
INTRODUCTION

Water is essential to all life.\(^1\) Precipitation is the only source of our fresh water supply.\(^2\) Unfortunately, the water needs of a modern America have overtaken nature’s ability to replenish the supply, triggering a country-wide shortage.\(^3\) Increased demand for a relatively fixed amount of water has also resulted in keen competition among users.\(^4\) Disputes between states may inevitably erupt over interstate watercourses.\(^5\) If the states are unable to resolve their differences, the United States Supreme Court’s original jurisdiction may be invoked to settle the matter.\(^6\)

The Supreme Court in Colorado v. New Mexico\(^7\) recently refused to grant Colorado’s request for an equitable apportionment of the Vermejo, a small interstate river.\(^8\) The Court found that New Mexico had historically been the sole user of the river.\(^9\) Consequently, Colorado had to show, by clear and convincing evidence, that the diversion was warranted.\(^10\)

This Note maintains that the Supreme Court’s flawed formulation and improper placement of the burden of proof resulted in an unsound decision. The Court’s holding in favor of New Mexico appears to reward that state’s continued use of wasteful water practices while simultaneously stunting the potential growth of Colorado communities and industry.

1. 28 ENCYCLOPEDIA AMERICANA 432 (Grolier 1981).
8. Id. at 2436.
BACKGROUND

The Two Water Doctrines

Riparian rights and prior appropriation are the two very different philosophies which underlie the bulk of American water law. The development of dual water systems was largely a product of two factors, a varied climate and an adaptable population. These factors have continued to prod the evolution of water law, to the extent that few states currently adhere to a pure version of either the riparian or the prior appropriation system. While it is still true that every state anchors its water law in at least one of the two philosophies, it is also true that most states have modified their respective systems to more closely fit individual needs.

Riparian Rights

The riparian doctrine is predominant in the eastern states, and is "governed by the common law." The doctrine originated in this country and Justice Story has been credited with introducing it to American law.

The riparian rights system grants to each person who owns land bordering on a watercourse certain rights in the waters. The landowner may use the waters in any manner or amount, provided the rights of other riparians are not affected. The riparian is usually prohibited from removing water from the watershed. Rights to use water granted under the riparian system traditionally may not be dis-

12. See id. at 10-11; R. BOYER, supra note 3, at 279; 1A G. THOMPSON, COMMENTARIES ON THE MODERN LAW OF REAL PROPERTY § 255, at 289-91, § 259 at 310 (repl. ed. 1980).
14. Id. at 10.
15. See 1A G. THOMPSON, supra note 12, § 259, at 310.
16. See F. TRELEASE, supra note 11, at 10-11.
17. 1A G. THOMPSON, supra note 12, § 255, at 290.
19. F. TRELEASE, supra note 11, at 10-11. The term "riparian" literally applies only to the ownership of the bank of a river or a stream. BLACK'S LAW DICTIONARY 1192 (5th ed. 1979). "Littoral" applies to ownership of lake-shore or seashore. Id. at 1192, 842. However, riparian has frequently been used to apply in both instances. 1 C. KINNEY, supra note 2, § 451, at 760.
20. See F. TRELEASE, supra note 11, at 10-11.
21. Id. at 11. See also R. BOYER, supra note 3, at 277-79 (identifying and explaining the two basic riparian theories, reasonable use and natural flow, and how they affect the riparian water law).
solved through nonuse, and in most cases, the right to use water exists as long as the land itself.

During the 1800's, encouraged by a water-abundant environment and the beginnings of industry, the riparian doctrine spread throughout the east. Inevitably, those of pioneer spirit pushed toward the west. The move west gained momentum after 1820 as population increased and the federal government opened new territories to small homesteaders. The westward flow that began as a trickle became a torrent when gold was discovered in California in 1848.

Prior Appropriation

Before the Gold Rush, there were few prospectors in California, obviating the need for the establishment of a system for setting water rights among them. After the strike, as mining camps sprang up throughout the region, it became apparent that this lack of method no longer satisfied the area's water needs. Pre-Gold Rush prospectors had laid claim to all known resources, and, therefore, most Gold Rush miners were deprived of necessary water. In addition, the Gold Rush produced more mines than known resources could support. The question was how to fairly parcel out a limited supply of water. The California miners responded by inventing the doctrine of prior appropriation, which eventually became the water law of the West.

Prior appropriation was designed to facilitate a fair and efficient use of a limited water supply. To become a valid appropriator, one must have intended a diversion, actually diverted the water from the

23. 2 W. HUTCHINS, supra note 22, at 26-27. The riparian right to use water is often thought of as being forever linked to the land, but in some instances a severance may occur through grant, conveyance, reservation, avulsion, prescription, condemnation, dedication, and possibly even nonuse by the owner. Id. at 36-46.
25. See generally 12 ENCYCLOPEDIA AMERICANA, 117-27 (Grollier 1981) (discussing the characteristics of pioneers; their lives and reasons for moving west).
26. Id. at 124-25.
27. Id. at 125. See also McGowen, supra note 24, at 8-9 (noting the vast numbers of people attracted by the gold strike and the methods they used to reach California).
28. See McGowen, supra note 24, at 8, 9.
29. Id. at 10.
30. Id. at 10, 14.
31. Id. at 14.
34. R. BOYER, supra note 3, at 279. See F. TRELEASE, supra note 11, at 16.
source, and applied the flow to some beneficial use.35 The doctrine’s key concept was first in time, first in right36 and the first diverter of water gained a legally protected right in the amount removed.37 Junior diversions were permitted only after those prior in time were fully satisfied.38 However, unlike the riparian system, a senior appropriator could lose his superior right to water if he failed to exercise it.39

