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FARMERS INVESTMENT COMPANY v. BETTWY: A JUDICIAL RESTRICTION OF GROUND WATER WITHDRAWALS, COERCING THE ARIZONA LEGISLATURE TO ACT

INTRODUCTION

In the arid southwestern United States,¹ water is the primal element of survival. It is fundamental to all phases of the southwestern economy: to industry, to agriculture, to population centers. Unfortunately, due largely to inaccurate hydrologic modeling and to untutored, irresponsible legislation, already scarce supplies of ground water have been consistently depleted since the advent of modern civilization in the Southwest. Judicial attempts to deal with the ground water problem have generally fared little better than legislative efforts, resulting in unrealistic if not misleading legal concepts which have only added to the atmosphere of uncertainty pervading the area.

A recent decision by the Supreme Court of Arizona, however, which essentially limits the use of all municipalities and industries to waters underlying their immediate boundaries, may have initiated a process which will ultimately result in affirmative legislative action and, hopefully, in a more realistic ground water policy for the State of Arizona.

THE GROUNDWATER PROBLEM OF THE SOUTHWEST

Agriculture has long been the economic mainstay of the Southwest, with approximately thirty-one million acres of irrigated surface area devoted to agricultural pursuits as of 1959.² Irrigated surface area seems to be increasing with time, as this figure represents a 76% increase in irrigated acreage over 1939.³ Due in part to extensive agricultural acreage, to scarce annual precipitation, and to high ambient temperatures which increase the amount of water lost through evapotranspiration, agricultural uses comprise approximately 90-95% of the total water consumption of the Southwest.⁴

The southwestern United States is rich in mineral resources, in-

1. For the purposes of this comment, "southwestern United States" includes western Texas, New Mexico, Colorado, Utah, Arizona, Nevada, and southern California.

2. V. RUTTAN, *THE ECONOMIC DEMAND FOR IRRIGATED ACREAGE* 34 (1964).

3. *Id.*

4. N. WOLLMAN, *THE VALUE OF WATER IN ALTERNATIVE USES* 94 (1962).

cluding metallic and nonmetallic mineral deposits and hydrocarbons. A large percentage of the nation's native gold, silver, copper, lead, zinc, petroleum and petroleum related products, natural gas, uranium, and potash deposits occur in this region.⁵ Water, one natural resource in which the region is deficient, is vital to the operation and maintenance of nearly all mining and milling operations.

An active mining industry, a ready availability of raw materials for manufacturing and an aesthetically pleasing environment have combined with other factors to make the southwestern United States one of the fastest growing regions in the United States.⁶ Rapid infusion of population into municipalities, generally logistically unprepared for expansion, has in many instances resulted in an uncontrolled, disorganized proliferation of urban areas without regard to existing water supplies.⁷ As a result, municipalities have depleted their domestic water supplies to the point of near exhaustion and have then attempted to expand their water right, either by extension of municipal boundaries, by extension of the water right itself,⁸ or by importation of water from outside the municipal boundaries from other areas.⁹

The absolute industrial, agricultural, and municipal dependence upon a ready supply of quality water coupled with the limited avail-

5. Cf. U.S. BUREAU OF CENSUS, DEP'T OF COMMERCE, REPORT NO. M1C58(1)-10C (1958) (regional breakdown of employment by and expenditures in the copper, lead, zinc, gold, and silver mining industries); cf. U.S. BUREAU OF CENSUS, DEP'T OF COMMERCE, REPORT NO. M1C58(1)-10E (1958) (regional breakdown of employment by and expenditures in the uranium industry); cf. U.S. BUREAU OF CENSUS, DEP'T OF COMMERCE, REPORT NO. M1C58(1)-13A (1958) (regional breakdown of employment by and expenditures in the petroleum and natural gas industry).

