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Interstate Groundwater Rights: Protecting the Interests of the States

by

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INTERSTATE GROUNDWATER RIGHTS: PROTECTING THE INTERESTS OF THE STATES

This comment discusses the difficulties involving the interstate division of groundwater in the context of a potential dispute between South Dakota and Wyoming. The author examines the alternatives for litigation available to the state of South Dakota to protect its rights and concludes that none are sufficient to meet the goals of rational water management. He therefore proposes that an interstate compact be negotiated between the two states.

INTRODUCTION

The North Central Region of the United States today faces difficult problems with regard to its water supply. Expanding population and industrialization make ever greater demands on it. More importantly, however, the development of the coal fields in Montana, Wyoming, North Dakota and South Dakota will bring with it an enormous need for water.[1] This comment will examine a single facet of the water problem—the interstate division of groundwater[2] —in the context of the demands on the available groundwater in southwest South Dakota and east central Wyoming.

The water crisis in that area may be especially intense because it lies in a dry, semi-arid climate. The annual precipitation is fifteen to twenty inches per year,[3] so any water in the area is a precious commodity to be used to best advantage. There are few dependable streams in the area, and most people derive their water from wells in various aquifers or places where water has gathered in useable quantities. One aquifer, the Madison Formation, is an immense underground limestone formation which extends under much of Wyoming and part of southwestern South Dakota. It is not completely mapped but contains a very large, and as yet not exactly determined, quantity of water.

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1. *NAS: Water Scarcity May Limit Use of Western Coal*, SCIENCE, Aug. 10, 1973 at 525; Gillette, *Western Coal: Does the Debate Follow Irreversible Commitment?*, SCIENCE, Nov. 1, 1973 at 456-58 [hereinafter cited as Gillette]. *See also* Smith, *The Wringing of the West*, Washington Post, Feb. 16, 1975, Outlook Section, at 2, col. 2 [hereinafter cited as Smith].

2. Groundwater is just the water filling pores or cracks in the rocks . . . . When rain falls, the first water that enters the soil is held by capillarity, to make up for the water that has been evaporated or taken up by plants during the preceding dry spell. Then after the . . . plants and soil have had enough, and if the rain still continues to fall, the excess water will reach the water table—the top of the zone in which the openings in the rock are saturated. Below the water table, all of the openings—crevices, crannies, pores—are all completely full of water. The rain drops have become groundwater and this water is free to come into a well. H. BALDWIN & C. MCGUINESS, A PRIMER ON GROUNDWATER 5 (1963).

3. UNITED STATES DEP'T OF COMMERCE, NATIONAL OCEANIC AND ATMOSPHERIC AMINISTRATION, ENVIRONMENTAL DATA SERVICE, CLIMATOLOGICAL DATA 201 (1972) (data computed by author).

The immediate question of interstate division of groundwater has arisen because Wyoming has allowed issuance of a water permit to Energy Transportation Systems Inc. (hereinafter ETSI) to take groundwater from the formation for use in a coal slurry delivery system that will terminate in Arkansas where the water will be used for cooling in a gassification process.[4] The permit was issued pursuant to a law passed by the 1974 Wyoming Legislature allowing for such interstate transportation of water.[5] The wells will be located in east central Wyoming within a few miles of the South Dakota border, and, as provided by the Wyoming statute,[6] will tap the Madison limestone formation.

Illustration of the amount of water involved may be helpful to an analysis of the problem. The ETSI permit will allow it to take as many as 20,000 acre feet per year.[7] The total recharge—water returning to the Madison Formation—is presently estimated at 150,000 acre feet per year.[8] Although the recharge is much greater than the potential use of water by ETSI, serious regional problems remain. For example, the water may be totally exhausted in some areas while other nearby areas remain unaffected. Only careful mapping of the entire formation can reveal the exact result of any taking of groundwater.

The scope of the difficulty is exacerbated by the potential for even greater use of the groundwater. Wyoming presently has on file applicatons to build fifty-eight high volume wells which could use as much as 250,000 acre feet annually, considerably more than the total estimated recharge.[9] It is apparent that the potential threat must be dealt with as soon as possible, and in a decisive manner to protect the rights of South Dakotans to water which underlies both states.

The devastating effects of excessive withdrawals of groundwater have been discussed by Roy Guess, a Wyoming geologist.

> When high withdrawals are made from underground fresh water aquifers, a well-known, easily predictable cycle begins. The sequence is as follows:
>
> 1. The streams that are recharging the aquifer increase their rate of recharge and the stream flow decreases.
> 2. As the underground withdrawal continues to increase, the streams no longer can keep up with the withdrawals and the pressure in the underground aquifer drops.

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4. WYO. STAT. ANN. § 41-10.5(d) (1974 Interim Supp.).
5. *Id.* § 41-10.5.
6. *Id.* § 41-10.5(d)(i).
7. One acre foot equals approximately 365,000 gallons.
8. Interviews with Dr. Duncan McGregor, South Dakota State Geologist (Aug. 1974) [hereinafter cited as McGregor].
9. Letter from Roy H. Guess to Wyoming Stream Preservation Feasibility Committee, Nov. 20, 1973 (on file South Dakota Law Review) [hereinafter cited as Guess]. *See generally* Gillette, *supra* note 1.