The prior appropriation system employed by the California miners quickly spread to mining camps in other western states and territories.40 Miners liked the system because it rewarded expeditious action and protected acquired water rights by ranking them according to the easily understood first in time, first in right method.41 The western farmer also realized the superiority of prior appropriation to the riparian system and adopted it as well.42 By 1900, the prior appropriation doctrine was legally recognized in seventeen western states.43

Equitable Apportionment

Each state possesses inherent sovereign power and is free to establish its own system of water law.44 State and federal courts turn to state law when confronted with intrastate water disputes.45 However, disagreements between states regarding interstate waters are not as easily resolved. The equality of sovereign power wielded by all

35. R. Boyer, supra note 3, at 281; Shupe, supra note 3, at 486.
36. See Shupe, supra note 3, at 486. See also Schaab, supra note 32, at 27 (illustrating the first in time, first in right rule’s logical application during California’s gold mining boom).
38. See J. Sax, supra note 37, at 3.
39. See id. at 2-3. See also I S. Wiel, Water Rights in the Western States § 567, at 604-07 (3d ed. 1911) (noting that an abandonment of the right to water acquired under the prior appropriation system will occur if relinquishment and intent to relinquish are present, this being a question of fact).
40. See McGowen, supra note 24, at 13-14; Schaab, supra note 32, at 28.
41. See generally Shupe, supra note 3, at 486 (explaining that the prior appropriation system freed Westerners from the restrictive requirements of the riparian doctrine and that the “doctrine of ‘prior in time, prior in right’ proved an effective technique for encouraging exploitation of the West’s natural resources.”).
42. McGowen, supra note 24, at 14.
43. See 1 W. Hutchins, supra note 22, at 170-71. The 17 western states are Arizona, California, Colorado, Idaho, Kansas, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Texas, Utah, Washington and Wyoming. Id.
states requires that disputes be settled by congressional apportionment, mutual agreement, or by the Supreme Court.\textsuperscript{46}

Equitable apportionment is the doctrine employed by the Supreme Court to settle interstate water disputes.\textsuperscript{47} Each state has a right to benefit from its waters,\textsuperscript{48} but it is the duty of the Court to determine which state has the superior interest when quarrelling states attempt to fully exert their rights in the same waters.\textsuperscript{49} The Court's broad base of experience allows it to draw from areas of international, federal, and state law to assist in the delicate balancing of competing states' interests.\textsuperscript{50} Through repeated application, the Court has made equitable apportionment a malleable doctrine, sensitive to the exigencies of each situation, and this is illustrated by the cases that follow.

Equitable apportionment first appeared in 1907 in \textit{Kansas v. Colorado}.\textsuperscript{51} Kansas sought to enjoin Colorado from diverting waters of the Arkansas River.\textsuperscript{52} Colorado grounded its water law in the prior appropriation system and Kansas adhered to the riparian doctrine.\textsuperscript{53} The Supreme Court declined to follow either state's water law, and

\begin{footnotes}
\footnotetext[46]{See Kansas v. Colorado, 206 U.S. at 97. See also Ladd, supra note 4, at 268-83, identifying and discussing the three methods of resolving disputes over interstate waters: congressional apportionment, interstate compacts, and the Supreme Court.}
\footnotetext[47]{Congressional apportionment was first announced by the Court in Arizona v. California, 373 U.S. 546 (1963), to allocate the waters of the lower Colorado River. Ladd, supra note 4, at 283. Congress, apparently relying on its power over navigable waters, forced an apportionment on seven states, when those states were unable to agree on a water division. \textit{Id.} at 283-85.}
\footnotetext[48]{Interstate compacts are agreements made by the states with the consent of Congress and may be used to resolve interstate water problems. See U.S. CONST. art. I, § 10; Ladd, supra note 4, at 269. This is the superior method of resolving interstate water disputes but "[t]he difficulty of obtaining the consent of all the party-states and the federal government limits the use of the compact." \textit{Id.}}
\footnotetext[49]{The United States Constitution grants original jurisdiction to the Supreme Court in cases "in which a State shall be a Party." U.S. CONST. art. III, § 2. The adjudication of "controversies between sovereign States of the Union" has been referred to as "[t]he great function of the Supreme Court," necessary to resolve questions "involv[ing] the national peace and harmony." C. Warren, \textit{The Supreme Court and Sovereign States} 2, 31 (1924). A state may bring an equitable apportionment action as a representative of its citizens under the doctrine of \textit{parens patriae}. Kansas v. Colorado, 206 U.S. at 99.}
\footnotetext[50]{See Kansas v. Colorado, 206 U.S. at 97-98. Because states are quasi-sovereigns, the Supreme Court has consulted international law in addition to federal law and pertinent state law in an effort to reach a fair apportionment. See 3 W. Hutchins, supra note 22, at 66.}
\end{footnotes}
declared that both states stood before the Court as equals. The Court dismissed Kansas' petition based upon an analysis which revealed that Colorado's use of the contested waters produced the greatest beneficial effect.