6. See Mann, *Law and Politics of Water in Arizona*, 2 ARIZ. L. REV. 241, 266 (1960) [hereinafter referred to as Mann, 2 ARIZ. L. REV.], where the author notes that the populations of Phoenix and Tucson doubled between 1960 and 1975; see R. APPELBAUM, *THE EFFECTS OF URBAN GROWTH—A POPULATION IMPACT ANALYSIS 4-7* (1973), where it is noted that the population of Anaheim, California doubled between 1960 and 1970 and that by 1980 the population of Santa Barbara County is projected to exceed that measured in 1940 by 700%.

7. The cities of Tucson and Phoenix, Arizona have long been importing water from surrounding areas. El Paso, Texas has already experienced significant drawdown in its primary source of supply, the Hueco Bolson area. The U.S.G.S. projects a 140 foot drawdown at the point of greatest depletion for the Hueco Bolson area by 1991. W. MEYER, U.S. GEOLOGICAL SURVEY, DEP'T OF INTERIOR, *DIGITAL MODEL FOR SIMULATED EFFECTS OF GROUND-WATER PUMPING IN THE HUECO BOLSON AREA, TEXAS, NEW MEXICO, AND MEXICO 25* (Water Resources Investigation Report No. 58-75, 1976).

8. This primarily refers to the exercise of the fabled "Pueblo Rights Doctrine," see *City of Los Angeles v. Pomeroy*, 124 Cal. 597, 57 P. 585 (1889); and *Cartwright v. Public Service Co. of New Mexico*, 66 N.M. 64, 343 P.2d 654 (1958).

9. The city of Tucson, the municipality in question under the principle case, imports a large part of its water from outside the Tucson Basin. Notably, it imports water from the outlying Avra-Altar and Santa Cruz Valleys. See text accompanying footnote 39 and footnote 44, under the discussion of Arizona water law.

ability of such water has resulted in a water based economic and political structure.¹⁰ In this structure, mining, agricultural, and municipal uses¹¹ compete for the finite quantity of water available, the preponderance of which are underground waters.¹² Water thereby becomes the limiting factor, determining the extent of all industrial, agricultural, and municipal maintenance, development, and expansion. Accordingly, "... the control of water becomes the key to prosperity, growth, and political and economic power. . . ."¹³

Political pressures inevitably resulting from this situation have been particularly effective in determining the extent of ground water legislation in any given area.¹⁴ This effectiveness has largely been due to the complex and oftentimes confused hydrologic nature of ground water occurrence, which has given rise to myriad legal theories, providing almost any political contingent with a viable argument for or against its particular objective. Most of these legal theories arguably have some merit, depending upon the hydrologic model to which they are applied; many we now recognize, however, are based on scientifically unsound hydrologic models, reflecting the lack of sophistication of hydrology at the time the legal concepts were formulated.¹⁵

One faulty hydrologic model is that differentiating surface and ground waters, failing to recognize the inextricable link between the two!¹⁶ The legal concept that surface stream appropriators and well users can be treated differently in water use regulation, the surface

10. D. MANN, *THE POLITICS OF WATER IN ARIZONA* (1963) [hereinafter referred to as D. MANN, *POLITICS*].

11. Recreational and conservational uses have not traditionally been considered as competing uses. However, there is little question that they will be in the future in light of the extensive state and federal investments in recreational complexes, wildlife refuges, and associated endeavors, all of which require water to be maintained. The New Mexico legislature considered a bill in their 1977 session which declared recreational and conservational uses beneficial uses within the meaning of the prior appropriation statutes.

12. Arizona, which receives more surface water than many western states, via the Colorado River, depends upon groundwater for 65% of its total supply. Clark, *Groundwater Management: Law and Local Response*, 6 ARIZ. L. REV. 178, 190-191 (1965); see D. MANN, *POLITICS*, *supra* note 10, at 43.

