Rewriting California Groundwater Law: Past Attempts and Prerequisites to Reform

by

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INTRODUCTION

Of approximately thirty-one million acre-feet[1] of both surface and groundwater used in California in a normal year, roughly forty percent (40%) comes from the ground.[2] Much of this supply comes from groundwater basins that are being overdrafted, in other words, where the extraction of groundwater is at rates in excess of the natural recharge. There are numerous undesirable effects that can result from such long-term overdrafting of ground water basins. Generally these include: salt water intrusion[3] (the salinization of supplies), land subsidence[4] (the settling or sinking

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1. An acre-foot is the quantity of water that would cover one acre to the depth of one foot or 43,560 cubic feet.

2. CALIFORNIA GOVERNOR'S COMMISSION TO REVIEW CALIFORNIA WATER RIGHTS LAW, FINAL REPORT 136 (1978) [hereinafter cited as CALIFORNIA GOVERNOR'S FINAL REPORT]; CALIFORNIA DEPARTMENT OF WATER RESOURCES, GROUND WATER BASINS IN CALIFORNIA (Jan. 1980) [hereinafter cited as GROUND WATER BASINS IN CALIFORNIA]

3. Saltwater intrusion has been identified all along the California coast, from San Diego to Humboldt counties. In 1975, the California Department of Water Resources identified fourteen known areas and fourteen suspected areas of saltwater intrusion in the state. The known areas are: Eel River Valley, Petaluma Valley, Napa-Sonoma Valley, Santa Clara Valley, Pajaro Valley, Elkhorn Slough Area, Salinas Valley Pressure Area, Morro Basin, Chorro Basin, Los Osos Basin, Oxnard Plain Basin, West Coast Basin (Los Angeles County), and San Luis Rey Valley-Mission Basin. The suspected areas are: Russian River Basin, Drakes Estero Basin, Bolinas Lagoon Basin, Frank Creek Basin, Richardson Bay Basin, Ross Valley Basin, San Rafael Basin, Suisum-Fairfield Valley, Sacramento-San Joaquin Delta, Tonitas Creek Basin, Carmel Valley, Big Sur River Basin, Santa Rosa Creek Basin, and San Diego River-Mission Valley Basin. *See* CALIFORNIA DEPARTMENT OF WATER RESOURCES, BULL. NO. 63-5, SEA-WATER INTRUSION IN CALIFORNIA 2, 3 (Oct. 1975).

4. Land subsidence in California has occurred primarily in the San Joaquin Valley in the basins subject to critical conditions of overdraft as described above. In this area land subsidence of up to twenty-eight feet has been measured although the amount of subsidence measured is more likely to be between two to five feet. Additional areas of subsidence in California include the San Jose area in the Santa Clara Valley, parts of northern Los Angeles County, and central Orange County. *See* GROUND WATER BASINS IN CALIFORNIA, *supra* note 2, at 46-47; CALIFORNIA GOVERNOR'S FINAL REPORT, *supra* note 2, at 141; CALIFORNIA DEPARTMENT OF WATER RESOURCES, CALIFORNIA GROUND WATER, BULL. NO. 118, 119 (Sept. 1975) [hereinafter cited as CALIFORNIA GROUND WATER]; CALIFORNIA DEPARTMENT OF WATER

of the land's surface—sometimes causing damage to surface structures), and ultimately, the complete depletion of the resource.

In 1980, statewide overdrafting in California was estimated at somewhere between 2.0 and 2.5 million acre-feet a year with approximately 1.5 million acre-feet of that amount occurring in the San Joaquin Valley.[5] Thus, as of October, 1981, the California Department of Water Resources identified eleven groundwater basins as "subject to critical conditions of overdraft."[6] In many other parts of California, however, groundwater supplies are well managed to prevent overdrafting. Such management has either been through the creation of local water districts or through adjudication and management by a court-appointed watermaster.[7] Unfortunately, in those parts of the state, notably where the eleven basins are subject to "critical conditions of overdraft," management to prevent overdraft has often been impossible under the current groundwater law.[8]