In Wyoming v. Colorado, the Court was asked to equitably apportion the waters of the Laramie River. The Court ruled that strict application of the prior appropriation doctrine was in fact an equitable apportionment when both parties to the controversy utilized the doctrine to settle their own intrastate water disputes. However, in an analogous but more intricate case, the Court did not adhere to its holding in Wyoming.

In Nebraska v. Wyoming, all three states involved—Nebraska, Wyoming and Colorado—also relied on prior appropriation to settle water disputes occurring within their boundaries. Yet, the Court refused to be constrained by its holding in Wyoming v. Colorado. The Court in Nebraska found that a strict application of prior appropriation would not have yielded an equitable apportionment of the North Platte River, because the interests of junior appropriators would have been unjustly injured. The Court explained that in this area of the law there is "no hard and fast rule" which requires the application of one particular method of equitable apportionment in every case. Instead, "[t]he standard of equitable apportionment requires an adaptation of the formula to the necessities of the particular situation." Another ingredient in the Court's equitable apportionment formula is the burden of proof.

54. See id. at 97-98; 3 W. Hutchins, supra note 22, at 69 & n.14.
55. See 206 U.S. at 117.
56. 259 U.S. 419, 455-57 (1922).
57. Id. at 470. See generally Ladd, supra note 4, at 271-74 (discussing the Wyoming Court's resolution and contrasting it to other Supreme Court equitable apportionment holdings).
58. 3 W. Hutchins, supra note 22, at 69-70. See Nebraska v. Wyoming, 325 U.S. 589 (1945); notes 59-63 and accompanying text infra.
59. 325 U.S. at 599. The Court noted that Nebraska, although originally a riparian state, had later adopted the prior appropriation doctrine as arid western regions of the state were settled. Id. Riparian rights still existed in Nebraska but were considered inferior to those rights obtained via the prior appropriation doctrine. Id. at 600. See notes 11-15 and accompanying text supra. See generally W. Hutchins, Selected Problems in the Law of Water Rights in the West 32-34 (1942) (explaining the concurrent appearance of prior appropriation and riparian rights in Nebraska water law).
60. 325 U.S. at 618, 627.
61. Id. at 621-22. It is important to note that priority of appropriation remains a "guiding principle" for an apportionment even though it need not be followed in every case. Id. at 622.
62. Id. at 622, 627.
63. Id. at 627.
EQUITABLE APPORTIONMENT

Equitable Apportionment and the Burden of Proof

The party charged with carrying the burden of proof has the duty "to establish by evidence a requisite degree of belief concerning a fact in the mind of the trier of fact or the court."64 The bearer of the burden of proof in the equitable apportionment case is placed in an especially difficult position due to the tendency of such litigation to produce voluminous and conflicting evidence.65 The Supreme Court has attempted to deal with this reality through careful formulation and placement of the burden of proof on the party best suited to carry it.66 Some basic observations can be made regarding the Supreme Court's use of the burden of proof in equitable apportionment cases by taking special note of commonly occurring applications.

We have already seen that each state is entitled to reap the benefits of waters found within its boundaries.67 Historically, the Court has endeavored to protect that sovereign right through strategic use of the burden of proof.68 For example, if State A intends to divert or is diverting waters found within its borders, and State B seeks to prevent such a use, State B must carry the burden of proving that State A's diversion will cause State B "real or substantial injury or damage."69 The Court also demands that State B support its allegation by clear and convincing evidence rather than the usual preponderance of the evidence standard required of one seeking an injunction "in an ordinary suit between private parties."70 These two rules relating to the burden of proof apply in all equitable apportionment cases to the party seeking to prevent or enjoin a diversion, whether or not that party initiated the action.71

The Court must consider carefully its treatment of the burden of

64. BLACK'S LAW DICTIONARY 178 (5th ed. 1979).
65. See generally Colorado II, 104 S. Ct. at 2443 (Stevens, J., dissenting); Wyoming v. Colorado, 259 U.S. at 471; Kansas v. Colorado, 206 U.S. at 105-06.
66. See notes 67-73 and accompanying text infra.
67. See note 48 and accompanying text supra.
71. See Colorado I, 459 U.S. at 187 n.13; Colorado v. Kansas, 320 U.S. at 391-93. See also Washington v. Oregon, 297 U.S. at 522; New York v. New Jersey, 256 U.S. at 309. The Court in Colorado II purported to apply these well-settled burden of proof rules, but in actuality it only superficially did so and as a result circumvented the reason behind the rules: to protect a state's sovereign right in its waters. See notes 48, 68-70 and accompanying text supra; notes 100-02 and accompanying text infra.
proof in equitable apportionment cases.\textsuperscript{72} An imprecise formulation or placement of the burden could by itself disrupt the Court's equitable apportionment calculus and result in an unfair decision.\textsuperscript{73}

Due to water's unique indispensability, water law has of necessity demonstrated the ability to serve the needs of people in varied climates and eras. Beginning at its infancy, American water law has been allowed to evolve, and it is with an eye toward this permissive flexibility that we analyze the Supreme Court's decision in \textit{Colorado v. New Mexico}.