3. When this pressure drops, thousands upon thousands of *springs* dry up. Springs result from the water entering an aquifer at a higher elevation and giving the aquifer a certain amount of pressure or "hydrostatic head." This pressure forces fresh water up faults, fractures, crevasses and breaks in the overlying formations to form springs.
4. When the springs (which usually end up flowing into a stream) dry up, this *further reduces* the stream flow.
5. Now, really serious things begin to happen. The water table in valleys and lush farming areas begins to drop. Shallow household water wells begin to go dry. Vast areas of partially sub-irrigated hay meadows dry up. The entire flora and fauna of a region can be vastly altered in 5 to 10 years. Wildlife and birds must migrate to other areas.
6. The streams can no longer supply the holders of previously existing water rights so these rights have now been expropriated.

At this point, I would like to emphasize that the above described cycle is well known in many areas of our country *where the annual rainfall is much greater* than it is in Wyoming.[10]

Because of the potential effects of Wyoming's actions upon South Dakota citizens, it has been proposed that either the State of South Dakota or one or more of its citizens commence a suit against the State of Wyoming to adjudicate the right to groundwater lying under the two states. The discussion below concentrates on the legal theories of groundwater litigation and the alternatives to it, including an interstate compact.

The History of Groundwater Litigation

The courts of the United States and England have traditionally treated the groundwater problem illogically. They have divided groundwater into two distinct categories—underground streams and percolating groundwater. Underground streams are said to be water which flows in a "known and well defined channel" underground.[11] Percolating water is that which does not possess such characteristics.[12] Such a distinction is, however, illogical because

10. *Id.*

11. "[W]ater flowing underground in a known and well defined channel is not percolating water but constitutes a water course and is governed by the law applicable to surface streams and not by the law applicable to percolating waters." Bull v. Siegrist, 169 Ore. 180, —, 126 P.2d 832, 834 (1942). *See also* Pima Farms Co. v. Proctor, 30 Ariz. 96, —, 245 P. 369, 370 (1926).

12. "Percolating water . . . is ground water which is not part of the subsurface flow of a surface body of water and which does not possess the . . . characteristics of a subterranean stream . . . although it may possess both movement and direction and be interdependent with surface bodies of water." City of Pasadena v. City of Alhambra, 180 P.2d 699, 720 (Cal. 1947). *See also* City of Los Angeles v. Hunter, 156 Cal. 603, 105 P. 755, 757 (1909).

all water is part of a continuous hydrological cycle.[13]

The significance of the classifications is that the priority of use of groundwater often depends on the classification as percolating or as a stream. Some states have rejected these classifications through legislation[14] which gives the state the ability to control the use and manner of use of all waters within its borders. As discussed below, however, remnants of the old rules are effective in all the states and the rules are available to the courts to aid in the determination of the proper interstate division of the groundwater.

Percolating Water in the Courts

Percolating water, as noted, is that which is not part of the subsurface flow; that is, it is not part of an underground stream. The courts have developed two separate rules—the English rule and the American rule—to deal with percolating water.

The English rule was stated in the leading case of *Acton v. Blundell*,[15] in which the court held that the overlying owner[16] had absolute ownership of the right to use percolating groundwater below his property. He could make such use as he pleased—even to the detriment of his neighbors—as long as his use was not malicious. This rule was justified in a later case:

> The laws of the existence of water underground, and of its progress while there, are not uniform, and cannot be known with any degree of certainty, nor can its progress be regulated. . . . The secret, changeable, and uncontrollable character of underground water and its operations, is so diverse and uncertain that we cannot well subject it

13. Guess, *supra* note 9. A classic example of judicial confusion resulting from the illogical distinctions is Snake Creek Mining & Tunnel Co. v. Midway Irr. Co., 260 U.S. 596, 599 (1923) in which the United States Supreme Court stated:

> Both courts below experienced some embarrassment in solving this question of Utah law; the District Court observing that the Supreme Court of the state, although having the question before it a number of times, "has never definitely announced its adherence" to either view, and the Circuit Court of Appeals that the early decisions, although "not always harmonious," "seem to have favored the English rule," while the later decisions have given effect to the other view. That there was some basis for the embarrassment is plain.

The Court then determined that Utah had the rule of reasonable use.

14. S.D. COMPILED LAWS ANN. §§ 46-6-1 to -23 (1967); WYOMING STAT. ANN. §§ 41-121 to -147 (1955).

15. 12 Mees. & W. 324, 152 Eng. Rep. 1223 (1843), *as cited in* F. TRELEASE, WATER LAW (2d ed. 1974) 466 [hereinafter cited as TRELEASE].

16. "Generally speaking, an overlying right, analogous to that of a riparian owner in a surface stream, is the right of the owner of the land to take water from the ground underneath for use on his land within the basin or watershed; the right is based on ownership of the land and is appurtenant thereto. City of Pasadena v. City of Alhambra, 33 Cal. 2d 908, 207 P.2d 17, 28 (1949), *cert. denied*, 339 U.S. 937 (1950).

> to the regulations of law, nor build upon it a system of rules, as is done in the case of surface streams.[17]

In the writer's opinion, another justification for this rule may be found in English property concepts tied in with the theory of riparian rights of water use from surface streams. The Restatement gives the standard definition of riparian rights: "According to this theory . . . all proprietors have equal rights to have the water flow as it was wont to flow in the course of nature, qualified only by the equal privileges in each to make limited uses of the water."[18]

Under this Restatement view of riparianism, each proprietor is entitled to approximately the same flow of water that existed when the land was first settled, subject only to the limited, reasonable uses of the other riparians. If the theory of riparianism were extended to percolating water, chaos could have resulted because at the time of the development of English common law no one was able to map its movements. No person would be able to do anything with his land which would cut off any other riparian's natural flow. In the view of the author, the English courts were probably unwilling to accept the diminishment of the use of land that would result from such a rule, and developed the rule which allowed any nonmalicious use of percolating water by the overlying user.