On November 2, 1982, California voters were provided with the opportunity to modify California groundwater law in a way that would have substantially curtailed overdrafting in the state's eleven groundwater basins subject to critical overdraft conditions. However, the voters defeated Proposition 13, known as the Water Resources Conservation and Efficiency Act by a vote margin of sixty-five to thirty-five percent (65-35%).[9]

This Article will summarize the current state of California's groundwater law and the reasons why those familiar with the present status feel it provides inadequate protection of groundwater basins from overdrafting. In addition, the Water Resources Conservation and Efficiency Act will be summarized and ana-

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RESOURCES, ANALYSIS OF AQUIFER-SYSTEM COMPACTION IN THE ORANGE COUNTY GROUND WATER BASIN (June 1980).

5. CALIFORNIA WATER RESOURCES CONTROL BOARD AND THE DEPARTMENT OF WATER RESOURCES, POLICIES AND GOALS FOR CALIFORNIA WATER MANAGEMENT, 2 (June 1980).

6. GROUND WATER BASINS IN CALIFORNIA, *supra* note 2, at 3. Those basins are: Santa Cruz-Pajaro, Cuyama Valley, Ventura County, Eastern San Joaquin, Chowchilla, Madera, Kings, Kaweah, Tulare Lake, Tule, and Kern County. All, save the first three, are located in the central valley. The Department's determination was as follows: "A basin is subject to critical conditions of overdraft when continuation of present water management practices would probably result in significant, adverse overdraft-related environmental, social, or economic impacts." *Id.*

7. *Id.*

8. As former California Department of Water Resources director, Ronald R. Robie, explained, "(t)he solutions supplied thus far by the courts have been useful in solving specific problems, but I am convinced that the full range of ground water problems in California cannot be solved under existing legal doctrines." R. Robie, *Ground Water—A Perspective* in PROCEEDINGS OF THE THIRTEENTH BIENNIAL CONFERENCE ON GROUND WATER, 155 (1981).

9. Brazil, *A Mixed Bag of Messages From Those Ballot Propositions*, 13 CAL. J. 442 (1982) [hereinafter cited as Brazil].

lyzed as to why the initiative failed and what obstacles need to be overcome before further attempts are made to curtail overdrafting in California.

I. CALIFORNIA GROUNDWATER LAW

Groundwater in California is divided into three classes: 1) the underflow of surface streams, 2) definite underground streams, and 3) percolating waters. Since the underflow of surface streams and underground streams are governed by the laws of surface water, only the law governing percolating waters are included in the following analysis.

A. The Correlative Rights Doctrine

Prior to 1903, California courts followed the English common law rule of absolute ownership.[10] Thus, the California Supreme Court originally held that extractions of water on ones own land which interfered with extractions on adjacent lands were not actionable.[11] Basically, the court based its holding on the premise that percolating waters are part of the land and accordingly belong to the owners of that property.

In 1903, however, the California Supreme Court in the landmark case, *Katz v. Walkinshaw*,[12] rejected the absolute ownership doctrine and found that reasonable use should govern the rights of overlying landowners. The court found that reasonable use "limits the right of others to such amount of water as may be necessary for some useful purpose in connection with the land from which it is taken."[13]

In dicta, the *Katz* court also outlined what it called the "rule of correlative rights."[14] Taken together, the rule of correlative rights and the requirement of reasonable and beneficial use provide that landowners overlying a common source of percolating groundwater have equal or correlative rights to a reasonable amount of the water when applied to a reasonable and beneficial use on the land overlying the groundwater basin.

Cases subsequent to *Katz* have clarified its dicta and affirmed the correlative rights doctrine. In 1928, through the initiative pro-

10. Vineland Irrigation Dist. v. Azusa Irrigating Co., 126 Cal. 486, 58 P. 1057 (1899).

11. *Id.*

12. 141 Cal. 116, 74 P. 766 (1903).

13. *Id.* at 134, 74 P. at 771.

