bad—at least some seem less well designed than others to accomplish the maximum and optimum development of water resources; and some are obviously not suitable for transplantation to the East. But within this large body of law are rules, techniques, and devices with which to meet every criticism leveled at the generalized concept of “prior appropriation,” whether the criticism is directed at existing doctrine in the West or at the doctrine as a solution for eastern problems raised by riparian law. In other words, western appropriation could be improved in many ways, and the best of this law could be used as a model by any state to meet its local needs. The West has had a century of experience with water shortages; the East is just beginning to fear them. The doctrine of prior appropriation has shown that it contains elements of remarkable flexibility and an ability to grow. It has made the transition from a pioneer system of acquiring water rights to a modern system of state control of water resources.<sup>8</sup> Practically every suggestion yet made for the improvement of eastern water law has been based upon ideas, techniques, or practices now current in the West.<sup>9</sup>

## II

### MAXIMUM DEVELOPMENT

The first prerequisite of a model state system of water law is that it should encourage, or at least not deter, maximum development. The most severe criticism of riparian law has been leveled at its shortcomings on this score, particularly with regard to its limitations on the place of use of water. Since the ownership of adjacent land is the basis of the riparian right, a stream's waters are reserved for the use of owners of tracts located on its banks, and usually for use on such land.<sup>10</sup> A further limitation is that regardless of the extent of the riparian ownership, the use must be within the watershed of the stream.<sup>11</sup> Of course, use by nonriparians or by riparians beyond the watershed is not proscribed completely, but it exists in spite of rather than because of riparian laws—either because the riparian has no use for the water,<sup>12</sup>

<sup>8</sup> Lasky, *From Prior Appropriation to Economic Distribution of Water by the State*, 1 ROCKY MT. L. REV. 161 (1928).

<sup>9</sup> See Ellis, *Some Current and Proposed Water-Rights Legislation in the Eastern States*, 41 IOWA L. REV. 237 (1956); Marquis, Freeman, and Heath, *The Movement for New Water Rights Laws in the Tennessee Valley States*, 23 TENN. L. REV. 797 (1955); Coates, *Present and Proposed Legal Control of Water Resources in Wisconsin*, 1953 WIS. L. REV. 256; Barlowe, *Proposed Water Rights Legislation in Michigan*, 26 LAND ECON. 300 (1950). Most of these papers contain cautious reservations and suggestions for further study. Haar and Gordon, *Legislative Change of Water Law in Massachusetts: A Case Study of the Consequences of Introducing a Prior Appropriation System*, in SYMPOSIUM ON THE LAW OF WATER ALLOCATION IN THE EASTERN UNITED STATES (to be published by The Conservation Foundation 1957), is a spirited defense of riparianism; yet, it suggests an eastern state might profit from securing some of the benefits of a water administrative agency, injecting into determinations of reasonable use factors of priority, protection of investment, and social utility, and perhaps discarding the watershed limitation on use of water.

<sup>10</sup> *Stratton v. Mt. Hermon Boys' School*, 216 Mass. 83, 103 N.E. 87 (1913).

<sup>11</sup> *Ibid.*

<sup>12</sup> *Ulbricht v. Eufaula Water Co.*, 86 Ala. 587, 6 So. 78 (1889).

because there is no shortage,<sup>13</sup> because the riparian has been bought out,<sup>14</sup> or because prescriptive rights have intervened to protect the user.<sup>15</sup> As for the extent of the use that can be made by the riparian, however, the old "natural flow" rule, which permitted lower riparians to enjoin uses resulting in substantial diminutions of the stream, is today regarded principally as a bugaboo found in old opinions or in ambiguous dicta.<sup>16</sup> The inutility of this doctrine is so offensive to the modern mind, in the light of the modern emphasis on maximum development, that it is not thought to present any serious obstacle. The modern rule, certainly the modern trend, is to permit all reasonable uses, regardless of the amount of water consumed, with reasonableness being measured either by the lack of damage to others or by the relative insignificance of the damage compared to the value of the use.<sup>17</sup> As long, then, as the development is on riparian land, riparian law is no deterrent.

In contrast, the appropriative doctrine generally encourages development anywhere. The basic tenet of the doctrine is that beneficial use is the basis of the right. Wherever there is need for water, whoever needs it, can be applied to serve the demand. The case that first applied the rule of appropriation to a dispute between the gold miners on the western public domain<sup>18</sup> and the case that first propounded the "Colorado Doctrine" of basing all state water rights on prior appropriation<sup>19</sup> both approved diversions from one stream across the divide for use in the watershed of another, and the rule permitting this practice has been regarded as almost universal.<sup>20</sup>

Yet, there are backwaters in the stream of prior appropriation; in some western states, restrictions on the place of use of appropriated water have been imposed. Colorado has prohibited conservancy districts planning the exportation of water from the Colorado River to the eastern slope of the continental divide from impairing or increasing in cost any present or prospective appropriation for use within the basin of the river.<sup>21</sup> California, in setting up a state agency to construct the Central Valley Project, provided that a watershed or adjacent area which can be conveniently supplied with its water shall not be deprived of the prior right to all the water required to supply the beneficial needs of the watershed or area.<sup>22</sup> Another California law permits a state agency to file applications for priorities that are, in effect, reservations of water for a long-range state water plan, but use under this plan may not deprive the county in which the water originated of any water necessary for the development of the county.<sup>23</sup> These "watershed of origin" and "county of origin" statutes

<sup>13</sup> *Elliot v. The Fitchburg Railroad Co.*, 64 Mass. (10 Cush.) 191 (1852).

<sup>14</sup> *Texas Co. v. Burkett*, 117 Tex. 16, 296 S.W. 273 (1927).

<sup>15</sup> *Martin v. Burr*, 111 Tex. 57, 228 S.W. 543 (1921).

<sup>16</sup> See Marquis, Freeman and Heath, *supra* note 9.

<sup>17</sup> See RESTATEMENT, TORTS §§852-54 (1939). <sup>18</sup> *Irwin v. Phillips*, 5 Cal. 140 (1855).

<sup>19</sup> *Coffin v. Left Hand Ditch Co.*, 6 Colo. 443 (1882).

<sup>20</sup> *Wyoming v. Colorado*, 259 U.S. 419 (1922). The most notable exception is in Nebraska. See *Osterman v. Central Nebraska Public Power & Irrig. Dist.*, 131 Neb. 356, 268 N.W. 334 (1936). And an ambiguous Texas statute leaves the rule in that state in doubt. TEX. REV. CIV. STAT. art. 7590 (1948).

<sup>21</sup> COLO. REV. STAT. ANN. §149-6-13 (1953).

<sup>22</sup> CAL. WATER CODE ANN. §§11460, 11463 (West 1956).

<sup>23</sup> *Id.*, §10505.

have been held applicable to the federal projects which have supplanted the earlier state enterprises.<sup>24</sup> To the extent that these are thoughtful exceptions, preserving waters from immediate use in order to reserve them for a better future use, they may be wise laws. But to the extent that they reflect local pressures for preferred treatment, making blanket reservations of water for the uncertain future uses of the residents of the basin, they may foreclose valuable and needed projects which would otherwise be feasible under modern engineering methods.