13. F. MOSS, *THE WATER CRISIS* 12 (1967).

14. "Opposition within the state has blocked enactment of several proposed ground water statutes, and has delayed several others from varying periods of years. Objections come from persons who want no legal restrictions upon individual pumping; or who consider public control unnecessary, undesirable or impracticable; or who question the constitutionality of proposed measures; and possibly from other sources as well." Hutchins, *Trends in the Statutory Law of Groundwater in the Western States*, 34 TEXAS L. REV. 155, 183 (1955); see D. MANN, *POLITICS*, *supra* note 10, at 66-77; see generally, 2 ARIZ. L. REV., *supra* note 6.

15. H. THOMAS, *THE CONSERVATION OF GROUNDWATER* 243 (1951); Clark, *Arizona Ground Water: The Need for Legislation*, 16 ARIZ. L. REV. 799 (1974).

16. H. THOMAS, *supra* note 15, at 240-50.

use being controlled by priority of use and the underground use not being controlled at all, is one unrealistic result of this erroneous model.¹⁷ Ultimately, application of this legal concept can result in depletion of surface supplies by the unregulated underground users.

A second inaccurate model divides underground waters into subclasses of underground streams and percolating waters, the law governing the water depending upon the classification.¹⁸ Under California law percolating waters are governed by the doctrine of correlative rights, which gives each landowner a right held in common with other landowners overlying the same supply to reasonable beneficial use of the water.¹⁹ Underground streams, however, are subject to appropriative and riparian rights.²⁰ In Arizona, underground streams are a public resource and are thus appropriable, whereas percolating waters are the property of the overlying landowner and are subject only to reasonable use.²¹ Percolating waters in Texas are governed by the English doctrine, whereby the owner of the surface may ". . . use all of the percolating waters he [can] capture from wells on his land for whatever beneficial purposes he [needs] it, on or off the land, and [he can] likewise sell it to either use off or on the land and outside the basin where produced. . .,"²² Underground stream ownership and use in Texas is not governed by the English doctrine, but is largely dependent upon the rule in the particular underground water district where the water is located.²³

In light of the advanced state of hydrology, it would seem that state legislatures would be able to formulate a sound ground water policy and an effective system of administration; in light of the overwhelming importance of ground water to the southwestern states it would seem that state legislatures would be eager to do so. This, however, for political reasons or otherwise, has proved to not be the case, state legislatures having tended to deal with ground water problems superficially or not at all.²⁴

17. *Id.*

18. Most western states adhere to this classification in one form or another. Notably, California, Arizona, and Texas. See Clark, *supra* note 15, at 800-01, and authority cited therein for a more in depth analysis of the evolution of the distinction; see H. THOMAS, *supra* note 15, at 249-50.

19. I. H. ROGERS & H. NICHOLS, WATER FOR CALIFORNIA'S 249 (1967).

20. *Id.*

21. *Bristol v. Cheatham*, 25 Ariz. 227, 255 P.2d 173 (1953), *rev'g on rehearing* 73 Ariz. 228, 240 P.2d 185 (1962).

22. *City of Corpus Christi v. City of Pleasanton*, 154 Tex. 289, 276 S.W.2d 798, 801 (1955).

23. 60 TEX. JUR.2d Waters § 219 (1964); see *Houston & T.C.R. Co. v. East*, 98 Tex. 146, 81 S.W. 279 (1904).

24. See *Hutchins*, *supra* note 14, and Clark, *supra* note 12.

The judiciary, however, has been routinely faced with issues regarding the ownership, use, etc., of underground waters. More frequently than not, the result of adjudication in a nonexistent or ambiguous legislative framework has been unrealistic and inconsistent rulings, creating even greater confusion among water users as to the state of the law.

ARIZONA—A CASE OF LEGISLATIVE INACTION

An examination of judicial ground water law in Arizona prior to *Farmer's Investment Company v. Bettwy*²⁵ presents a picture of legislative apathy and judicial inconsistency. *Howard v. Perrin*²⁶ was the first Arizona Supreme Court case to distinguish "... running stream[s] flowing in natural channels between well-defined banks. . . ." from "... filtrating or percolating waters oozing through the soil beneath the surface in undefined and unknown channels. . . ."²⁷ The court ruled that, in keeping with the applicable statutes, underground streams were appropriable but percolating waters were not. While determining that the defendant had no water right because he had not proved the water in question to be an underground stream and thus appropriable, the court did not rule as to how rights to percolating waters were to be acquired.