**FACTS, THE SPECIAL MASTER'S RECOMMENDATIONS, AND PREVIOUS SUPREME COURT HOLDING**

The Vermejo is a small, nonnavigable, interstate river running from the southern Rocky Mountains of Colorado into northeastern New Mexico.\textsuperscript{74} The only users of the Vermejo are located in New Mexico.\textsuperscript{75} The Vermejo's waters are apportioned among New Mexico consumers by virtue of a decree issued by a New Mexico state court in 1941.\textsuperscript{76} Prior to 1975, parties in Colorado had not expressed interest in the river's waters.\textsuperscript{77}

In mid-1975, a Colorado state court allowed the Colorado Fuel and Iron Steel Corporation (CF\&I) to divert seventy-five cubic feet of water per second from the Vermejo River.\textsuperscript{78} Four New Mexico users of the Vermejo responded to this decree by filing suit in the United States District Court for the District of New Mexico.\textsuperscript{79} In early 1978, the district court ruled in favor of the New Mexico users and enjoined CF\&I's diversion.\textsuperscript{80} CF\&I intended to appeal and filed notice with the Court of Appeals for the Tenth Circuit.\textsuperscript{81} The Tenth Circuit stayed its proceedings when Colorado's motion for leave to file an original complaint was granted by the United States Supreme Court.

\textsuperscript{72} Colorado v. Kansas, 320 U.S. at 392-94.  
\textsuperscript{73} See id; text at notes 121-26, 137-62 infra.  
\textsuperscript{74} Colorado I, 459 U.S. at 178.  
\textsuperscript{75} Id.  
\textsuperscript{76} Id.  
\textsuperscript{77} Id. (citing Phelps Dodge Corp. v. W.S. Land & Cattle Co., No. 7201 (Dist. Ct. Colfax Cty., Nov. 13, 1941)).  
\textsuperscript{78} Id.  
\textsuperscript{79} Id. (citing In re Application for Water Rights of C.F.\& I. Corp., No. W-3961 (Dist. Ct., W. Div. No. 2, June 20, 1975)). A cubic foot per second is "the quantity of water flowing at a velocity of one foot per second through a box one foot wide and one foot deep." J. SAX, supra note 37, at xxxi glossary. This converts to "448.8 gallons [of water] per minute; about 646,000 gallons per day." Id.  
\textsuperscript{80} Id. at 178-79. The four New Mexico consumers were the Vermejo Park Corporation, the Kaiser Steel Corporation, the Phelps Dodge Corporation, and the Vermejo Conservancy District. Id.  
\textsuperscript{81} Id. at 178-79.
on April 16, 1979. On that date, the Court appointed the Honorable Ewing T. Kerr, Senior Judge of the United States District Court for the District of Wyoming, as Special Master in the case. In January 1982, following a lengthy trial, the Special Master submitted his report to the Supreme Court.

Since the controversy involved two sovereign states competing for the waters of an interstate river, the Special Master applied the doctrine of equitable apportionment. With the principles of equitable apportionment as his guide, the Special Master found New Mexico's prior use of most of the contested waters not a controlling factor. Instead, the Master balanced the benefits a diversion would bestow upon Colorado against the injury suffered by New Mexico from the loss. In addition, the Master studied the water conservation measures utilized throughout the New Mexico system.

Based on his findings, the Special Master recommended a Colorado diversion of 4,000 acre-feet of water per year. The Master decided that this diversion would not "materially affect" the New Mexico users, and "the injury to New Mexico, if any, [would] be more than offset by the benefit to Colorado." The Special Master also concluded that New Mexico could counteract any injury produced by the Colorado diversion through the implementation of reasonable conservation measures.

After receiving the Special Master's Report and hearing oral arguments, the Supreme Court remanded the case to the Master, instructing him to make further findings of fact. The Court agreed that the case required the application of equitable apportionment but found the Master's findings insufficient to support his recommendation.

The Special Master made the requested additional findings of

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82. Id.
83. Id. at 179-80.
84. Id. at 180. On February 22, 1982, the Special Master's report was ordered filed.
85. See id.
86. Id. at 184-85.
87. Id. at 180-81.
88. Id. at 181; Colorado II, 104 S. Ct. at 2439.
89. Colorado I, 459 U.S. at 180. "An acre foot is . . . the amount of water required to cover one acre of ground one foot deep." Id. at 180 n.5. This converts to "43,560 cubic feet or 325,900 gallons of water." Id.
92. Id. at 183.
93. Id. at 182-83.
fact based on evidence already within his possession. In June 1983, the Master reaffirmed his original recommendation. Shortly thereafter, New Mexico filed exceptions to the Master’s additional findings, Colorado filed a brief in reply, and then New Mexico filed its reply brief.

HOLDING AND ANALYSIS

On June 4, 1984, the Supreme Court, in an eight to one decision, voted not to permit the Colorado diversion recommended by the Special Master. Speaking through Justice O’Connor, the Court emphasized that its holding rested largely on Colorado’s failure to carry its burden of proof.

At first, the majority placed upon New Mexico the burden of proving that a Colorado diversion would produce real and substantial injury to New Mexico. Finding New Mexico to be the consumer of most of the Vermejo’s waters, the Court reasoned that any diversion by Colorado would result in a water loss to New Mexico unless “offset by New Mexico at its own expense.” Therefore, the Court shifted the burden of proof and required Colorado to show by clear and convincing evidence that New Mexico was extracting resources from the Vermejo in excess of its equitable share.