Another type of political restriction on place of use, which may have a special impact on river basin programs, involves interstate appropriations. In many early appropriations on interstate streams, the water was diverted in one state, transported across the state line, and used in another. Such rights were universally upheld;<sup>25</sup> but many states, in an excess of localism, have adopted statutes that restrict this practice. The most extreme law is that of Colorado, which, for the expressed purpose of preserving all of the water within the state for the use of the state and its citizens, absolutely prohibits the transportation of water found in Colorado into any other state.<sup>26</sup> More typical statutes permit appropriations for out-of-state use if the state in which the use is to be made grants reciprocal privileges or if the legislature gives specific approval to each such diversion.<sup>27</sup> Statutes such as Colorado's are obviously undesirable from the standpoint of river basin development, and even the more liberal statutes seems out of place today. Developments in one state, where the slope of the land dictates a diversion point in another, should not depend upon the grace of unilateral action by the state in which the diversion is made. More properly, the problem is one of allocating water between states, a problem better settled by the method of interstate compact.

Laws which protect wasteful practices are certainly not conducive to maximum development. The policy of the law in the arid states is to compel an economical use of water; a prior appropriator should not be able to block future beneficial uses by insisting on receiving more water than is absolutely necessary for his purpose. The courts have not, however, firmly adhered to this policy in all cases; in some, they have given it little more than lip service.<sup>28</sup> Early irrigation decrees were often for atrociously large quantities of water, and many of these are still in effect. They do not prevent today's courts and water officials from restricting the use under them in accordance with modern standards.<sup>29</sup> Similarly, transmission losses might be given a modern treatment. If an appropriator's ditch is very long or the soil through which it is dug is every porous, a considerable amount of water will be

<sup>24</sup> Rank v. (Krug) United States, 142 F. Supp. 1 (S.D. Cal. 1956).

<sup>25</sup> Willey v. Decker, 11 Wyo. 496, 73 Pac. 210 (1903); Lindsey v. McClure, 136 F.2d 65 (10th Cir. 1943).

<sup>26</sup> COLO. REV. STAT. ANN. §§147-1-1, 147-1-3 (1953).

<sup>27</sup> E.g., UTAH CODE ANN. §73-2-8 (1953); WYO. COMP. STAT. ANN. §71-265 (1945).

<sup>28</sup> Compare State v. Birdwood Irri. Dist., 154 Neb. 52, 46 N.W.2d 884 (1951), with Joerger v. Pacific Gas & Electric Co., 207 Cal. 8, 276 Pac. 1017 (1929).

<sup>29</sup> See Quinn v. John Whitaker Ranch Co., 54 Wyo. 367, 92 P.2d 568 (1939); Tudor v. Jaca, 178 Ore. 126, 165 P.2d 770 (1946).

lost by evaporation and seepage between the point where it is diverted from the stream and the place of use. In some states, an allowance is made for a reasonable amount of such losses in transmission;<sup>30</sup> in others, the amount needed at the place of use is measured out to the appropriator at the point of diversion.<sup>31</sup> In early times, the latter rule would have been unrealistic, but today it may have salutary effects, since appropriators will be encouraged to line their ditches and otherwise improve their facilities, so that water will be more economically used and more land can be brought under irrigation. States where water is especially precious might well give some thought to this problem.

A related problem arises from stream transmission losses. In the settlement of the West, the lands first taken up were frequently located on the lower reaches of streams that lost much of their water into the ground as they flowed over gravelly and porous beds. Appropriations made in such locations, thus, may preclude full use of the water that is available upstream, for the lower appropriator's priority will be protected if any usable quantity will reach his point of diversion, even though this means that the junior is forced to let a much larger quantity flow past his head-gate.<sup>32</sup> This rule has been criticized as unduly wasteful of the natural resource.<sup>33</sup> The solution to the problem may be economic, in that if the benefits that would accrue from upstream use are, in fact, much greater than those realized by the senior appropriator, it would seem feasible for the upstream user to buy out the lower prior rights and transfer the use upstream. But legal solutions may be possible in the form of rotation systems that would more equitably spread the benefits of the water,<sup>34</sup> or physical solutions might be imposed if it can be found that underground sources fed by upstream irrigation will supply the downstream priorities.<sup>35</sup>

Another important factor in the encouragement of development is the minimization of costs. Under a prior appropriation system, if there is unappropriated water available, the costs of development are encompassed within the framework of the project itself, the physical works needed to utilize the water. Under a riparian system, there may be an added cost in procuring a firm supply, even where the water is not presently being used. A prospective riparian or nonriparian user, seeking a firm supply, may have to buy his peace from a number of other riparians, either on the open market or, if a public use is involved, by condemnation. Of course, if stability in advance is not obtained by grant and water rights are sought to be purchased after the user finds himself in trouble because he is now infringing

<sup>30</sup> NEV. COMP. LAWS §7899 (1929); N. D. REV. CODE §61-1403 (1943).

<sup>31</sup> *Stückney v. Hanrahan*, 7 Idaho 424, 63 Pac. 189 (1900); *In re North Loup River Public Power & Irrig. Dist.*, 149 Neb. 823, 32 N.W.2d 869 (1948).

<sup>32</sup> *Raymond v. Wimsette*, 12 Mont. 551, 21 Pac. 537 (1892); *State ex rel. Cary v. Cochran*, 138 Neb. 163, 292 N.W. 239 (1940).

<sup>33</sup> Fisher, *Western Experience and Eastern Appropriation Proposals*, in SYMPOSIUM ON THE LAW OF WATER ALLOCATION IN THE EASTERN UNITED STATES (to be published by the Conservation Foundation 1957).

<sup>34</sup> See *Dameron Valley Reservoir & Canal Co. v. Bleak*, 61 Utah 230, 211 Pac. 974 (1922); *Albion-Idaho Land Co. v. Naf Irrig. Co.*, 97 F.2d 439 (10th Cir. 1938).

<sup>35</sup> See Fisher, *supra* note 33.

the reasonable uses of riparians, the value of the water right may be the price of buying the riparian's forbearance to enjoin the use, a price which may well be what it is worth to the nonriparian to continue his development.<sup>36</sup>

### III

#### SECURITY

A system of water law that would promote and encourage maximum development must offer to the water user security for his investment in facilities. Security of water rights has been recently analyzed in a most interesting fashion by an economist,<sup>37</sup> who points out that the concept actually involves three quite different things: (1) legal certainty, the protection against unlawful acts, subject to the "rule uncertainty" and "fact uncertainty" inevitably involved in legal conflicts; (2) physical certainty, the protection against variation in the quantity of water available for the use; and (3) tenure certainty, protection against the loss of the water right by the exercise of lawful acts by others. In all of these aspects, appropriative rights seem to offer advantages over riparian rights.

The legal protection given by a system of water law is difficult to measure. In one respect, the system of water masters or commissioners charged with the duties of distributing water according to priorities gives greater protection to the western appropriator than does the lawsuit which is the sole resort of the riparian. The appropriator, in other words, has a policeman on the beat.<sup>38</sup> The subsidiary factor of rule uncertainty, the inability to predict which of several lines of authority a judge will follow, seems greater under riparian law. In some jurisdictions, there may be the fear that the "natural flow" rule will be invoked by a court to stop a development that materially diminishes the stream, especially if the development is nonriparian.<sup>39</sup> In many states, there is doubt as to the extent of riparian land,<sup>40</sup> the permissible scope of irrigation,<sup>41</sup> and the extent to which storage for power and other operations is permissible.<sup>42</sup> There is also the ever-present combination of rule and fact uncertainty involved in the determination of reasonable use.<sup>43</sup> Of course, there are rule uncertainties in

<sup>36</sup> See Bingham, *California Law of Riparian Rights*, 22 CALIF. L. REV. 251 (1934) (practice described as blackmail).

<sup>37</sup> Wantrup, *Concepts Used as Economic Criteria for a System of Water Rights*, 32 LAND. ECON. 295 (1956).