Some American courts accepted the English rule[19] and others developed a theory of reasonable use,[20] now known as the American rule. Professor Trelease has stated[21] that the leading case establishing the American rule is *Forbell v. City of New York*,[22] although there were some earlier cases reaching the same result. In *Forbell*, the court held that a person could use all the water he needed in order to obtain the fullest enjoyment of his own land but could not make unreasonable use of this water by transporting it out of the area to the detriment of his neighbors. Thus, even though a person owned the water, or the right to use the water, it was subject to the rights of those who owned land in the water basin. The rationale for disallowing the transportation of water for great distances, or out of the watershed,[23] is plain; without such a rule a holder of a small parcel of land could use great quantities of water entirely disproportionate to the amount needed to make productive use of his land.

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17. Chatfield v. Wilson, 28 Vt. 49 (1855), *as cited* in TRELEASE, *supra* note 15, at 466.
18. RESTATEMENT (SECOND) OF TORTS, § 850A at 73 (Tent. Draft No. 17, 1971) (construing the "natural flow" or English theory of riparian rights).
19. Hunt v. City of Laramie, 26 Wyo. 160, 181 P. 137 (1919); Metcalf v. Nelson, 8 S.D. 87, 65 N.W. 911 (1895).
20. Bristor v. Cheatham, 75 Ariz. 227, 255 P.2d 173 (1953).
21. TRELEASE, *supra* note 15, at 466.
22. 164 N.Y. 522, 58 N.E. 644 (1900).
23. *See* McClintock v. Hudson, 141 Cal. 275, 74 P. 849 (1903); De Bok v. Doak, 188 Iowa 597, 176 N.W. 631 (1920).

Underground Streams in the Courts

It is almost universally accepted that the priority of ownership in the water or use of the water in underground streams is determined on the same basis as the prevailing state rule for use of surface waters. However, because the Madison Formation waters are not considered to be part of an underground stream, these rules will not be discussed herein. Furthermore, most states,[24] including South Dakota,[25] "presume that groundwater is not part of an underground stream."[26]

COMMON LAW RULES IN SOUTH DAKOTA AND WYOMING

The English rule as to percolating water appears to have been followed in South Dakota. In 1895 the South Dakota Supreme Court stated:

> Subterraneous water, not flowing in a defined course or channel, but percolating and seeping through the earth, is a part of the realty . . . as the hidden water in the plaintiff's soil belonged to him as a part of it, he might, by artificial means, separate it from the soil, and it would still belong to him. He might sink a well, into which such water would work its way, and the accumulation in the well would still be his, and subject to his proprietary control. . . . He might consume or dispose of it all if he chose. He might convey it away in pipes, or carry it off in tanks.[27]

In 1907 the South Dakota Legislature first asserted state control over groundwater[28] and enacted a statute which was subsequently ruled unconstitutional in *St. Germain Irrigating Co. v. Hawthorne Ditch Co.*[29] In *St. Germain* the South Dakota Supreme Court stated in dicta that: "The private owner of real estate, who sinks an artesian well on his premises, is the absolute owner of the water flowing therefrom and may control the whole thereof as he may see fit *so long as he does no injury thereby to others.*"[30]

This language indicates that the reasonable use theory and not the English rule should be applied to groundwater. The *St. Ger-*

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24. SAX, WATER LAW, PLANNING & POLICY 459 (1968) [hereinafter cited as SAX].

25. Metcalf v. Nelson, 8 S.D. 87, 65 N.W. 911 (1895).
> In the absence of evidence, it will be presumed that the spring was formed and fed by percolation of water through the surrounding soil and was not the outbreak upon the surface of a subterranean stream . . . as it was not shown from what source the spring was supplied, it would be inferred that it came from percolation through the earth in the vicinity of the spring. *Id.* at 89, 65 N.W. 911, 912.

26. SAX, *supra* note 24.

27. Metcalf v. Nelson, 8 S.D. 87, 89, 65 N.W. 911, 912 (1895). *See also* Deadwood Cent. R. v. Barker, 14 S.D. 558, 86 N.W. 619 (1901); Madison v. Rapid City, 61 S.D. 83, 246 N.W. 283 (1932).

28. 1907 S.D. Sess. L. ch. 180, § 16.

29. 32 S.D. 260, 143 N.W. 124 (1913).