Colorado’s burden of proof consisted of two parts, and the majority considered the satisfaction of both a prerequisite to any diversion. The remainder of this Note will address the majority’s formulation and placement of this bifurcated burden of proof upon Colorado and its effect on the case’s outcome.

Colorado’s Burden of Proof—The First Part

The majority first directed Colorado to identify wasteful New

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94. Colorado II, 104 S. Ct. at 2438.
95. Id.
96. Id.
97. Id. at 2436. O’Connor, J., delivered the opinion of the Court in which Burger, C.J., and Brennan, White, Marshall, Blackmun, Powell, and Rehnquist, JJ., joined. Id. Stevens, J., filed a dissenting opinion. Id. at 2442.
98. Id.
99. Id. at 2436-39.
100. Id. at 2438-39. See Colorado I, 456 U.S. at 188 n.13.
102. Colorado I, 459 U.S. at 188 n.13. See Colorado II, 104 S. Ct. at 2738-39. It is important to note that New Mexico was relieved of its initial burden of proof and was never required to show that it would experience real injury or damage from the Colorado diversion. See Colorado I, 459 U.S. at 188 n.13. This is directly contrary to the traditional burden of proof rules discussed earlier (see notes 67-71 and accompanying text supra) and it is upon this shaky foundation that the majority built its opinion.
Mexico water practices and to recommend detailed conservation methods which would enable New Mexico users to compensate for the water loss resulting from a Colorado diversion.\textsuperscript{104} Colorado claimed New Mexico’s poor regulation of stockponds, fishponds, and water detention structures contributed to overall waste.\textsuperscript{105} In addition, the Special Master observed that the chronically lax administration of New Mexico’s Vermejo Conservancy District was a main source of water waste.\textsuperscript{106}

The Court found Colorado’s suggestions “too general to be meaningful” and concluded that this part of the burden of proof was not successfully carried.\textsuperscript{107} The Court decided that Colorado had failed to identify “‘financially and physically feasible’” conservation measures which if implemented by New Mexico would eliminate water waste.\textsuperscript{108}

However, the effect of the Court’s rigid and unprecedented application of the burden of proof predetermined Colorado’s failure to carry the burden. Throughout the case, Colorado asserted that New Mexico’s use of the Vermejo’s waters was “wasteful and inefficient,”\textsuperscript{109} but that New Mexico’s lax administration, particularly of the Conservancy District, “precluded a determination of precise demand and actual beneficial use.”\textsuperscript{110} Therefore, only general areas of New Mexico water system waste could be identified and Colorado argued that “New Mexico should not be permitted to use its own lack of administration and record keeping to establish its claim that no water can be conserved.”\textsuperscript{111} The Special Master agreed that “New Mexico’s inefficient water use should not be charged to Colorado.”\textsuperscript{112}

The effect of allowing a state’s lax water administration policies

\textsuperscript{104} Colorado \textsuperscript{II}, 104 S. Ct. at 2439.
\textsuperscript{105} Id.
\textsuperscript{106} E. Kerr, Additional Factual Findings of the Special Master at 20, Colorado \textsuperscript{II}, 104 S. Ct. 2433 (1984) [hereinafter referred to as Additional Factual Findings]. A conservancy district is but one type of water district, and all 17 western states mentioned earlier (note 43 and accompanying text \textit{supra}) have water districts. See F. TRELEASE, \textit{supra} note 11, at 614. Water districts are “[o]fficial geographical areas which are supplied water under regulation of a body of commissioners or other officials.” BLACK’S LAW DICTIONARY 1428 (5th ed. 1979). The Vermejo Conservancy District is of a kind financed by the federal government and costs of construction “must be repaid to the United States by the settlers and landowners on the project.” F. TRELEASE, \textit{supra} note 11, at 616. \textit{See also} New Mexico’s Reply Brief at 9-10, Colorado \textsuperscript{II}, 104 S. Ct. 2433 (1984) (describing in detail the Vermejo Conservancy District’s history).
\textsuperscript{107} Colorado \textsuperscript{II}, 104 S. Ct. at 2440.
\textsuperscript{108} Id. (quoting Wyoming v. Colorado, 259 U.S. at 484).
\textsuperscript{109} Id. at 2444 (Stevens, J., dissenting).
\textsuperscript{110} Colorado’s Brief in Reply to the Exceptions and Brief of the State of New Mexico at 41, quoted in Colorado \textsuperscript{II}, 104 S. Ct. at 2447 (Stevens, J., dissenting).
\textsuperscript{111} \textit{See id.} at 42, quoted in Colorado \textsuperscript{II}, 104 S. Ct. at 2447 (Stevens, J., dissenting).
\textsuperscript{112} Additional Factual Findings, \textit{supra} note 106, at 20, quoted in Colorado \textsuperscript{II}, 104 S. Ct. at 2445 (Stevens, J., dissenting).
to inure to its own benefit was also discussed by Justice Stevens in his dissent. Justice Stevens felt that the majority opinion would encourage states to shirk their water conservation duties. He noted that the Supreme Court was consistently intolerant of wasteful water practices. In fact, the Court in *Colorado I* "impose[d] on states an affirmative duty to . . . conserve and augment the water supply of an interstate stream." In Justice Stevens' view, New Mexico's water administration was clearly inadequate; it invited waste and then "render[ed] the amount of that waste unknown."