<sup>38</sup> See Lasky, *supra* note 8. This is, perhaps, a feature of administration rather than basic law, a feature that may not be entirely suitable to eastern development. See Marquis, *Remarks*, in SYMPOSIUM ON THE LAW OF WATER ALLOCATION IN THE EASTERN UNITED STATES (to be published by the Conservation Foundation 1957).

<sup>39</sup> See 4 RICHARD R. B. POWELL, REAL PROPERTY 359, 372 n. 2 (1956).

<sup>40</sup> See Haar and Gordon, *supra* note 9; Arens, *Michigan Law of Water Allocation*, in SYMPOSIUM ON THE LAW OF WATER ALLOCATION IN THE EASTERN UNITED STATES (to be published by the Conservation Foundation 1957).

<sup>41</sup> See Ellis, *Some Legal Aspects of Water Use in North Carolina*, SYMPOSIUM ON THE LAW OF WATER ALLOCATION IN THE EASTERN UNITED STATES (to be published by the Conservation Foundation 1957); Arens, *supra* note 40.

<sup>42</sup> See *Herminghaus v. Southern California Edison Co.*, 200 Cal. 81, 252 Pac. 607 (1926); *Moore v. California Oregon Power Co.*, 22 Cal.2d 725, 140 P.2d 798 (1943); *Lone Tree Ditch Co. v. Rapid City Electric Co.*, 16 S.D. 451, 93 N.W. 650 (1903).

<sup>43</sup> See Haar and Gordon, *supra* note 9; Arens, *supra* note 40; Ellis, *supra* note 41.

appropriation law as well, but most of the choice-of-law problems are met by statutes, and in working out a modern water code, these choices can be made.

The control of physical uncertainty is obviously not entirely in the hands of the lawmakers; creeks and even rivers dry up during long periods of drought. But the uncertainty of the supply of water for a particular use is affected by the type of right held for that use. Physical uncertainty is minimized for early appropriators, yet magnified for junior appropriators; for, by the principle of priority, the senior receives the full quantity of his appropriation, shifting the risk of stream variation to the junior, whose supply may be shut off entirely. Under riparian law, with its equality of right, water users with the same or equal reasonable uses may all be granted some water in times of shortage, although there is no assurance that each will receive enough to make his operation worthwhile. Although equality of right has a democratic sound and a surface appeal to most people, an equal share of a supply insufficient for all may be so small as to be insufficient for each. But the risk of physical uncertainty is not always borne equally by all riparians. What might be a reasonable use in good water years may become highly unreasonable in times of drought,<sup>44</sup> and some riparians may, thus, lose their right temporarily.

But a true idea of the physical certainty obtainable under appropriation law cannot be based on a picture of the water commissioner marching up and down the stream, shutting off the ditches of junior appropriators as the flow drops during the summer months. Through the coordination of modern engineering science and modern developments in the law of prior appropriation, a stability can be reached that cannot be matched under riparian law. The hardship to the junior appropriator resulting from varying stream flows was first alleviated by developing reservoirs to hold spring floods for use later in the season. As the streams were found to fluctuate from year to year, larger reservoirs were built to carry over water from the good years and provide a supply in times of drought. And often, a good supply can be found in a neighboring watershed less blessed with agricultural land or industrial opportunities. Much stored water and much water imported from other basins, accordingly, is today applied supplementally to lands originally dependent upon junior diversions of direct stream flow. In these ways, the supply may be firmed up and the variations minimized. Appropriation principles are more conducive to these water development projects that alleviate this uncertainty of supply—projects that are usually the heart of river basin development. Under statutes regulating new appropriations, which provide for the denial of permits if there is no unappropriated water in the source of supply, appropriations may be granted to the limit of the available water, giving both senior and junior a firm right to a firm supply.<sup>45</sup> But even if a firm supply

<sup>44</sup> *Meng v. Coffey*, 67 Neb. 500, 93 N.W. 713 (1903).

<sup>45</sup> This seems to be the goal toward which the practice under the law of prior appropriation is moving. Admittedly, much unstable junior development has occurred in the past; but many of today's projects are for the purpose of giving a supplemental supply to such insecure water uses. In the ground-water field, there is much emphasis on restricting the issuance of pumping permits in new areas to the safe yield of the aquifers. WASH. REV. CODE §90.44.070 (1951); ORE. REV. STAT. §537.735 (1955). Cf. Harris, *Water Allocations under the Appropriation Doctrine in the Lea County Basin of New*



is achieved in a valley governed by riparian law, there is no legal limit to the riparian's demands, and if too many choose to participate, or if demands increase, the firm supply may become insufficient to satisfy all rights.

As for certainty of tenure of water rights, the appropriative right seems, again, to be preferable. It has been defined as a vested right to take and divert from the source a particular quantity of water annually forever.<sup>46</sup> The right is clearly defined as to priority, quantity, period of use, and point of diversion. The senior appropriator is protected against invasions by later takers, and the junior appropriator is protected against enlargement of the uses of senior appropriators.

The perpetual nature of an appropriative right is subject to one qualification, stemming from the utilitarian nature of the doctrine—if it is not used, the water right is lost by operation of the rules of abandonment and forfeiture.<sup>47</sup>

The right is also subject to termination under powers of eminent domain, but security of investment is not thereby impaired, since compensation for the value of the use is substituted for the expectations from the continuation of the use. Most western preference laws, sometimes thought to be threats to the security of appropriations, are, in fact, applications of the eminent domain principle.<sup>48</sup> It is true that there are possibilities of destruction of vested appropriative rights by the exercise of other types of preferences that do not involve compensation, but there are few instances where legislatures have adopted these, and new preferences of this order may not constitutionally apply to existing rights.<sup>49</sup> Of course, tenure certainty increases if the particular right stands high in the order of preferences.<sup>50</sup>

Riparian rights are also perpetual, subject to divestment by preferences, such as a city's exercise of eminent domain for municipal uses. But a particular use of the right is always subject to future determination of its reasonableness in view of later needs for the water, and even though the use is reasonable, the right gives no guarantee of a certain quantity of water as others with equal rights demand a share.

It may be possible to obtain security under the riparian system through purchases of water rights or of releases from riparians. One difficulty with this approach, however, is that, to a large extent, the certainty desired by the prospective water user can rarely be obtained from a single seller. If the prospective user is a riparian intending to use a large amount of water, he may have to get grants or releases from a large number of other riparians in order to accumulate enough rights attached to enough land to insure that future reasonable uses on other lands will

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*Mexico*, in SYMPOSIUM ON THE LAW OF WATER ALLOCATION IN THE EASTERN UNITED STATES (to be published by the Conservation Foundation 1957), discussing the restriction of permits to pump from a nonreplenishable basin in order to prevent its exhaustion before investments could be amortized.

<sup>46</sup> *Arizona v. California*, 283 U.S. 423 (1931). Such a definition, of course, implies no guarantee of the continuation of the source of supply. See Harris, *supra* note 45.

<sup>47</sup> See notes 89-91 *infra*.

<sup>48</sup> See Trelease, *Preferences to the Use of Water*, 27 ROCKY MT. L. REV. 133 (1955).

<sup>49</sup> *Ibid.*

<sup>50</sup> See Wantrup, *supra* note 37.

always leave him a supply. If the developer is a nonriparian, in most states he cannot buy from one riparian a right to use the water that will be good against other riparian proprietors. The riparian seller of the "water right" has no right to use the water on nonriparian land, and he can sell no such right.<sup>51</sup> Nevertheless, a large number of so-called transfers of riparian rights have been made to nonriparians. The reason is that such grants are binding between the parties<sup>52</sup> and operate as an estoppel against the grantor, preventing him and his successors in title from complaining of the nonriparian use.<sup>53</sup> They may, therefore, enable a nonriparian to buy out some of the larger riparian proprietors and, hence, serve a legitimate purpose in insuring him a sufficient supply of water.