In the interim between *Howard v. Perrin* and *Bristor v. Cheatham*²⁸ the Arizona legislature, responding to agricultural and executive pressures,²⁹ enacted the Ground Water Code of 1948.³⁰ The primary impact of the Code, still in effect today, is to provide for the creation of critical ground water areas,³¹ wherein the State Land Commissioner may restrict drilling for agricultural purposes within certain parameters. The Code, however, has no effect on "... the withdrawal of ground water used for domestic, stock watering, industrial, or transportation purposes."³² This shortcoming and others led one commentator to note that "... everyone admitted [the Code] was a stop-gap measure designed to slow down the rapid depletion of ground water but certainly not to solve the long-range problem of

25. 558 P.2d 14 (1976).

26. 76 P. 460 (1904).

27. *Id.* at 462.

28. 75 Ariz. 227, 255 P.2d 173 (1953), *rev'g on rehearing* 73 Ariz. 228, 240 P.2d 185 (1952).

29. Mann, 2 ARIZ. L. REV., *supra* note 6, at 250-51.

30. ARIZ. REV. STAT. ANN. § 45-301, *et seq.* (1956), *as amended*, ARIZ. REV. STAT. ANN. § 45-301, *et seq.* (Supp. 1976-77).

31. "Critical ground water area' means any ground water basin . . . not having sufficient ground water to provide a reasonably safe supply for irrigation of the cultivated lands in the basin at the then current rates of withdrawal." ARIZ. REV. STAT. § 45-301(1) (1956).

32. ARIZ. REV. STAT. ANN. § 45-301(2) (Supp. 1976-77).

balancing agricultural development with the available water supply."³³

*Bristor v. Cheatham*³⁴ responded to the question posed by *Howard v. Perrin*,³⁵ defining how rights to percolating waters are acquired and governed. First the court ruled that percolating waters are not appropriable, by construction of an Arizona statute which failed to specifically designate percolating waters as appropriable.³⁶ Then, absent any legislative guide as to the preferable system, the court went on to determine that the reasonable use doctrine is the body of law applicable to percolating waters. Under *Bristor II*, the owner of lands overlying subterranean waters "... may extract such water for reasonable, beneficial use of the land from which the same is taken." (emphasis added).³⁷ It was noted that "[t]he principle difficulty in the application of the reasonable use doctrine is in determining what is reasonable use."³⁸

Later supreme court decisions gradually weakened the terms of the *Bristor II* reasonable use doctrine, eventually allowing water to be transported off of the land from which it was withdrawn. *Jarvis v. State Land Department*³⁹ had the greatest effect upon the *Bristor II* ruling, largely in reliance on additional inadequate and ambiguous legislation. Petitioners in *Jarvis II* alleged that the City of Tucson, located fifteen miles outside of the Avra-Altar Valley drainage area, was violating the court's injunction by pumping percolating waters out of the largely agricultural Marana Critical Ground Water Area, contained within the Avra-Altar Valley drainage area. The court ruled that Tucson was violating the injunction by its pumping, but continued that "... if Tucson acquires land within the Avra-Altar Valleys overlooking the Marana Critical Groundwater Area it may withdraw water from the basin for municipal use to the same extent as water previously withdrawn for use on those lands." (emphasis added).⁴⁰ Recognizing that the holding was contrary to reasonable

33. MANN, 2 ARIZ. L. REV., *supra* note 6, at 251. Mann's article presents an excellent overview of the political aspects of Arizona ground water law.