30. *Id.* at 267, 143 N.W. 124, 127 (1913) (emphasis added).

main case, however, dealt primarily with surface water; therefore, this expression cannot be given great weight when compared to the cases cited above which were specifically concerned with groundwater. In sum, it must be concluded that South Dakota followed the English rule prior to the passage of the groundwater law in 1955.[31]

Wyoming also appeared to have followed the English rule prior to the passage of its groundwater law in 1947.[32] The only decision on point was handed down in 1919. It stated that "percolating waters developed artifically by excavation and other artificial means, as was done in this case, belong to the owner of the land on which they are developed . . . ."[33]

The conclusion that Wyoming followed the English rule has been disputed by one commentator because of the cited "artificial development" language.[34] The commentator states that the rule announced by the court was applicable only to developed waters. This writer feels, however, that the analysis cited is faulty because it fails to account for the fact that most groundwater requires artificial development. Furthermore, other commentators who have considered the subject have determined that Wyoming did, in fact, follow the English rule.[35]

CURRENT STATUS OF GROUNDWATER LAW IN SOUTH DAKOTA AND WYOMING

Both South Dakota[36] and Wyoming[37] have statutorily overridden the common law concepts of how percolating water should be apportioned. They have both stated, in essence, that the water belongs to the people of the state, and that the "appropriation through permit" doctrine applies to the use of all waters of the state, including groundwater. In both states, however, any rights which were vested by virtue of the operation of common law rules at the time of the passage of the statute were allowed to continue.[38]

Such rights presumably involve considerable quantities of water because municipalities, farmers, ranchers and businesses had established such rights prior to passage of the legislation. Disputes over the priority of common law vested rights would presumably be adjudicated by reference to the common law rules.

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31. S.D. COMPILED LAWS ANN. §§ 46-6-1 to -23 (1967).
32. WYOMING STAT. ANN. §§ 41-121 to -147 (1955).
33. Hunt v. City of Laramie, 26 Wyo. 160, 181 P. 137 (1919).
34. Comment, *Constitutionality of the Wyoming Underground Water Statute*, 3 WYO. L.J. 140, 142 (1949).
35. *E.g.*, W. HUTCHINS, SELECTED PROBLEMS IN THE LAW OF WATER RIGHTS IN THE WEST 156 (1942).
36. S.D. COMPILED LAWS ANN. §§ 46-6-1 to -23 (1967).
37. WYO. STAT. ANN. §§ 41-121 to -147 (1955).
38. S.D. COMPILED LAWS ANN. §§ 46-6-1 to -3; WYO. STAT. ANN. § 41-122.

Furthermore, South Dakota and Wyoming have declared that domestic uses take precedence over all appropriative rights.[39] Therefore, disputes over conflicting domestic uses would also be resolved through application of common law rules. Hence, the common law rules remain highly relevant to the development of water resources in both South Dakota and Wyoming.

When the draft of the new statute was introduced to the South Dakota Legislature it was accompanied by a report which noted what the act was intended to accomplish.[40] The report stated that any persons intending to withdraw water for beneficial purposes except for domestic purposes, would first have to obtain a permit from the State Water Resources Commission.[41] The report summarized the benefits to be anticipated from passage of the Act:

> 1. A coordinated surface and groundwater policy recognizing the principle of greatest beneficial use, administered by a State Water Resources Commission, will assure better conservation and better utilization of water supplies.
>
> 2. An orderly and systematic determination of water right priorities will encourage industrial and agricultural development of the state.
>
> 3. An orderly determination of water priorities will give to all users of surface and underground waters a greater security of investment.[42]

It is clear from the broad language of the Act and the report of the committee that the intent of the legislature was to abolish all distinctions of water by type and to create a single class of water which was to be administered through the State Water Resources Commission. The Act has been recognized by the South Dakota Supreme Court as valid under the state's police power. In *Knight v. Grimes*,[43] the court first found that percolating water was involved. It then stated: "South Dakota is largely a semi-arid state. The legislature was fully justified in finding that the public welfare requires maximum protection and utilization of its water supply."[44] It went on to say:

> Being convinced that the legislature was justified in believing the public welfare requires conservation and preservation of the water supply of the state, that it is not required that irreparable damage be done before action can be taken to conserve and preserve, and that it has not been shown that the regulations adopted are unreasonable or arbi-

39. S.D. COMPILED LAWS ANN. §§ 46-1-5(1), 46-1-6(4) (1967); WYO. STAT. ANN. §§ 41-122, 124 (1955).

40. SOUTH DAKOTA COMM. ON AGRICULTURE AND CONSERVATION, REPORT TO EXECUTIVE BOARD SOUTH DAKOTA LEGISLATIVE RESEARCH COUNCIL (Sept. 1954) (on file Governmental Research Bureau, University of South Dakota).

41. *Id.* at 13.

42. *Id.* at 14.

43. 80 S.D. 517, 127 N.W.2d 708 (1964).

44. *Id.* at 522, 127 N.W.2d at 711.

trary, the order of the trial court dismissing such action [challenging the constitutionality of the act] is affirmed.[45]

Wyoming, as previously mentioned, has also provided statutorily for ownership of all groundwater by the state and for appropriation by permit.[46] There have apparently been no cases dealing with the constitutionality of the statute, but there are two law review comments arguing for the constitutionality of the law,[47] and there is nothing to indicate that it is not constitutional. The proposals in this comment are predicated on the constitutionality of the Wyoming Act.