As Justice Stevens noted, New Mexico's administration of the Vermejo was so imprecise that its state engineer was unaware of the approximate volume of water entering the state. Apparently, New Mexico had not installed gauges at the state line to measure the river's flow. The absence of gauges also prevented New Mexico from determining the amount of water drawn from the system by each consumer.

In essence, the Supreme Court required Colorado to pinpoint waste in the New Mexico water system when the latter was devoid of the most basic information regarding water flow and usage. Colorado had made a *prima facie* showing that certain New Mexico water practices were wasteful. The Special Master decided that reasonable conservation measures, if taken by New Mexico, would counteract any negative effect of the Colorado diversion. At that point, the majority should have shifted the burden and required New Mexico to prove by clear and convincing evidence that it was not wasting water. Certainly New Mexico was the proper party to conduct a technical analysis of its own water system. Colorado should not

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114. See id.
115. See id. at 2447-48.
116. 459 U.S. at 185.
117. *Colorado II*, 104 S. Ct. at 2448.
118. Id. at 2446 (Stevens, J., dissenting).
119. Id.
120. See id. at 2446-47. See also Additional Factual Findings, supra note 106, at 12-16 (noting that New Mexico relied on the complaints of water users to ensure that water drawn from the system is within decree limits, whereas Colorado regulated water flow from the headgates and kept daily records in an effort to limit water use to decreed amounts).
121. *Colorado II*, 104 S. Ct. at 2439. See also notes 105-06 and accompanying text supra.
122. Additional Factual Findings, supra note 106, at 28.
123. Such a shift would encourage the implementation of efficient, modernized water practices rather than protecting an ancient decree which enables a prior appropriator to extract more water than needed using modern water practices. See generally Shupe, supra note 3, at 486-87.
124. It has been established, as a general rule of evidence, that when the evidence as to an issue is peculiarly within the knowledge, grasp, or control of a party, the bur-
have been expected to install gauges, take readings, and essentially redesign another state's water system in order to carry successfully its burden of proof. Such a mandate would constitute an unfair burden to Colorado as well as a serious intrusion into an intrastate function of New Mexico.\textsuperscript{125} A strong argument can be made that had New Mexico been required to dispel Colorado's \textit{prima facie} assertions of water waste, New Mexico would have been unable to do so and the Court would have ruled in favor of Colorado on this issue. In fact, the Court disregarded the foundational fairness notion that accompanies any equitable apportionment application and utilized an unyielding burden of proof which resulted in what was essentially a pure application of the prior appropriation doctrine.\textsuperscript{126}

\textbf{Colorado's Burden of Proof—The Second Part}

Colorado also had to show that its benefits from the diversion would outweigh any detriment to New Mexico.\textsuperscript{127} Colorado indicated that the diverted water would first be used for irrigation of agricultural land.\textsuperscript{128} Later uses for the diverted water would eventually include coal washing, domestic and recreational uses, synthetic fuel development, current water supply supplementation and a water-powered hydroelectric plant for timber operations.\textsuperscript{129}

Colorado contended that the recent completion of a closed stockwater system in the Vermejo Conservancy District would provide more than half of the recommended 4,000 acre feet of water diversion and that any additional water loss suffered by New Mexico would be eliminated or greatly reduced if that state implemented

\begin{itemize}
\item \textsuperscript{125} There is no universal test to look to when applying the burden of proof, "[n]or ought there to be; for the allotment of the risk (or burden) is largely a matter of experience, depending on \textit{fairness} to the respective parties in the various kinds of issues." J. Wigmore, A \textit{Student's Textbook of the Law of Evidence} § 446, at 444 (1935) (emphasis added).
\item \textsuperscript{126} Historically, for important reasons, the state seeking to prevent a diversion must carry the burden of proving that the diversion would cause it "real or substantial injury or damage." See note 69 and accompanying text \textit{supra}. Yet, at no time in this case was New Mexico required to show that it would be hurt by the Colorado diversion. See notes 100-02 and accompanying text \textit{supra}. To make matters worse, the Court then imposed an impossible and unshiftable burden on Colorado to identify wasteful New Mexico water practices and to recommend detailed conservation measures, a burden rendered unachievable by lax New Mexico water administration methods. See notes 118-20 and accompanying text \textit{supra}.
\item \textsuperscript{127} \textit{Colorado II}, 104 S. Ct. at 2441.
\item \textsuperscript{128} Additional Factual Findings, \textit{supra} note 106, at 22.
\item \textsuperscript{129} \textit{Id}.
\end{itemize}
reasonable conservation measures.\textsuperscript{130} The Special Master found that New Mexico consumers had habitually failed to use the full amount of their water decrees.\textsuperscript{131} This fact simultaneously indicated an overstatement of the harm that a diversion would bring to New Mexico and also made evident the availability of water for the Colorado diversion. Colorado concluded, and the Special Master agreed, that the benefits Colorado would derive from the diversion were greater than the corresponding injury to New Mexico.\textsuperscript{132}

The Court found Colorado's evidence too general and speculative to sustain this part of the burden of proof.\textsuperscript{133} The Court felt Colorado should have conducted an in-depth study that included an analysis of future water uses, both temporary and permanent, and the diversion's positive economic impact upon affected communities.\textsuperscript{134} In addition, the Court questioned Colorado's contention and the Master's finding of lax Conservancy District administration by pointing out that New Mexico had submitted evidence placing the District in the middle range of project efficiency.\textsuperscript{135} Although finding New Mexico guilty of exaggerating its potential injury from the diversion, the Court once again concluded that Colorado failed to show by clear and convincing evidence that the diversion was warranted.\textsuperscript{136}