A few states give full effect to a grant of riparian rights, even as against other riparians. The grantee's right is regarded as a derivative one, to be measured by the extent of the right of the riparian proprietor,<sup>54</sup> and the grantee obtains a right to a reasonable use of the stream as if he were substituted for the riparian. But the right that he obtains is subject to variation in relation to the quantity of the flow and the reasonable demands of other riparians, and the goal of stability has not been reached.

Another method of obtaining some security under riparian law is by prescription. When the old "natural flow" theory was in force, so that any substantial withdrawal from the stream was a violation of a lower riparian's rights, although it did him no harm, such rights were easy to obtain, for the simple reason that people do not often start lawsuits unless they are hurt.<sup>55</sup> However, where the reasonable use theory is applied, the prescriptive period will not begin to run until actual damage results from an unreasonable interference with the uses of the riparian.<sup>56</sup> Therefore, the continuous use either by an upper riparian or by a nonriparian of a certain amount of water each year creates no prescriptive rights as against a lower riparian as long as there is no actual clash between their rights;<sup>57</sup> and in the ordinary case, no prescriptive right can be obtained by a water user against riparians situated upstream from the point of diversion, however long the use continues, for such downstream use gives the upper riparian no cause for complaint or redress.<sup>58</sup> In any event, the doctrine of prescriptive rights is hardly a satisfactory solution to the problem of a water user who seeks a firm right. The risk involved in investing one's money in a development, then "sweating out" the prescriptive period in the hope that no action will be brought is too great.

One aspect of physical insecurity, that has already grown acute in some areas

<sup>51</sup> *Crawford Co. v. Hathaway*, 67 Neb. 325, 93 N.W. 781 (1903); *Duckworth v. Watsonville Water & Light Co.*, 150 Cal. 520, 89 Pac. 338 (1907). See Annot., 14 A.L.R. 330 (1921).

<sup>52</sup> *Texas Co. v. Burkett*, 117 Tex. 16, 296 S.W. 273, 54 A.L.R. 1397 (1927).

<sup>53</sup> *Duckworth v. Watsonville Water & Light Co.*, 150 Cal. 520, 89 Pac. 338 (1907).

<sup>54</sup> *Smith v. Stanolind Oil & Gas Co.*, 197 Okla. 499, 172 P.2d 1002 (1946).

<sup>55</sup> See Shaw, *The Development of the Law of Waters in the West*, 10 CALIF. L. REV. 443 (1922).

<sup>56</sup> *Pasadena v. Alhambra*, 33 Cal.2d 908, 207 P.2d 17 (1949).

<sup>57</sup> *Pabst v. Finmand*, 190 Cal. 124, 211 Pac. 11 (1922).

<sup>58</sup> *Cory v. Smith*, 206 Cal. 508, 274 Pac. 969 (1929). See Trelease, *Coordination of Riparian and Appropriative Rights to the Use of Water*, 33 TEXAS L. REV. 24 (1954), for some exceptions to this rule.

of the West and is a potential threat in the East deserves special mention. This is the problem of the loss of substantial quantities of stream flow to those who pump the underground waters that feed the streams. Most water development in the past has been accomplished through utilization of the waters of surface streams, but in recent years, the use of pumped underground water has grown tremendously. In periods of deficient rainfall, the low water flows of the streams and rivers must supply the most urgent riparian needs and the earliest priorities; yet, the streamflow in such periods is derived chiefly from ground-water.<sup>59</sup> It is, therefore, obvious that there must be some correlation between the laws regulating the use of surface streams and those regulating the use of water from the contributing ground-water reservoirs. This is possible in states where the same rule of allocation is applied to both classes of water, as in those western states which have the rule of prior appropriation for both, or as in California where the correlative rights doctrine applied to underground waters is practically identical to the combination of riparianism and appropriations for surface streams.<sup>60</sup> But where the allocation rules are different and ground waters may be withdrawn by the owner of the overlying soil on the basis either of absolute ownership or of reasonable use in relation to his needs, while stream waters are allocated on the basis of priority or reasonable use related to the demands of others, no protection can be given to the stream owner unless the courts seize upon the legal fiction of an "underground stream."<sup>61</sup>

There is danger, moreover, even in states applying the same rule of allocation to both types of water, that the courts or officials may not recognize the unity of the hydrologic cycle and may attempt to treat interrelated sources as separate entities. It has been suggested, therefore, that statutes further be enacted providing for a correlated list of priorities from different bodies of water so interconnected as to constitute, in fact, one common source of supply,<sup>62</sup> although this, in itself, would not be enough. Security of rights to stream waters might, however, be increased by requiring users of underground waters to cease pumping from wells that interfere with surface flows. But in many situations, the low water flows are merely a surface manifestation of an extremely large body of water supporting the stream,<sup>63</sup> and to revert

<sup>59</sup> See Thomas, *Hydrology v. Water Allocation in the Eastern United States*, in SYMPOSIUM ON THE LAW OF WATER ALLOCATION IN THE EASTERN UNITED STATES (to be published by the Conservation Foundation 1957). It is reported that in the Platte and Arkansas Valleys of Colorado, three times as much water must now be sent downstream to supply senior rights as was delivered before irrigation wells were drilled in the valleys. Denver Post, Nov. 18, 1956, Roundup Section, p. 3, col. 1.

<sup>60</sup> *Wrathall v. Johnson*, 86 Utah 50, 40 P.2d 775 (1935); *Hinton v. Little*, 50 Idaho 371, 296 Pac. 582 (1931); *Katz v. Walkinshaw*, 141 Cal. 116, 70 Pac. 663 (1903).

<sup>61</sup> *Verdugo Canon Water Co. v. Verdugo*, 152 Cal. 655, 93 Pac. 1021 (1908); *Maricopa County Municipal Water Conservation Dist. v. Southwest Cotton Co.*, 39 Ariz. 65, 4 P.2d 369 (1931). For the Texas experience, see *Pecos County Water Control & Improvement Dist. v. Williams*, 271 S.W.2d 503 (Tex. Civ. App. 1954), in which well drillers asserting ownership of underground waters were permitted to destroy, without liability, a stream that had supplied appropriators for ninety years.

<sup>62</sup> NAT'L RESOURCES PLANNING BOARD, STATE WATER LAW IN THE DEVELOPMENT OF THE WEST 83, 128 (1943).

<sup>63</sup> In Colorado, examples are the Frenchman Creek area, where pumping 100,000 acre-feet of water per year would deplete stream flow by only 15,000 acre feet, and Beaver Creek, where stopping the pumping of 20,000 acre-feet would produce only 1,000 acre-feet of streamflow. See Denver Post, Nov. 18, 1956, Roundup Section p. 9, col. 2.

to the interest in maximum development, some compromise must be found which will permit the use of these vast basins of underground water, yet, at the same time, protect, to the greatest possible extent, the rights of users from surface streams.

A clue to such a compromise may be found in the present appropriation laws. In no western state can a prior appropriator insist that conditions on the stream remain the same as they were when he made his appropriation. Though a simple ditch cut into the bank may have sufficed at first, he cannot skim the cream off the river and insist that it all flow by to raise the water to the level of his ditch; a diversion dam must be installed to carry into effect his use and, at the same time, permit junior uses of the rest of the stream that formerly supported his water up to the intake. In some states, he must, as development progresses, install, at his own expense, diversion works consistent with the maximum development of the waters of the stream, so that he as well as the latecomer bears a share in the cost of total development.<sup>64</sup> In others, he may shift the burden of the cost of improvement to the junior,<sup>65</sup> or must at least permit a junior appropriator to change his method of diversion at the junior's expense and install more economical means, if all of his rights to water are preserved and maintained.<sup>66</sup> Borrowing a page from this surface water law may solve the instant problem. The supporting subflow may be likened to the full streamflow that once carried the pioneer's water to his ditch; a change of means of diversion is now required so that both senior stream appropriator and junior ground-water appropriator can get their water. This can be done by requiring the senior to substitute wells for his ditch, without loss of priority, at his own cost or at the expense of the junior, whichever may seem most desirable.