Another element which must be considered prior to a discussion of possible solutions is the effect of the Desert Land Act[48] upon any litigation which may be contemplated between the states of South Dakota and Wyoming or between any other states covered by the Act. The Act provides that the thirteen affected states shall be free to determine how the nonnavigable waters within those states shall be apportioned.[49] The United States Supreme Court has stated that the statute gave each state the right "to determine for itself to what extent the rule of appropriation or the common-law rule in respect of riparian rights should obtain."[50] The Act includes groundwater by reference to "other sources of water supply"[51] after first referring to lakes and rivers. It is thus clear that each state has been given the right to determine its own rules and regulations for the use of groundwater.[52]

THE REMEDIES

The complex legal problems presented by the South Dakota-Wyoming confrontation are complicated by the insufficiency of hydrological studies of the Madison Formation.[53]

There are, however, five possible courses of action. These are: (1) an action by a private South Dakota citizen against ETSI in South Dakota's courts; (2) an action by a private South Dakota citizen against ETSI in Wyoming's courts; (3) an action by a pri-

45. *Id.* at 527, 127 N.W.2d at 714.
46. WYO. STAT. ANN. § 41-138 (1955).
47. Comment, *Constitutionalty of the Wyoming Underground Water Statute*, 3 WYO. L.J. 140 (1949); Comment, *Rights of Wyoming Appropriators in Underground Water*, 1 WYO. L.J. 111 (1947).
48. 43 U.S.C. §§ 321-39 (1970).
49. *Id.*
50. California Oregon Power Co. v. Beaver Portland Cement Co., 295 U.S. 142, 164 (1935).
51. Desert Land Act of 1877, 43 U.S.C. § 321 (1970); *see* State *ex rel.* Bliss v. Dority, 55 N.M. 12, 225 P.2d 1007, *appeal dismissed*, 341 U.S. 924 (1951).
52. A question which must eventually be considered, but which is not examined by this comment, is the extent of the rights retained by the federal government in groundwater. For a more detailed discussion of this issue see, Fischer, *Management of Interstate Ground Water*, VII NATURAL RESOURCES LAWYER 521, 537-40 (1974) [hereinafter cited as Fischer].
53. McGregor, *supra* note 8.

vate South Dakota citizen in federal district court; (4) an action by the State of South Dakota against the State of Wyoming in the United States Supreme Court; and (5) an interstate compact between the states fixing each state's share of water from the formation. As explained below, the interstate compact solution appears to be the most viable of the proposals.

Actions By Private Citizens

The first alternative considered is an action by a private citizen of South Dakota, presumably in tort. Jurisdiction would be predicated upon the theory that because the injury occurred in South Dakota the suit could properly be brought within the state. There is no precedent involving interstate groundwater, but the court could arguably take jurisdiction based on precedents involving the activities of out-of-state manufacturers directed toward the forum state.[54] These cases, however, are easily distinguishable on the facts.

It is likely, therefore, that the South Dakota Supreme Court would construe the jurisdiction of the state courts narrowly, and would find that because ETSI's taking of water occurred entirely outside the boundaries of the state, the corporation had not subjected itself to South Dakota's jurisdiction. *Uhlich v. Hilton Mobile Homes* illustrates the traditional view of the South Dakota Supreme Court that "[c]aution and judicial restraint must be the guide for the courts in this field [jurisdiction]."[55] Thus, in the opinion of the author, an action in South Dakota's courts would fail for lack of jurisdiction.[56]

An action by a South Dakota citizen in the Wyoming courts is also possible, but this tactic has two major defects. First, if the Wyoming Court applied Wyoming law the plaintiff would be unsuccessful because Wyoming law purports to protect only prior Wyoming users.[57] Thus, unless the plaintiff were prepared to launch an equal protection argument, he would be precluded from suing on the face of the Wyoming statute. The second defect of such an action exists apart from the jurisdiction and conflicts is-

54. *See, e.g.*, Coulter v. Sears, Roebuck & Co., 426 F.2d 1315 (5th Cir. 1970); Path Instruments International Corp. v. Asahi Optical Co., 312 F. Supp. 805 (S.D.N.Y. 1970); Buckeye Boiler Co. v. Sup. Ct. of Los Angeles County, 80 Cal. Rptr. 718, 458 P.2d 57 (1969).

55. Uhlich v. Hilton Mobil Homes, 80 S.D. 478, 483, 126 N.W.2d 813, 816 (1964). For a succinct discussion of the South Dakota Supreme Court's handling of the long arm statute and its attitude toward the extension of jurisdiction see, Note, *Procedure—The South Dakota Long Arm Statute—Ventling v. Kraft*, 14 S.D.L. REV. 168 (1969).

56. A finding that the Desert Land Act protected the rights of only the states themselves and not the citizens of the states would be critical to the success of such an action. Such a finding would mean that the Act does not affect the tort litigation between individuals. A finding to the contrary would preclude the existence of a tort and defeat the plaintiff. *See* text accompanying notes 48-52 *supra*.

57. WYO. STAT. ANN. § 41-10.5(F) (d) (ii) (Supp. 1974).

sues; even if the plaintiff were successful, the decision would only resolve rights between that particular plaintiff and ETSI, and leave open the larger question of rights in the entire formation—perhaps encouraging a multiplicity of actions.

Even a class action would not go far toward solving this problem, because the number of persons immediately affected by ETSI's action is small. For example, the first people likely to be affected in South Dakota are those in the Edgemont area only,[58] and an adjudication of their rights would leave unresolved the problems which the remainder of western South Dakota might encounter.

Finally, of course, an action could be brought by a South Dakota citizen in federal district court. Regardless of the determination of choice of law questions, however, it is evident that any adjudication by a federal court would be subject to the same criticisms as those noted above—it would not resolve the overall questions of the right to water in the Madison Formation, and might stimulate a plethora of actions.