34. 75 Ariz. 227, 255 P.2d 173 (1953), *rev'g on rehearing* 73 Ariz. 228, 240 P.2d 185 (1952) [hereinafter referred to as *Bristor II*].

35. 76 P. 460 (1904).

36. "The waters of all sources, flowing in streams, ravines, or other natural channels, or in definite underground channels . . . and of lakes, ponds and springs on the surface belong to the public and are subject to appropriation and beneficial use as provided in this chapter." ARIZ. REV. STAT. ANN. § 45-101(A) (1956).

37. *Bristor II*, *supra* note 34, 255 P.2d at 178.

38. *Id.* at 179.

39. 106 Ariz. 506, 479 P.2d 169 (1970) [hereinafter referred to as *Jarvis II*]. See *Arizona Supreme Court—Reasonable Use of Percolating Ground Water*, 13 ARIZ. L. REV. 490 (1971), for more detailed discussion of *Jarvis II*.

40. *Jarvis II*, *supra* note 39, 479 P.2d at 174.

use as defined in *Bristor II*, the *Jarvis II* court relied on an Arizona statute ranking the relative value of uses for appropriated waters,⁴¹ placing domestic and municipal uses over agricultural uses.⁴² Thus, *Jarvis II* essentially overruled the *Bristor II* holding which restricted use to the overlying lands, to allow withdrawal and transportation of waters off of the overlying lands to points outside of the drainage basin.

Responsible legislation would have precluded any doubt as to how rights were acquired in percolating waters, alleviating the necessity for judicial guesswork as to legislative intent. With the exception of the Ground Water Code of 1948, the Arizona legislature had consistently refused to act positively with regard to groundwater; the status of groundwater law was uncertain as of 1976 due to the inconsistent holdings of *Bristor II* and *Jarvis II*. Clearly, there was a need for decisive action on the part of the legislature.

FICO

The action came, however, not from the Arizona legislature but from the Supreme Court of Arizona, in the form of three consolidated decisions, entitled *Farmer's Investment Company v. Bettwy*, *Farmer's Investment Company v. The Anaconda Company*, and *City of Tucson v. Anamax Mining Company*.⁴³ The parties to the action were Farmer's Investment Company,⁴⁴ the City of Tucson, Anamax Copper Company, Amax Copper Mining, Inc., the Anaconda Company, Pima Mining Company, Duval Mining Company, and the Arizona State Land Department. With the exception of the land department all parties were using water from the Santa Cruz River watershed, at least part of which was from the Sahuarita-Continental Critical Ground Water Area. Tucson's use was primarily domestic and municipal and FICO's use, dating from 1915, was purely agricultural. Anamax, Anaconda, Amax, Pima, and Duval used the water in their mining, milling, and tailings plant operations. The State Land Department was a party only because it had granted a state lease of land in the Santa Cruz valley to Duval.

FICO, owner of irrigated agricultural lands in the Santa Cruz valley, south of Tucson, sought an injunction against Anaconda and Amax as joint operators of Anamax and against Pima. FICO was

41. Note that the waters in question, percolating waters, were not subject to appropriation under Arizona law. The court, however, apparently had not other indicator of legislative intent as to the relative priority of uses.

42. ARIZ. REV. STAT. ANN. § 45-147(B) (Supp. 1976-77).

43. 558 P.2d 14 (1976) [hereinafter referred to collectively as *FICO*].

44. Hereinafter referred to as FICO.

seeking to enjoin the mining companies from pumping ground water from the critical ground water area in the Santa Cruz valley for use in their mining operations lying outside of the critical area. The City of Tucson, as intervenor, brought a complaint against Duval, seeking to enjoin it from withdrawing water from the Santa Cruz valley and returning it to the water supply after industrial use in its mining operations. The basis of Tucson's complaint was that the returned waters were of such a low quality after the industrial use that the waters of the valley were being rendered unfit for domestic and municipal uses. Tucson had a long record of using water from wells within the Santa Cruz River watershed, which was transported after withdrawal thirty miles northward to the city. Duval counterclaimed against Tucson, claiming that Tucson's withdrawal and transportation of water from the valley was depleting Duval's supply.