One last point should be made with reference to tenure certainty. In order to achieve maximum security, a state water law should provide adequate and efficient procedures for initiating, adjudicating, and recording water rights. Much emphasis has been placed, in recent writings, upon the necessity for collecting the basic data of streamflow and hydrology necessary for adequate planning. One absolutely essential datum for planning future projects, however, is the amount of present use of water and the total of existing claims to the water. In most of the western states, this can readily be ascertained. Early in the history of western appropriation, it was found that the ordinary lawsuit was an inadequate method of settling water titles, and statutory procedures were devised for bringing all claimants to the stream into court. These court procedures are still used in Montana and Colorado, and only Texas has the lawsuit;<sup>67</sup> but in the rest of the states with appropriation laws, administrative procedures have been substituted, based upon actual stream studies, surveys

<sup>64</sup> *In re Owyhee River*, 124 Ore. 44, 259 Pac. 292 (1927).

<sup>65</sup> *State ex rel Crowley v. District Court*, 108 Mont. 89, 88 P.2d 23, 121 A.L.R. 1031 (1939). *Salt Lake City v. Gardner*, 39 Utah 30, 114 Pac. 147 (1911). A strong argument for the proposition that the senior should bear the cost of the improvement is found in the concurring opinion of Latimer, J. in *Hanson v. Salt Lake City*, 115 Utah 404, 439, 205 P.2d 255, 272 (1949).

<sup>66</sup> *Clausen v. Armington*, 123 Mont. 1, 212 P.2d 440 (1949); *Big Cottonwood Tanner Ditch Co. v. Shurtliff*, 56 Utah 196, 189 Pac. 587 (1919).

<sup>67</sup> See Lasky, *supra* note 8.

of land, and inspection of water uses. In Wyoming, Nebraska, and Kansas, the administrative agency carries the proceedings through to final adjudication,<sup>68</sup> but to avoid the objection that judicial powers are thus exercised by executive agencies, most of the states provide for a court decree based upon the administrative findings.<sup>69</sup> All of these procedures give actual or published notice to every claimant of an interest in the stream, requiring him to come in and state his claim, and all end in a final adjudication effectively barring those who do not appear from making any claim to the waters, except as a subsequent appropriator.<sup>70</sup> In those states in which riparian and appropriative rights exist, the rights of riparians have been adjudicated along with those of appropriators.<sup>71</sup>

The determination of past rights is not enough, however; the record must also be kept up-to-date by procedures for initiating water rights or recording them as they are initiated. The system of permits to appropriate, common in the West, accomplishes this effectively, but it must be followed up with procedures for ripening the permit into a license upon application of the water to beneficial use, otherwise there is no way of telling which permits have been actually followed by development.

This is not to say that all western appropriative states have adequate procedures. In some states there are "paper rights" to waters that have never been applied to beneficial use or that represent uses long since abandoned. Examples are the certified fillings and permits issued by the Texas Board of Water Engineers, totaling at least four times the amount of water in actual use, and permits and certificates issued in Oregon covering twice the acreage actually irrigated.<sup>72</sup> Ineffective abandonment and forfeiture procedures are responsible for this condition. In Wyoming, the courts have, with understandable reluctance, hesitated to declare that a person has forfeited his rights, but going beyond simple protection of the appropriator, they have placed restrictions upon abandonment procedures that make them almost impossible of enforcement. It is held both that these proceedings can be initiated only by a water user who can clearly show that he will be directly benefited by the water, a condition extremely hard to prove on a fluctuating stream, and that the complaint of forfeiture must be brought within the period of limitations, which begins to run at the time of the abandonment, although the necessity for litigation would not normally occur to other appropriators until the use of the water was resumed. In addition, if the use of the water is resumed before the cancellation proceedings are initiated, the right is revived.<sup>73</sup> Such "stale claims" have created considerable uncertainty both for existing appropriators and would-be new users needing to know the amount of water covered by valid rights senior to theirs.<sup>74</sup>

<sup>68</sup> *Ibid.*; see also KAN. GEN. STAT. §82a-708 (1949).

<sup>69</sup> See Lasky, *supra* note 8.

<sup>71</sup> See Trclease, *supra* note 58.

<sup>73</sup> *Horse Creek Conservation Dist. v. Lincoln Land Co.*, 54 Wyo. 320, 92 P.2d 572 (1939); *Sturgeon v. Brooks*, 73 Wyo. 436, 281 P.2d 675 (1955).

<sup>74</sup> See Fisher, *supra* note 33; Note, *Stale Claims in Texas Stream Waters*, 28 TEXAS L. REV. 931 (1950).

<sup>70</sup> *Ibid.*

<sup>72</sup> See Fisher, *supra* note 33.

## IV

## FLEXIBILITY

On the score of flexibility, prior appropriation has received the criticism and riparianism the praise. Charges of fixity, of freezing existing patterns of resource use, and of restricting industrial growth are preferred against the doctrine of appropriation,<sup>75</sup> and with some justification. Typically, an appropriation is regarded as a grant for a particular use forever; and the earliest and most stable water rights are, thus, tied to the pioneer economy, leaving modern developments to take their place at the foot of the priority list, with the least assurance of a firm water supply. And in some states, restrictions on transfers of water rights to new uses or places of use seems further to insure this result. Under riparian law, on the other hand, flexibility is achieved by permitting new riparian users of the water to compete on an equal footing with the old. The highest economic use of water may receive judicial recognition as the most reasonable, and at any time, a court may reshuffle the water rights to exclude old uses as no longer reasonable and to permit new uses. There is, however, no guarantee that the new uses are more economical or suitable than the old,<sup>76</sup> and the price of this flexibility is insecurity, for such riparian transfers are made without compensation.

But flexibility and stability are not necessarily antipodal, and only in some states are appropriations inflexible. It is possible for appropriative protection of investment to exist along with freedom of transfer of water rights. If the desired flexibility is voluntary transferability with compensation, to permit new uses to bid freely for water on the market in competition with other new or old users, the appropriative rights of some states are ideally suited for this purpose. Originally, the appropriations acquired on the public domain of the West were regarded as freely salable, and this is still the rule in some states.<sup>77</sup> In Colorado, for instance, the use of the water is not limited to the land where the water was first applied, and a water right may be alienated apart from the land, its use transferred from one place to another, or even the character of the use changed, so long as such change does not result in the use of a larger quantity of water than the right calls for.<sup>78</sup>

On the other hand, some states prohibit the change of water used for irrigation from the lands for which it was originally appropriated, except when, for natural causes beyond the control of the owner, it becomes impracticable beneficially or economically to use the water for the irrigation of the original land.<sup>79</sup> Such laws prohibit the transfer of water rights from relatively poor to more fertile lands, re-

<sup>75</sup> Marquis, Freeman, and Heath, *supra* note 9; NAT'L RESOURCES PLANNING BOARD, *op. cit. supra* note 62, at 45.

<sup>76</sup> See Arens, *supra* note 40.

<sup>77</sup> See W. A. HUTCHINS, *SELECTED PROBLEMS IN THE LAWS OF WATER RIGHTS* 38-384 (1942).