Actions Before the United States Supreme Court

An alternative to a suit by a private citizen is, of course, an action by South Dakota against Wyoming in the United States Supreme Court for a determination of the states' respective rights. The Court, however, would probably not reach the merits of such an action because South Dakota is unable to prove any damage due to lack of knowledge about the Madison Formation, and the Supreme Court sets a very high standard of proof of damage as a prerequisite to reaching the merits of a case. This is evidenced by the fact that of the eight suits in which the Court has been asked to apportion water between the states, it has only done so twice.[59]

In *Kansas v. Colorado*,[60] for example, Kansas attempted to sue Colorado over use of the waters of the Arkansas River. The Court dismissed the case even though it admitted there was "some detriment" to Kansas, because the state did not show injury to her substantial interests.[61] Dismissal was without prejudice, allowing Kansas to file a new bill when it could prove such interests were being destroyed. In 1943 the Supreme Court was again asked to determine the question of the rights to the waters of the Arkansas River in *Colorado v. Kansas*.[62] Kansas contended that Colorado had increased its depletion of water to the material damage of

58. Smith, *supra* note 1, at 5.
59. Nebraska v. Wyoming, 325 U.S. 589 (1945); Wyoming v. Colorado, 259 U.S. 419 (1922). In the former case the federal government had made the apportionment and the Supreme Court merely held it valid.
60. 206 U.S. 46 (1907).
61. *Id.* at 113-14.
62. 320 U.S. 383 (1943).

Kansas' substantial interest. The Court again dismissed the suit, finding that

> [i]n such disputes as this, the court is conscious of the great and serious caution with which it is necessary to approach the inquiry whether a case is proved. Not every matter which would warrant resort to equity by one citizen against another would justify our interference with the action of a State, for the burden on the complaining State is much greater than that generally required to be borne by private parties. Before the court will intervene the case must be of serious magnitude and fully and clearly proved.[63]

In *Nebraska v. Wyoming*,[64] however, the Court did render a decree allocating the waters of the North Platte River without proof of substantial damage to Nebraska. Mr. Justice Roberts dissented vigorously:

> Without proof of actual damage in the past, or of any threat of substantial damage in the near future, the court now undertakes to assume jurisdiction over three quasi-sovereign states and to supervise, for all time, their respective uses of an interstate stream on the basis of past use. . . .[65]

The Court justified its decision by citing four factors. First, there was a finding of present over-appropriation; second, the areas were classified as "arid or semi-arid;" third, there was a failure to settle the differences between the states by compact, although an effort had been made to do so; finally, the Court cited the deleterious effects of the dry cycle upon the parties.[66]

Analysis of the foregoing cases reveals that the Court will intervene only under very limited circumstances. The case must be of "serious magnitude" and must be "fully and clearly proved." South Dakota, in a suit against Wyoming, may very well fail to meet the latter requirement because of the lack of knowledge about the Madison Formation. Furthermore, there must ordinarily be serious *present* damage which, as noted, South Dakota cannot show. The only exception to this requirement appears to be expressed in *Nebraska v. Wyoming*,[67] in which the Court allocated water without this showing on proof of certain other factors. Two of these factors, however, do not exist in South Dakota's case: The Madison Formation is not presently over-appropriated, and South Dakota has not made a good faith effort to settle its differences with Wyoming by way of an interstate compact. (On the other hand, South Dakota may be able to meet the two other requirements of *Nebraska v. Wyoming*: it is an arid or semi-arid state, and it is arguably undergoing a dry cycle. These factors, however, were of

63. *Id.* at 393.
64. 325 U.S. 589 (1945).
65. *Id.* at 657.
66. *Id.* at 608.
67. *Id.* at 589.

minor concern to the Court.) In sum, it appears that South Dakota will be unable to meet the prerequisites of a successful action within the United States Supreme Court.

Some would argue, however, that South Dakota has nothing to lose by bringing such an action. If South Dakota won, it is contended, the water would probably be apportioned on the prior appropriation rule, discussed below, a solution favorable to the state; if it lost, nothing will change. However, in the view of the author the Court would probably dismiss the suit without prejudice as it did in *Kansas v. Colorado*,[68] so nothing would be accomplished and the state would have expended a great deal of time and money. In addition, there are two further drawbacks to such a suit. First, as pointed out below, the court may not adopt prior appropriation; the result is uncertain. Second, state officers may be lulled into inaction during the pendency of the action and neglect to vigorously pursue an interstate compact. The discussion below considers the Court's alternatives if, contrary to the author's view of its probable action, it were to reach the merits of such an action.[69]

A. *Prior Appropriation Rule*

The cases suggest that, if the state were able to overcome the burden of proof discussed above and the Court were to reach the merits, it would decide an interstate groundwater dispute between South Dakota and Wyoming by analogy to *Wyoming v. Colorado*[70] and *Nebraska v. Wyoming*.[71] These cases established the principle that where both states use the same apportionment rule, that rule will be applied by the Court. As stated in *Wyoming v. Colorado*:

> Each of these states applies and enforces this rule (priority of appropriation) in her own territory, and it is the one to which intending appropriators naturally would turn for guidance. The principle on which it proceeds is not less applicable to interstate streams and controversies than to others.[72]

Therefore, because both South Dakota and Wyoming use priority of appropriation by permit within their boundaries, the Court could apply that doctrine.

The priority of appropriation rule is simply that the senior appropriator has the right to water over a junior appropriator.[73]

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68. 206 U.S. 46 (1907).

69. It must be noted, however, that the Court would probably not adopt a rule applicable to all cases. Rather, it would merely apply the principles of the rule so as to preserve the equality of quasi-sovereign states. *See, e.g.*, Kansas v. Colorado, 206 U.S. 46 (1907).