14. *Id.* at 135-36, 74 P. at 772. As the court explained, "Disputes between overlying landowners, concerning water for use on the land, to which they have an equal right, in cases where the supply is insufficient for all, are to be settled by giving each a fair and just propation." *Id.*

cess, a reasonable and beneficial use requirement was added to the California Constitution.[15] Subsequently in 1935, although initially a response to its decision dealing with surface water rights,[16] the California Supreme Court found the amendment also applied to groundwater.[17] Thus, under the correlative rights doctrine, priority in time does not give rise to priority in right. Furthermore, in *Burr v. Maclay Rancho Water Co.*,[18] the court held that overlying landowners had equal rights regardless of the fact that the defendant had not exercised his right.

Finally, in the event the underground supply is inadequate to satisfy the needs of overlying landowners, each owner is entitled to a reasonable share of the supply.[19] The courts may therefore determine the reasonableness of extractions for each entitled party in such cases, and restrict overlying landowners to their reasonable share.[20]

B. Non-Overlying Use

When there is a surplus of percolating groundwater, that surplus may be extracted for use on distant lands.[21] Such extractions are subject to the doctrine of prior appropriation, and the rights so acquired are inferior to the rights of overlying landowners using the water on overlying lands.[22] In the event an overlying landowner has not exercised his right, he may protect and preserve his rights against extractions of a surplus appropriator by seeking a declaratory judgment.[23] An overlying use includes use on land within a given groundwater basin or watershed and is not limited to use on the particular parcel where the pumping is occurring.[24]

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15. CAL. CONST. art. 10, § 2 (West Supp. 1984) (originally art. 14, § 3, amended 1974); *See* M. ARCHIBALD, CALIFORNIA GOVERNOR'S COMMISSION TO REVIEW CALIFORNIA WATER RIGHTS LAW, APPROPRIATIVE WATER RIGHTS IN CALIFORNIA (1977).

16. Herminghaus v. Southern California Edison Co., 200 Cal. 81, 252 P. 607 (1926).

17. Peabody v. City of Vallejo, 2 Cal. 2d 351, 40 P.2d 486 (1935).

18. 160 Cal. 268, 116 P. 715 (1911).

19. Pasadena v. Alhambra, 33 Cal. 2d 908, 207 P.2d 17 (1949); Cohen v. La Canada Land & Water Co., 142 Cal. 437, 76 P. 47 (1904).

20. San Bernardino v. Riverside, 186 Cal. 7, 198 P. 784 (1921).

21. City of Los Angeles v. City of San Fernando, 14 Cal. 3d 199, 277-78, 537 P.2d 1250, 1307, 123 Cal. Rptr. 1, 58 (1975).

22. Katz v. Walkinshaw, 141 Cal. 116, 135, 74 P. 766, 772 (1903); City of Los Angeles v. City of San Fernando, 14 Cal. 3d 199, 293, 537 P.2d 1250, 1318, 123 Cal. Rptr. 1, 69 (1975).

23. Burr v. Maclay Rancho Water Co., 154 Cal. 428, 436, 98 P. 260, 264 (1908).

24. City of Pasadena v. City of Alhambra, 33 Cal. 2d 908, 925, 207 P.2d 17, 28 (1949).

C. Prescription

"[A]n appropriative taking of water which is not surplus is wrongful and may ripen into a prescriptive right where the use is actual, open and notorious, hostile and adverse to the original owner, continuous and uninterrupted for the statutory period of five years, and under claim of right."[25]

For a prescriptive right to ripen, the appropriation must be during a period of overdraft.[26] Therefore, if at any time during the five years of the adverse use there exists a surplus, the appropriation is not wrongful and the statutory period does not run.[27] In addition, the owner of the original right must be on notice that an overdraft exists. The assertion that the original owner's rights are being invaded or the mere lowering of the water levels during the period of wrongful appropriation are not, in themselves, adequate notice.[28]

In any event, the rights of overlying owners, surplus appropriators, and rights acquired through a prior prescription, may be lost through prescription. During an overdraft, parties can protect themselves from rights acquired by prescription through injunctive relief.[29] Also, by continuing to pump during the prescriptive period, those private parties with prior rights will retain their proportionate share of the safe yield in a basin.[30]

D. Physical Solutions

At times the strict application of water rights in a case will result in waste. For example, when a senior right holder is entitled to an injunction against a junior right holder the result will be a reduction in the total amount of water available to both parties. In such cases California courts have fashioned "physical solutions."[31]