<sup>78</sup> *Hassler v. Fountain Mutual Irri. Co.*, 93 Colo. 246, 26 P.2d 102 (1933). The right to make such a change is subject to the restriction that no damage to the rights of other appropriators may result. Typically, this prevents changes that would deprive downstream users of the benefits of return flow.

<sup>79</sup> See HUTCHINS, *loc. cit. supra* note 77.

quire an appropriator for new lands to take his place at the bottom of the priority list, and prevent him from purchasing a firm water right, although he is able to do so. The purpose behind these restrictive statutes seems to have been to prevent abuses that arose from the transfer of some old water rights. Many early adjudications gave irrigators far more water than they really needed, so that the appropriator not infrequently sold his unused water, to which he really had no right.<sup>80</sup> To avoid such abuses and to insure the protection of some interests, such as recreation, that cannot bid for water on the market, the control of such transfers might be left in the hands of an agency that would allow all such changes unless it affirmatively appeared that the public interest would be prejudiced.<sup>81</sup>

Such transfers of appropriative rights offer many advantages over deeds and releases of riparian rights. The purchaser gets a right to a fixed quantity of water, tenure certainty, and as firm a right in terms of physical certainty as he is willing to pay for, depending upon where the right he purchases fits into the priority list. He does not need to buy riparian land nor move his operation to the river bank.

If the flexibility desired is the power to force involuntary changes from one use to another, with compensation, again appropriation seems to have the advantage. As previously noted, most western preference statutes create rights of condemnation and permit the exercise of the preference only if the prior nonpreferred appropriator is paid full compensation for the loss of his water. Thus, flexibility is achieved without confiscation of investment, for although the nonpreferred user loses the use of the water, he does receive its value. Such preferences may insure the economic growth of certain types of water use deemed desirable when the statutes were enacted, but admittedly, most of today's preferences embody the economic thinking of yesterday.<sup>82</sup> To the extent that a legislature, perhaps under the guidance of a planning agency, can foresee that a certain purpose is now and will be tomorrow more desirable than another use, such preferences are valid, but they should be periodically reviewed in order to keep abreast of modern thinking.<sup>83</sup>

In some situations, flexibility may be thought to demand the transfer of water from one use to another without the payment of compensation, whatever the cost in loss of stability of investment. There are a few examples of such true preferences, by which a new preferred use is placed at the top of the priority list and may be initiated without regard to the fact that the supply is already fully appropriated for other purposes.<sup>84</sup> In Texas, since 1931, for example, all appropriations (except of the Rio Grande) are granted subject to future appropriations for municipal purposes.<sup>85</sup> Several interstate compacts also declare that the impounding and use of water for hydroelectric power will be subservient to the use and consumption of water for agricultural and domestic purposes.<sup>86</sup> And the federal government has

<sup>80</sup> See ELWOOD MEAD, *IRRIGATION INSTITUTIONS* 174 (1903).

<sup>81</sup> Cf. NAT'L RESOURCES PLANNING BOARD, *op. cit. supra* note 62, at 45 (1943).

<sup>82</sup> See Trelease, *supra* note 48.

<sup>84</sup> *Ibid.*

<sup>83</sup> *Ibid.*

<sup>85</sup> TEX. REV. CIV. STAT. art. 7471 (1948).

<sup>86</sup> Colorado River Compact, 45 STAT. 1064 (1928), 43 U.S.C. §6171 (1952); Upper Colorado River Basin Compact, 63 STAT. 31 (1949), 43 U.S.C. §6171 note (1952); Snake River Compact, Act of April 21, 1950, 64 STAT. 29 (1950).

given assurance that the use of western waters to maintain flowing navigation channels will not conflict with present or future beneficial consumptive uses.<sup>87</sup>

If there is doubt as to the wisdom of granting a perpetual right to a certain use or type of use, and yet it is thought desirable to avoid absolute loss of stability, one available device is a permit for a specified limited time, during which the appropriator may recapture his investment through amortization. Examples of this technique are appropriations for power purposes in South Dakota and Arizona, limited to fifty and forty years, respectively.<sup>88</sup>

Another type of appropriative flexibility, again without compensation, consists of abandonment and forfeiture. As old rights fall into disuse, usually because of economic unsuitability, they cease to exist. An appropriative right may be lost by abandonment, which consists of the voluntary relinquishment and nonuse of a water right, coupled with an intention not to renew the use of the water.<sup>89</sup> A number of states have adopted a different concept, that of forfeiture, and provide that failure to use water for a certain period of time will result in the loss of the right, regardless of the intent of the owner,<sup>90</sup> although forfeiture statutes are not generally applied when the nonuse is involuntary and not attributable to the neglect of the appropriator.<sup>91</sup>

## V

### PROTECTION OF PUBLIC INTERESTS

An ideal system of water use law should give protection to two types of public interests—the interest in the protection against exploitation and waste of water resources, including the interest in obtaining optimum development and seeing that water is put to the best possible use, as well as the interest held collectively by members of the public in such uses of water as navigation, fishing, and recreation. When tested by this criterion, neither the substantive law of appropriation nor the substantive law of riparian rights seems to hold any marked advantage over the other. Both systems have concepts designed to curb the wasteful use of water, although the riparian ideal of reasonable use is based primarily on the question of how much damage the use will inflict upon private interests,<sup>92</sup> while the fairly new appropriative concept of “reasonable beneficial use” does place emphasis upon the public interest in the economic use of the water.<sup>93</sup> Nevertheless, courts dealing with riparian rights have looked to the general public interest in full utilization of the waters in some cases, in which they have held that a riparian must suffer some damage from another riparian’s use in order that full use of scarce supplies can be made.<sup>94</sup> Riparian

<sup>87</sup> This is the O’Mahoney-Milliken Amendment to the Flood Control Act of 1944, 58 STAT. 887, 33 U.S.C. §701 (1952).

<sup>88</sup> S.C. CODE §61.0152 (1952); ARIZ. CODE ANN. §75-111 (1939).

<sup>89</sup> See HUTCHINS, *op. cit. supra* note 77, at 389.

<sup>90</sup> *Id.* at 392.

<sup>91</sup> Ramsey v. Gottsche, 51 Wyo. 516, 60 P.2d 535 (1937).

<sup>92</sup> See RESTATEMENT, TORTS §852 (1939).

<sup>93</sup> See NAT’L RESOURCES PLANNING BOARD, *op. cit. supra* note 62, at 40.

<sup>94</sup> Rancho Santa Margarita v. Vail, 11 Cal.2d 501, 81 P.2d 533 (1938).



doctrines have also been successful in preserving to the public rights to navigation and fisheries.<sup>95</sup>

One technique used to a limited degree in the West, however, may offer possibilities unobtainable under riparian law. To the extent that it is possible to forecast benefits from a long-range use that will exceed those from more immediate uses, waters may be reserved from appropriation to save them for the future use. A potential project may be conceived long before actual need arises, and a large and comprehensive development may wait years before final plans can be drawn or financial arrangements made. If such a project constitutes the most desirable and economic use of a large part of the waters of the source of supply, it may be jeopardized by less desirable appropriations capturing substantial quantities of water before it can be initiated. In order to protect such potential developments, therefore, the Utah statutes authorize the governor to suspend the right of the public to appropriate the waters.<sup>96</sup> Where recreational interests in a particular stream are regarded as paramount, the same technique has been used. In Oregon, many streams that form beautiful falls or that are famous fishing waters have been reserved from appropriation;<sup>97</sup> and in Idaho, the governor has been authorized to appropriate the waters of certain lakes in trust for the people in order to preserve them for their scenic beauty, health, and recreational values.<sup>98</sup>