70. 259 U.S. 419 (1922).

71. 325 U.S. 589 (1945).

72. 259 U.S. 419, 470 (1922).

73. W. HUTCHINS, H. ELLIS AND J. DEBRAAL, I WATER RIGHTS LAWS IN THE NINETEEN WESTERN STATES 157-58 (1971).

Strict application of the rule to South Dakota and Wyoming would induce both states to grant permits to interests within their states so as to establish a right to water to parties within that state. Wyoming, for example, might decide to grant permits for the fifty-eight high volume wells for which applications are now on file, and South Dakota might grant excessive irrigation permits. The process would not be consonant with principles of good water management and could leave one state with far more than its proper share of the water.

The Court would be more likely to announce that it would protect only *present* senior appropriators, to prevent the race described. The allocable water remaining after senior appropriators were protected would be apportioned in a mass allocation between the two states as in *Wyoming v. Colorado*;[74] such an allocation would be consistent with equitable principles articulated in the Court's water cases.[75] South Dakota would presumably be allocated a share of the water based upon the percentage of the Madison Formation and the quantity of water which lies under the state, a solution fair and beneficial to the state if adjudicated at an early date.

B. *The American Rule or Rule of Reasonable Use*

The second most likely approach of the Court would be to apply the American rule or rule of reasonable use. This rule, discussed earlier,[76] has the advantage of ensuring that the water taken would be used on lands in the area. *Washington v. Oregon*[77] lends some support to the possibility that the Court may apply this rule. In that case, after considering the major surface water questions, the Court found that "the right to pump in reasonable quantities for the beneficial enjoyment of the overlying land is allowed . . . ."[78]

Thus if this rule were applied all of the local users would probably be protected for the immediate future, and there would be time to arrange an equitable apportionment of the groundwater among the states. Further, ETSI would be prevented from carrying out its present plan to transport water to Arkansas.

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74. 259 U.S. 419 (1922).
75. *See, e.g.*, Wyoming v. Colorado, 325 U.S. 589 (1945).
Priority of appropriation is the guiding principle. But physical and climatic conditions, the consumptive use of water in the several sections of the river, the character and rate of return flows, the extent of established uses, the availability of storage water, the practical effect of wasteful uses on downstream areas, the damage to upstream areas as compared to the benefits to downstream areas if a limitation is imposed on the former—these are all relevant factors. They are merely an illustrative, not an exhaustive catalogue. *Id.* at 618.
76. *See* text accompanying notes 19-23 *supra*.
77. 297 U.S. 517 (1936).
78. *Id.* at 525 (emphasis added).

The problem with the rule of reasonable use is that it seems contrary to the Federal Desert Land Act,[79] which gives the affected states the right to determine the use of their own waters. Since this right is statutory, the Court might hesitate to interfere on the ground that it would be imposing its views on the state contrary to the spirit of the Act.[80] Because the state of Wyoming has made a legal determination that using water in a coal slurry pipeline is a proper use, the Court may consider the matter closed.

C. *The English Rule—The Least Likely Alternative*

Application of the rule of reasonable use as noted seems to conflict with the provisions of the Desert Land Act. The English rule, on the other hand, seems to be consistent with the Act's provisions; for this reason, the Court could apply the English rule which gives the overlying owner the absolute right to use of the water. Furthermore, the English rule was the governing rule in both South Dakota and Wyoming before adoption of the priority by permit doctrine.[81] It is presumably still available to the courts in the two states to solve disputes involving domestic users who need not apply for permits, although there are not cases on point. Thus, because of the Desert Land Act and because the English rule may retain a limited vitality in both South Dakota and Wyoming, the outcome based upon application of the English rule by the Supreme Court should be examined. (It should be noted, however, that the prior appropriation rule, because it is more consistent with the current statutes in the two states, is more likely to be applied than the English rule.)

Application of the English rule would be contrary to South Dakota's interests because it would allow the state no right to complain of uses in Wyoming even if actual interference with South Dakota's uses could be shown; Wyoming would have an absolute right to the use of the water. Thus, South Dakota would be faced with two untenable alternatives—to lose its water, or to protect itself by granting excessive appropriation permits to users who ordinarily might not qualify. The state would abdicate its responsibility by not acting, and would encourage waste through adoption of the latter alternative. This, of course, could in turn seriously damage the two states' attempts to agree on consistent water policies within their own borders, as would one of the two applications of the prior appropriation rule discussed above.

Paradoxically, if the Court refuses to act, it will in effect be applying the standards of the English rule because inaction would

79. 43 U.S.C. §§ 321-339 (1970).
80. This criticism is, of course, arguably applicable to *any* apportionment by the Court.
81. *See* text accompanying notes 27-35 *supra.*

leave each state free to use as much water as it pleased for any reason it chose. Therefore, the Court's decision not to act would itself have highly detrimental consequences for the states. In summary, application of any of the three rules or inaction by the Court will bring detrimental consequences with it. Furthermore, litigation is likely to be protracted and expensive. Therefore, the state should consider the possibility of an interstate compact.