The *FICO* decision revolved around the superior court's ruling on Anamax' motion for partial summary judgment against Tucson that "[w]ater may be pumped from one parcel of land to another parcel if both parcels overlie a common basin or supply and if the water is put to reasonable use."⁴⁵ This ruling was the basis for the superior court's denial of *FICO*'s application for preliminary injunction against the mining companies and for its injunction of Tucson from pumping and transporting waters from the basin at rates exceeding 1972 levels. The supreme court set aside the lower court's rulings with respect to *FICO*, remanding the case with instructions to enjoin the mining companies. Tucson's injunction, limiting Tucson to 1972 pumping and transporting rates, was upheld.

In the supreme court's view there was one issue, basic to all three appeals, presented by the lower court's decision:

Whether the doctrine of reasonable use . . . permits percolating waters to be used off of lands from which they are pumped if thereby others whose lands overlie the common supply are injured or damaged thereby.⁴⁶

To decide the issue the court first looked to the doctrine of reasonable use ". . . as it has heretofore been judicially determined in Arizona. . . ."⁴⁷ Relying primarily on *Bristor II* and authority cited therein, the court narrowly construed the statement of the *Bristor II* court that ". . . the American rule [is] that one may extract such water for a reasonable, beneficial use of the land from which the

45. *FICO*, *supra* note 43, 558 P.2d at 18.

46. *Id.* at 19.

47. *Id.*

same is taken,"⁴⁸ insisting that the water be withdrawn for the beneficial enjoyment of that particular land.⁴⁹ Referring to *Canada v. City of Shawnee*,⁵⁰ cited in *Bristor II*,⁵¹ the court then emphasized that the reasonable use doctrine prohibits the withdrawal of water for use on other land if the use of water by neighboring landowners is interfered with or if supplies underlying neighboring lands are diminished.⁵² In light of the court's statement that their ruling is not predicated on the pumping of groundwater from critical areas,⁵³ it can be inferred that the court has adopted a broad definition of neighboring lands, whereby a depletion of water anywhere within the watershed would constitute a violation of reasonable use.

Going beyond *Canada v. City of Shawnee*,⁵⁴ which required actual harm, the court granted relief to FICO, stating: "[T]he water table . . . is being lowered and the reservoir of supply is being depleted.***[T]he additional pumping proposed by Anamax . . . will necessarily further deplete the source of supply. . . .****FICO need not wait for its farms to be devastated* before applying for injunctive relief against unlawful acts." (emphasis added).⁵⁵ Prospective harm, not actual harm, seems to be enough under the *FICO* ruling to enjoin withdrawal and transportation.

In determining that the copper mines should be enjoined from pumping water to their operations from within the watershed, the court implicitly overruled *Jarvis II*, instituting a strict form of the *Bristor II* holding. It stated that *Jarvis II* is not ". . . precedent for a doctrine that a court will prefer one economic interest over another on an ad hoc basis where there are not enough of the material goods to go around."⁵⁶ The court called upon the legislature to ". . . designate when and under what conditions such economic interests will prevail."⁵⁷

One of the bases of the ruling, which dealt exclusively with percolating waters not previously subject to appropriation, was that the "mining companies position flies in the face of the maxim 'first in time, first in right'. . . .***[T]he [mining companies] are asking this

48. *Bristor II*, *supra* note 34, 255 P.2d at 178.

49. *FICO*, *supra* note 43, 558 P.2d at 20.

50. 179 Okl. 53, 64 P.2d 694 (1936).

51. *Supra* note 34, 255 P.2d at 178.

52. *FICO*, *supra* note 43, 558 P.2d at 19-20.

53. *Id.* at 23.

54. *Supra* note 50.

55. *FICO*, *supra* note 43, 558 P.2d at 23.

56. *Id.* at 21.