The procedures that have been developed to administer appropriation law, as distinguished from the substantive law, offer many advantages for protecting the public interest over the typical court enforcement of riparian rights. The courts are not an adequate agency for insuring the optimum community benefits from water resources;<sup>99</sup> it has been pointed out that the adversary process rivets the court's attention to the particular parcels of land in dispute and is not well designed for assisting the court to reach the best conclusion regarding social policy and the public interest.<sup>100</sup> One major defect in riparian administration is that it is *ex post facto*, in that lawsuits do not ordinarily arise until both competing uses are in operation. In contrast, in all but three of the seventeen western states, no use of water can be initiated except upon application to state water officials for a permit, which may be denied if there is no unappropriated water. In addition, the administrators may deny the permit if the proposed use would conflict with the public interest.<sup>101</sup> The water administrators of several states have the power to choose among pending applications that seek to appropriate from the same supply when the available water is insufficient for all—in some, according to a fixed list of preferences,<sup>102</sup> in some, on broad discretionary grounds relating to maximization of benefits from the use of the water.<sup>103</sup> Not only may applications for appropriations be denied as contrary to the public interest, they may be subordinated to projects promising greater benefits,<sup>104</sup>

<sup>95</sup> See Arens, *supra* note 40.

<sup>97</sup> ORE. REV. STAT. §§538.110-538.300 (1955).

<sup>99</sup> See Arens, *supra* note 40.

<sup>101</sup> See Lasky, *supra* note 8.

<sup>103</sup> *Ibid.*

<sup>104</sup> *Tanner v. Bacon*, 103 Utah 494, 136 P.2d 957 (1943).

<sup>96</sup> UTAH CODE ANN. §73-6-1 (1953).

<sup>98</sup> IDAHO CODE ANN. §§67-4301, 67-4304 (1949).

<sup>100</sup> Haar and Gordon, *supra* note 9.

<sup>102</sup> See Trelease, *supra* note 48.

or they may be issued subject to conditions or restrictions dictated by public interest.<sup>106</sup>

It has been noted that this technique has been little used, that very few cases of denials of permits on public interest grounds have reached the courts.<sup>106</sup> This seems to be a very desirable state of affairs, rather than an indication that the procedure is an ineffective one. Most uses of water that have been made in the past, when regarded individually, have desirably added to the wealth of the user and of the community. The use of water to unlock the mineral wealth that drew the early pioneers, to make possible the western agricultural economy, its use for municipal needs, power, and stockwatering could all be said to fit into the public interest in the development of the West. State regulation has been a stand-by power; the need for its exercise may grow as maximum development approaches.

In some of the eastern states with the riparian system, there are provisions requiring permits for the use or for certain uses of water. These, however, seem to operate on a much more restricted scale than do the western permits. For the most part, the permits issued under these laws seem to be certificates to riparians that their proposed uses are not against the public interest, and the public interest protected seems to be principally the maintenance of minimum streamflows. Such permits as have been issued to nonriparians are construed as giving no rights against riparians. Their administration seems to have had no substantial effect upon riparian rights, nor have administrators attempted to use them so as to give any effect to priority of appropriation.<sup>107</sup>

## VI

### THE PROBLEM OF UNUSED RIPARIAN RIGHTS

In theory, at least, a water law that gives effect to unused riparian rights seems to violate nearly all of the standards for optimum river basin development. These rights constitute the main threat to nonriparian and out-of-watershed development, they are the principal cause of insecurity of existing riparian uses, and their presence adds greatly to the cost of obtaining firm water rights under a riparian system. They are unrecorded, their quantity is unknown, their administration in the courts provides very little opportunity for control in the public interest. To the extent that they may deter others from using the water for fear of their ultimate exercise, they are wasteful, in the sense of costing the economy the benefits lost from the deterred uses. Their main advantage, that of flexibility, can be better obtained by other methods.

Unused riparian rights may still present problems in the western states of California, North Dakota, Oklahoma, and Texas,<sup>108</sup> and they present an apparent prob-

<sup>106</sup> *East Bay Municipal Utility Dist. v. Dep't of Public Works*, 1 Cal.2d 476, 35 P.2d 1027 (1934); *Kirk v. State Board of Irri.*, 90 Neb. 627, 134 N.W. 167 (1912).

<sup>109</sup> Fisher, *supra* note 33.

<sup>107</sup> See Ellis, *supra* note 9. Marquis, Freeman, and Heath, *supra* 9, suggest that these eastern permits statutes could have a broader significance and could even be used to introduce an element of priority.

<sup>108</sup> See Trelease, *supra* note 58.

lem in all of the eastern states except Mississippi.<sup>109</sup> How serious a problem this is, in fact, is difficult to determine except on the basis of local study.

Most recent reforms and proposals for water law reforms have centered about some variation of a plan which would protect all existing riparian uses of water as "vested rights," but would provide that all future uses of water shall be by virtue of priority of appropriation, subject to regulation by the state.<sup>110</sup> Over this plan, the controversy rages, often tinged with emotionalism.<sup>111</sup> Defenders of riparianism cry out at this destruction of property.<sup>112</sup> And it is admitted that these rights may have real value, as representing claims to a future water supply; they may even represent actual investment, if riparian land has been purchased at a price which includes the potential value of the underdeveloped rights. To destroy such values would run counter to one of the major principles outlined above—security of investment in water rights.

But would such rights be "destroyed"? For the most part, there are still excess

<sup>109</sup> See Ellis, *supra* note 9. Mississippi has eliminated unused riparian rights and substituted a system of appropriation. MISS. CODE ANN. §§5956-01 to 5956-30 (Supp. 1956).

<sup>110</sup> This proposal is known as the "Oregon plan" and has been in force in that state since 1909. ORE. REV. STAT. §539.010 (1955). It was adopted by Kansas in 1945, KAN. GEN. STAT. §§82a-701 to 82a-722 (1949); by South Dakota in 1955, S.D. LAWS 1955, c. 430, p. 506; and by Mississippi in 1956. *Supra* note 109. The Kansas statute is subject to the possible construction that unused riparian rights nullified by appropriations may have to be paid for. In Nebraska, which adopted a statute permitting appropriations in 1889 without stating its effect on riparian rights, it was held that an appropriator might take the riparian's water as if by condemnation, that a riparian could not enjoin an appropriative use, and that his damages for loss of unused riparian rights was nominal only. *Crawford Co. v. Hathaway*, 67 Neb. 325, 93 N.W. 781 (1903); *McCook Irri. & Water Power Co. v. Crews*, 70 Neb. 109, 96 N.W. 996, 102 N.W. 249 (1905); *Cline v. Stock*, 71 Neb. 70, 98 N.W. 454 (1904), 71 Neb. 79, 102 N.W. 265 (1905). This limitation of remedies accomplished the same results as the Oregon-plan statutes. Washington, which had a similar duplicity in its laws, reached the same end by holding that waters were free for appropriation if not beneficially used by the riparian within a reasonable time. *Brown v. Chase*, 125 Wash. 542, 217 Pac. 23 (1923); *In re Sinlahekin Creek*, 162 Wash. 635, 299 Pac. 649 (1931). For a more detailed treatment, see Trelease, *supra* note 58, at 60-65.

<sup>111</sup> E.g., Mann, *Riparian Irrigation Rights as Declared and Enforced by the Courts, and Protected by the Statutes, of Texas*, in PROCEEDINGS OF THE WATER LAW CONFERENCES, UNIVERSITY OF TEXAS 169 (1954).