The record in equitable apportionment cases is "typically lengthy, technical, and complex."\textsuperscript{137} The Special Master's opportunity to experience the testimony and exhibits must be contrasted to the Court's comprehension of the case, gleaned exclusively from the "cold record."\textsuperscript{138} For this reason, Justice Stevens pointed out that

\textsuperscript{130} Colorado II, 104 S. Ct. at 2444, 2448 n.5 (Stevens, J., dissenting). A closed stockwater system involves the transfer of water through an underground pipe system. See Exceptions of the State of New Mexico to the Additional Findings of the Special Master and Brief in Support of Exceptions at 64-65, Colorado II, 104 S. Ct. 2433 (1984). The closed system almost completely eliminates seepage and evaporation which are main causes of water loss experienced when water is transferred via the traditional earthen-ditch method. See Shupe, supra note 3, at 509-10.

Colorado also claimed that a 2,000 acre-feet savings at the reservoir converts into a much larger savings due to evaporation and seepage of the waters experienced during transit from the river to the reservoir. Colorado II, 104 S. Ct. at 2444 n.2 (Stevens, J., dissenting). So, "according to Colorado, an increase of 2,000 acre-feet of water in the reservoirs . . ." would "totally offset" the Colorado diversion. Id. See also Colorado's Brief in Reply, supra note 110, at 43 (giving a detailed explanation of how the Colorado diversion will be offset by the new closed stockwater system).

\textsuperscript{131} Additional Factual Findings, supra note 106, at 9.

\textsuperscript{132} See id. at 22-24.

\textsuperscript{133} See Colorado II, 104 S. Ct. at 2441.

\textsuperscript{134} See id.

\textsuperscript{135} See id. at 2439.

\textsuperscript{136} See id. at 2439, 2441.

\textsuperscript{137} Id. at 2443 (Stevens, J., dissenting). See Wyoming v. Colorado, 259 U.S. at 471; Kansas v. Colorado, 206 U.S. at 105-06.

\textsuperscript{138} Colorado II, 104 S. Ct. at 2443 (Stevens, J., dissenting).
“the cause of justice is more likely to be well served by according considerable deference to the Master's factual determinations.”

The majority, however, often ignored the Special Master's recommendations and findings, claiming that not enough evidence existed to justify his conclusions. On the other hand, Justice Stevens had no trouble locating sufficient evidence to support the Master's findings. Moreover, Justice Stevens observed that “the majority opinion [did] not review the evidence in the case,” but instead contented itself with a review of the Master's findings “and in the process of doing so [made] general observations regarding the evidence.” In Justice Stevens' opinion, the majority did not give the Special Master's report the respect it deserved and as a result reached an improper decision.

The majority emphasized the presence of a New Mexico report detailing the harms of the proposed diversion and the absence of a Colorado report specifying long-term diversion uses and benefits. But this emphasis seems undeserved in light of the Court's comment that New Mexico's report was probably as speculative as Colorado's evidence. The existence of such uncertainty should have prompted the Court to rely upon the Special Master's finding that "if even half" of Colorado's proposed uses were implemented, the diversion would be justified. Instead the majority appeared to rule in favor of New Mexico on this point, effectively penalizing Colorado for not providing its report.

The majority also failed to take advantage of the Special Master's findings regarding the efficiency of the Vermejo Conservancy District. In the face of conflicting evidence and without the benefit of observing the demeanor of the many witnesses, the majority, for no apparent reason, found in favor of New Mexico. This

139. Id.
140. See id. at 2441-42.
141. Id. at 2443.
142. Id.
143. Id.
144. Id. at 2441.
145. Id.
146. Additional Factual Findings, supra note 106, at 23.
147. See Colorado II, 104 S. Ct. at 2443 n.1 (Stevens, J., dissenting).
148. See id. at 2445 (Stevens, J., dissenting). As Justice Stevens points out, the Special Master rejected New Mexico's assertion that the District was in the middle range of project efficiency. Id. After careful consideration, the Master set the overall efficiency of the District at only 24.8%. Id.
149. See id. at 2440. The majority claimed that Colorado once again did not carry its assigned burden of proof. Id. at 2440-41. However, this ruling reduced the Master's findings to insignificance and completely ignored the impact the completion of the closed stockwater system would have on both parties to the controversy. See notes 130-31 and accompanying text supra.
finding is even more difficult to understand when the facts surrounding the closed stockwater system are studied.

At the start of the case, Colorado steadfastly alleged that New Mexico was wasting the waters of the Vermejo, particularly in the Conservancy District. To eliminate waste in the District, Colorado proposed the construction of a closed stockwater system. Evidently, New Mexico had contemplated building such a system before the controversy arose, but had taken no action on the project until after the lawsuit's commencement. But following the completion of the closed system, New Mexico argued, and the Court agreed, that the benefits of water-waste reduction should inure solely to New Mexico. As Justice Stevens made clear in his dissent, the majority's position ignored "that there was a significant amount of waste in the District when the lawsuit began" and "[w]e will never know if this waste would have been eliminated but for the existence of this lawsuit..." In addition, permitting New Mexico to be the only beneficiary of conservation measures acts to lessen each state's duty to conserve the common supply and interferes with the sovereign right of each state to benefit from the use of waters within its borders.