57. *Id.*

Court to . . . prefer the interests of mining over farming, irrespective of the time when rights were acquired. . . ."⁵⁸ This language can only be taken as an indication that, in the supreme court's view, the reasonable use doctrine under Arizona law either has assumed or should assume the priority aspect of the appropriative system, whereby earlier use determines the better right.⁵⁹

THE IMPORTANCE OF FICO

FICO, while not defining as a matter of law what is a reasonable use of percolating water in Arizona, went a long way in determining what is an unreasonable use. From the basic issue of the case, the *FICO* court developed a two pronged test to determine unreasonableness:

1. Is the water being transported off of the land from beneath which it was withdrawn?

2. Is the withdrawal and transportation off of the land harming landowners whose lands overlie the common supply? If the answer to both of these questions is yes, then the user will be enjoined from transporting the water. Under the court's broad definition of neighboring lands it is clear that pumping in any area in which there is not sufficient water to supply existing users, not just in critical ground water areas, will result in a depletion or prospective depletion of supplies. Under the court's definition of harm, even prospective depletion will be enough to harm neighboring landowners. Thus, if the pumped water is subsequently transported for use off of the particular parcel of property from which it was pumped, the court's test will be satisfied.

The effects of the *FICO* ruling are far reaching. *FICO* stands for the proposition that municipalities will essentially not be permitted to pump additional water for use within their boundaries from anywhere except beneath the municipality; no water may be imported to the municipality other than that quantity designated by the court as an existing right of the city.⁶⁰ For Phoenix and Tucson, the state's two largest cities, this has serious implications, as domestic supplies are already severely strained. Mining and industrial users are similarly restricted in their supply, being limited to withdrawals from beneath their immediate properties. Agricultural users are subject to the same limitations, but are generally in a better position to con-

58. *Id.*

59. Note from text accompanying footnote 39 that *FICO* began using water in the area prior to the mines, in 1915.

60. Tucson was limited in its withdrawals from the Santa Cruz valley to a 1972 rate.

tinue operating because they have a more extensive surface area from which to draw and they ordinarily are located in areas with a more abundant underlying supply, i.e., in valleys, rather than in mountainous terrain.

At first impression the *FICO* decision may seem to be a socially insensitive, unreasonable adjudication in that it cuts off the cities and mines from vital water supplies; it puts them in a position where expansion or even operation at present levels is impractical or impossible. The redeeming feature of the decision, however, is that it exerts a pressure on the cities and mines which is in turn transmitted to the state legislature, forcing the legislature to define the law applicable to percolating waters and to define the relative values of competing uses. Another desirable feature of the decision is that by referring to "first in time, first in right" it provides the legislature with some indication of the judicial preference for the form of the applicable law.

CONCLUSION

FICO demonstrates a growing awareness among the judiciary of the importance of a responsible, hydrologically sound system of water rights administration.⁶¹ The importance of such a system is not limited to Arizona as it is not the only state with water scarcity problems which have arisen from basic misconceptions regarding the occurrence of ground water. Texas and California, to name only two others, are also water-poor states with largely mismanaged water resources resulting from ill-conceived hydrologic concepts.⁶²

FICO demonstrates the judicial awareness that, in light of the importance of water to all phases of southwestern economy, an adjudication is not the proper procedure for determination of basic water policy issues, but that the legislature has the duty to make these determinations.⁶³

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61. See Widman, *Ground Water—Hydrology and the Problems of Competing Well Owners*, 14 ROCKY MTN. MIN. L. INST. 523, 568 (1968), where the author propounds the necessity for judicial awareness.

62. See generally Clark, *Groundwater Management: Law and Local Response*, 6 ARIZ. L. REV. 178, 182-84 (1965), for a more in depth discussion of Texas and California water law.

63. See Johnson, *The Changing Role of the Courts in Water Quality Management*, WATER RESOURCES MANAGEMENT AND PUBLIC POLICY 196 (1968).