<sup>112</sup> The constitutionality of the plan, as against "due process" objections, has been discussed in such detail as to require only a reference to the literature. See Trelease, *supra* note 58, at 62-67; Marquis, Freeman, and Heath, *supra* note 9, at 32-35; Coates, *supra* note 9, at 286-96; Fisher, *Due Process and the Effect of Eastern Appropriation Proposals on Existing Rights*, in SYMPOSIUM ON THE LAW OF WATER ALLOCATION IN THE EASTERN UNITED STATES (to be published by the Conservation Foundation 1957). To the cases therein cited should be added a recent decision by a three-judge federal court, affirmed without opinion by the United States Supreme Court. *Baumann v. Smrha*, 145 F. Supp. 617 (D. Kan.), *aff'd*, 352 U.S. 863 (1956). In upholding the Kansas statute, *supra* note 110, in so far as it related to regulation of ground-water, the court said, at 624-25: "The power of a state either to modify or reject the doctrine of riparian rights because unsuited to the conditions in the state and to put into force the doctrine of prior appropriation and application to beneficial use or of reasonable use has long been settled by the adjudicated cases.

"Of course, such a modification in the law of the state must recognize valid existing vested rights, but we do not regard a landowner as having a vested right in underground waters underlying his land which he has not appropriated and applied to beneficial use.

"We hold that the state could properly apply the doctrine of prior appropriation and application to beneficial use to unused and unappropriated waters so long as it recognized and afforded protection to rights which landowners had acquired at the time of the effective date of the Act to appropriate and use water."

waters in the states with unused riparian rights. Such a statute would not automatically cut off the riparian from all participation in the stream; although he would lose the exclusive nature of his privilege, he might still obtain water for his use via the appropriation method. It is true that there would be a time limit upon the privilege, which could only be exercised up to the point when by his use he would deprive another person of the latter's water and investment. If this period were felt to be too short or too indefinite, the riparian might be given the privilege of becoming an appropriator for a specified time<sup>113</sup>—in effect, giving him a preference to the use of the water during that period.

On the other hand, it might be found practically or politically expedient to retain the unused riparian right in some form, yet still obtain advantages from an appropriation system to control nonriparian uses. Studies might prove that in some states or areas, the amount of riparian land is so small in relation to the amount of water in the streams that riparian rights might be exercised at will, with the appropriation law regulating only nonriparian uses.<sup>114</sup> Or it might be found that riparian lands presented the most desirable sites for future development, justifying such a reservation in their favor. Or legislative adoption of restrictive interpretations of riparian rights might free much water for nonriparian appropriation by limiting the quantity of riparian land, the water the riparian might claim, the uses deemed reasonable, and by broadening doctrines of prescription and estoppel.<sup>115</sup> Some measure of certainty, moreover, might still be introduced by the adoption of appropriation principles and devices. One such device might be to put such claims on record by an adjudication procedure—to fix them in quantity so that at least the maximum riparian demands on the stream might be determined, from which the nonriparians could then calculate the availability of water for their development.<sup>116</sup> And as a final resort, if the public interest demands both protection of the unused riparian right and freedom of development from such claims, they could be made subject to condemnation.<sup>117</sup> This solution has the serious drawback of requiring the developing agency to pay not only the cost of its project, but also the value of the hypothetical uses the riparian might make of the water, an added expense that could be substantial enough to render the project infeasible.

<sup>113</sup> The 1956 Mississippi statute does not take effect until April 1, 1958. MISS. CODE ANN. §5956-04 (Supp. 1956).

<sup>114</sup> This would approximate the present California law. *Peabody v. Vallejo*, 2 Cal.2d 351, 40 P.2d 486 (1935); *Meridian, Ltd. v. San Francisco*, 13 Cal.2d 424, 90 P.2d 537 (1939).

<sup>115</sup> See *Trelease*, *supra* note 58. In Texas, this has been done administratively. Board of Water Engineers Reg. 520.2 (1953).

<sup>116</sup> See notes 67-71 *supra*. For the constitutionality of such procedures, see *O'Neil v. Northern Colorado Irri. Co.*, 242 U.S. 20 (1916); *Pacific Live Stock Co. v. Lewis*, 241 U.S. 440 (1916).

<sup>117</sup> Private rights of eminent domain could raise other problems. *But. cf. Clark v. Nash*, 198 U.S. 361 (1905). Public districts and development agencies could, however, exercise such powers to accomplish much.

## VII

## CONCLUSION

In the introduction to this article, emphasis was placed upon the importance of state water law as a force affecting river basin development. This premise may be based upon a fallacious assumption about human behavior, a fallacy into which law-trained men may easily fall. Perhaps the law does not play so important a part in governing the affairs of men; perhaps there is a tendency for men to act on the assumption that everything will come out all right in the end—the lawyers will straighten out the details. A person trained in another discipline, an engineer, has postulated that, in fact, water laws have a relatively unimportant effect on development, that entrepreneurs initiate projects and engineers build them without much regard for the fears here discussed.<sup>118</sup>

Perhaps the truth lies somewhere between. If poorly-designed laws do not impede all developments, how much do they impede? If development proceeds outside the law, to what extent is present law a trap waiting to be sprung on those who have invested in projects? How many projects are not built? The biggest builder and financier of water-use projects, the federal government, has refused to act in the face of uncertain water titles. A large project in Kansas, for example was delayed until the validity of that state's law subordinating riparian rights to appropriations was determined;<sup>119</sup> the Boulder Canyon Project Act for the construction of Hoover Dam provided that it would not be operative until certain interstate differences were settled;<sup>120</sup> and later, the states of the upper Colorado River Basin gladly hurried into a compact dividing the water among themselves when they were informed that the final selection of federal reclamation projects would depend upon a firm allocation of the waters.<sup>121</sup> And in an analogous field, Congress has required that internal state law must meet a federal standard; the Colorado River Storage Project Act of 1956, in effect, limits irrigation benefits to states whose laws provide for the organization of conservancy districts.<sup>122</sup>

Whether the threat of federal nonspending is regarded as a carrot or a stick, it can act as a powerful inducement for a state to review its water laws. Aside from such consideration, the states should seriously study the need for revision of their laws. It is easy to be complacent about water law, to adopt a wait-and-see attitude, to say that there is no present emergency crying for action. But if this attitude is taken, the state may never know what it has lost through the lack of development.

Nor does the fact that a state has the prior appropriation doctrine as the basis of its law give it grounds for complacency. A watershed restriction that prevents

<sup>118</sup> Wolman, *Remarks*, in SYMPOSIUM ON THE LAW OF WATER ALLOCATION IN THE EASTERN UNITED STATES (to be published by the Conservation Foundation 1957).

<sup>119</sup> State *ex rel.* Emery v. Knapp, 167 Kans. 546, 207 P.2d 440 (1949).

<sup>120</sup> 45 STAT. 1058 (1928), 43 U.S.C. §617c(a) (1952).

<sup>121</sup> U.S. BUREAU OF RECLAMATION, THE COLORADO RIVER 185 (1946).

<sup>122</sup> 70 STAT. 105 (1956), 43 U.S.C.A. §§620-620(o) (Supp. 1956).

bringing water to the place of need is as much of a hindrance to development in Colorado as in New York. An unused appropriation that can be reinstated at will is as serious a threat to the security of a new right as is an unused riparian right. A preference for irrigation surviving from pioneer times or a jealous tying of water to agricultural land forever can prevent the industrialization of some parts of the West. Not all western states have adequate procedures for protecting private and public interests.

It is not necessary that the course of future development be exactly foreseen. If present impediments to maximum and optimum development can be identified and removed, if a framework is provided that will protect present uses, aid and encourage future desirable uses, and supply means for preventing undesirable uses, it will be enough.