The majority's focus on Colorado and the burden of proof also prevented obviously important information from getting the consid-

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150. See Colorado II, 104 S. Ct. at 2444 (Stevens, J., dissenting).
151. Id.
152. Id. at 2444-45.
153. Id. at 2444. Justice Stevens noted that the equities of competing claims must be balanced as they existed at the time of the controversy's inception. Id. It would be unfair to allow one party "to improve its legal position by making changes in its use of the river's waters after [the Court's] jurisdiction was invoked." Id.
154. Id. at 2444, 2445.
155. See notes 114-16 and accompanying text supra. If the Colorado II Court's reasoning is followed, a state will only be likely to implement conservation measures if that state has a ready use for water saved through the employment of such measures. See generally Shupe, supra note 3, at 486-87 (noting that the judicial system in general has wrongly protected the wasteful water practices originally encouraged by the prior appropriation doctrine). A state will continue to waste water, effectively protecting its right to the amount of water originally diverted (see notes 37-39 and accompanying text supra) and avoid what it and apparently the majority in Colorado II deem as unnecessarily costly conservation measures. Cf. Colorado II, 104 S. Ct. at 2444 (Stevens, J., dissenting) (pointing out that "New Mexico simply continues to cling to the position that it should not be required to employ conservation measures to facilitate Colorado's proposed uses, notwithstanding the fact that [the Court] explicitly rejected this position [in Colorado I] 459 U.S. at 185-86. ... " See also Wyoming v. Colorado, 259 U.S. at 484 (noting that "conservation within practicable limits is essential in order that needless waste may be prevented and the largest feasible use may be secured."))
156. See Colorado I, 459 U.S. at 191 (Burger, C.J., concurring). If New Mexico, a prior appropriator, is wasting water, Colorado, a later appropriator, is prevented from making beneficial use of the amount wasted. New Mexico has therefore interfered with Colorado's right to benefit from the Vermejo's waters. See note 155 supra.
eration it deserved. The Court acknowledged that historic New Mexico water use had habitually fallen below the decreed rights of its users. This plainly indicated the availability of at least some water for the proposed Colorado diversion. Yet the majority aborted further discussion of this issue and simply concluded that Colorado had not carried its burden of proof.

In equitable apportionment cases, the Court's duty to "consider all relevant factors" demands that it not adhere to a method of roadmap analysis which conveniently avoids areas of potentially weighty issues. The existence of water not at all used by New Mexico eliminated the need for any balancing of the benefits approach. The Court should have at least allowed the rights to these waters to vest in Colorado, for New Mexico had lost them through nonuse. Such a decision would be consistent with the concept of loss through nonuse seen in the prior appropriation doctrine and also with equitable apportionment's underlying theme of fairness.

In any event, Colorado argued, and the Special Master found, that the benefits of the diversion to Colorado would outweigh the detriment of that diversion to New Mexico. The Court was in error when it did not rule in the same manner.

CONCLUSION

The Court in Colorado v. New Mexico reached an unsound result when it refused to allow the diversion of the Vermejo River to Colorado as recommended by the Special Master. The majority's refusal to seriously consider the findings of the Special Master, its selective reading of the facts, and its unnatural concentration upon the burden of proof went against the very grain of the equitable apportionment doctrine. Indeed, the hallmark of equitable apportionment is its great flexibility which derives from equity itself. Justice Holmes

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158. Cf. Additional Factual Findings, supra note 106, at 9, where the Special Master observed that "the existing users of Vermejo water have not diligently and efficiently developed uses which would justify their need to retain their full decreed irrigation or water rights." Logically then, if New Mexico users did not need or use all of the water they had rights to draw, at least some water was surplus and available to Colorado users. In addition, New Mexico had probably lost its rights in unused waters through abandonment. See note 39 and accompanying text supra.
159. See Colorado II, 104 S. Ct. at 2439.
160. See Colorado I, 459 U.S. at 183; Colorado v. Kansas, 320 U.S. at 393-94. The Court in Colorado v. Kansas instructed that "in determining whether one state is using, or threatening to use, more than its equitable share of the benefits of a stream, all the factors which create equities in favor of one state or the other must be weighed..." Id. (emphasis added).
161. See notes 39, 158 and accompanying text supra.
162. See Additional Factual Findings, supra note 106, at 24.
noted that the goal of the Supreme Court in these cases is the achievement of an equitable apportionment "without quibbling over formulas." Yet the majority, with its overly restrictive scope of review, paid little attention to Justice Holmes' directive or to prior Court holdings.

In these times of nationwide water shortage, the Court should exercise extreme caution before denying a state its sovereign right to an essential resource. The majority in this case squandered an opportunity to promote the adoption of state water conservation measures and left a decision that will be remembered for its attachment to water-wasteful practices of the past.

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164. See R. BOYER, supra note 3, at 279.
165. Cf. New Jersey v. New York, 283 U.S. at 342, where Justice Holmes so eloquently wrote: "A river is more than an amenity, it is a treasure. It offers a necessity of life that must be rationed among those who have power over it." Id.
166. See generally Shupe, supra note 3 (identifying areas of waste in western water law, of which judicial encouragement of wasteful water practices is one, and proposing some possible solutions to the problem).