AN INTERSTATE COMPACT

Interstate compacts are allowed, with the consent of Congress, by the United States Constitution.[82] They are negotiated like other agreements and, after consent of the state legislatures and Congress, have the status and effect of law. South Dakota already has two such agreements with the State of Wyoming concerning the Belle Fourche[83] and Cheyenne[84] Rivers. Interstate compacts are subject to change through amendment by the legislatures of the states and ratification of the amendments by Congress. One writer has stated that such agreements have three advantages:

> 1. *Finality.* The interstate compact, when properly ratified, becomes fully the law of the land insofar as the contract provides. It will be recognized in the courts of all of the affected states as well as by the Courts of the United States.
>
> 2. *Flexibility.* A well drawn compact, though final, has flexibility. It may provide that particular rules and regulations may be modified, adjusted, or changed to meet changing circumstances, or to conform to new information concerning the groundwater resource.
>
> 3. *Expertise.* Customarily, compacts are negotiated by knowledgeable representatives of the compacting states, with the assistance of a knowledgeable representative of the United States government. Persons knowledgeable and experienced in an area, with sufficient time and ability to fully investigate the probable results of a proposed course of action, are much more likely to develop a conclusion which is both workable and fair than is likely to be the result of less limited effort or experienced consideration.[85]

It is clear that an interstate compact allows states to consider their peculiar needs more effectively and allows for more flexibility than does a court decree. Further, the Supreme Court has stated that compacts are to be preferred. In *Colorado v. Kansas*[86] the Court observed:

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82. U.S. CONST. art. 1, § 10.
83. S.D. COMPILED LAWS ANN. §§ 46-30-1, 2 (1967).
84. *Id.* §§ 46-31-1, 2.
85. Fischer, *supra* note 52, at 532.
86. 320 U.S. 383 (1943), *rehearing denied*, 321 U.S. 803 (1944).

> The reason for judicial caution in adjudicating the relative rights of states in such cases [water allocation] is that, while we have jurisdiction of such disputes, they involve the interests of quasi-sovereigns, present complicated and delicate questions, and, due to the possibility of future change of conditions, necessitate expert administration rather than judicial imposition of a hard and fast rule. Such controversies may appropriately be composed by negotiation and agreement, pursuant to the compact clause of the federal constitution. We say of this case, as the court has said of interstate differences of like nature, that such mutual accommodation and agreement should, if possible, be the medium of settlement, instead of invocation of our adjudicatory power.[87]

As noted above, the Supreme Court does not require that an interstate compact actually be achieved, but only that a good faith effort be made to negotiate such a compact prior to initiation of a suit in the Supreme Court.[88]

In the opinion of the author, it is necessary that any effort toward a compact should be undertaken without delay while an equitable apportionment of the waters can still be made; the dispute can and should be settled prior to over-appropriation of the Madison Formation waters. The alternative, expensive and time-consuming litigation in the Supreme Court or the state courts, is clearly less desirable; for example, *Arizona v. California*,[89] a surface water case, was in the Supreme Court for eleven years. Further, binding adjudication by the Court can be adapted to the changing needs of the parties only by direct intervention of the Court, because it ordinarily will retain jurisdiction.[90] On the other hand, a properly written interstate compact may be modified within predetermined limits merely through agreement of the parties. Finally, if there is litigation, some users may be restricted, whereas a compact consummated prior to over-appropriation should assure that no users would suffer; the states would merely be required to refrain from issuing permits beyond their share.

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87. *Id.* at 392.
88. *See* text accompanying note 66 *supra.*
89. 373 U.S. 546 (1963).
90. *See, e.g.*, Nebraska v. Wyoming, 325 U.S. 589, 655 (1945). One suggestion for a program of judicial control has been suggested by Kreiger & Banks, *Ground Water Basin Management*, 50 CAL. L. REV. 56 (1962). The authors indicate that such a program includes:
    1. Complete knowledge of the geology and hydrology of a basin, including periodic determinations of its safe yield.
    2. A legal determination of the quantity of water to which each pumper is entitled.
    3. Continuing judicial control over the extractions of water by each person from the basin.
    4. A source of supplemental water. *Id.* at 61.

CONCLUSION

This comment has discussed the complex issues that have arisen concerning the rights of South Dakota and Wyoming to groundwater in the Madison Formation. Several avenues of litigation were examined and rejected. Suits by private citizens in South Dakota courts were determined to be inappropriate because the Wyoming defendant probably has not committed an act in South Dakota so as to subject himself to jurisdiction of a South Dakota court. A suit in a Wyoming court would probably be unsuccessful because the defendant's act is specifically permitted by Wyoming law.

Furthermore, litigation by the State of South Dakota in the Supreme Court would probably be unsuccessful because of the state's inability to show damage. Even if the Supreme Court would make an allocation, however, the state would not necessarily benefit. A decree by the Supreme Court would be inflexible and interfere with rational water planning and amendment of a plan as circumstances change. Each possible application of traditional groundwater rules was examined and shown to be inadequate to meet this situation. Application of the rule of prior appropriation could set off a race for the water; or, if the Court did not act until actual over-appropriation, some users would be certain to lose all or some of their water rights. Application of the reasonable use rule would be inconsistent with the Desert Land Act, and prevent any user from transporting water from the overlying area. Finally, application of the English rule might also set off a race for the water. Therefore, litigation does not seem presently appropriate for South Dakota.

An interstate compact, on the other hand, offers the advantages of flexibility, finality and assures consideration of technical problems by experts from both states. Further, it assures thoughtful and concrete consideration of each state's political and economic development. In summary, this author concludes that the State of South Dakota should vigorously pursue an interstate compact with the State of Wyoming in order to properly protect its interests.

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