In *City of Lodi v. East Bay Municipal Utility District*[32] the California Supreme Court interpreted article 14, section 3 of the California Constitution[33] as giving the courts an affirmative duty "to ascertain whether there exists a physical solution of the problem

25. *Id.* at 926-27, 207 P.2d at 29.
26. *See id.* at 925-26, 207 P.2d at 28-29.
27. City of Los Angeles v. City of San Fernando, 14 Cal. 3d 199, 284, 537 P.2d 1250, 1312, 123 Cal. Rptr. 1, 63 (1975).
28. *Id.* at 282, 537 P.2d at 1311, 123 Cal. Rptr. at 62.
29. *Id.* at 278, 537 P.2d at 1307, 123 Cal. Rptr. at 58.
30. *Id.* at 293, 537 P.2d at 1318, 123 Cal. Rptr. at 69.
31. A. SCHNEIDER, CALIFORNIA GOVERNOR'S COMMISION TO REVIEW CALIFORNIA WATER RIGHTS LAW, GROUND WATER RIGHTS IN CALIFORNIA (1977) [hereinafter cited as GROUND WATER RIGHTS].
32. 7 Cal. 2d 316, 60 P.2d 439 (1936).
33. The 1928 Constitutional Amendment now article 10, section 2 of the Califor-

presented that will avoid the waste, and that will at the same time not unreasonably and adversely affect the prior appropriator's vested property right."[34]

In any dispute involving the water rights of parties, the courts may fashion a practical physical solution designed to prevent waste, while protecting superior rights. From 1903 until 1949 courts applied the correlative rights doctrine and often sought physical solutions that would avoid waste.[35] During this period it became apparent that merely establishing and upholding the rights among parties did not protect groundwater basins from being overdrafted. As one commentator noted:

> [T]he court would enjoin pumping only if and when withdrawals directly interfered with pumping activities of other producers who were prior in right.
>
> By the mid 1930's, it became apparent that steps had to be taken in order to control the total amount of water pumped from the ground water basins of Southern California. The hit and miss tactics of individually orientated adjudications of ground water rights were not effective in coping with the tremendous disparity between ground water supplies and demands. To remedy this situation, it was again necessary for the Supreme Court to revise the ground water laws of this state.[36]

Such revision came in the form of the "mutual prescription doctrine" promulgated in *City of Pasadena v. City of Alhambra*.[37]

Pasadena involved pumpers in the Raymond basin in Southern California. For twenty-two of the twenty-four years prior to filing the suit, the Raymond basin had been in a condition of overdraft. The court found that the appropriators who caused the overdraft were not only invading the rights of overlying owners and prior appropriators but that such appropriators, had effectively acquired prescriptive rights. Although leaving open the question of whether overlying owners had obtained new prescriptive rights,

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nia Constitution requires the beneficial use of water and prohibiting waste. CAL. CONST. art. 10 § 2 (West Supp. 1984).

34. City of Lodi v. East Bay Mun. Util. Dist., 7 Cal. 2d 316, 339, 60 P.2d 439, 450 (1936).

35. GROUND WATER RIGHTS, *supra* note 31, at 19.

36. **Reis**, *Legal Planning For Ground Water Production*, 38 S. CAL. L. REV. 484, 487 (1965) [hereinafter cited as Reis].

37. 33 Cal. 2d. 908, 207 P.2d 17 (1949). Most commentators have seen *Pasadena* as adopting the mutual prescription doctrine in California. *See, e.g.*, **Reis**, *supra* note 36, at 488; GROUND WATER RIGHTS, *supra* note 31, at 19. For a contrary view *see* W. HUTCHINS, U.S. DEP'T OF AGRICULTURE WATER RIGHTS LAW IN THE NINETEEN WESTERN STATES, VOL. II 677-78 (1974) [hereinafter cited as HUTCHINS]. Hutchins notes that the *Pasadena* court did not use the term mutual prescription and argues instead that the court decided the case, "on the basis of the concept of prescriptive rights in the classical sense and on the doctrine of correlative rights as developed in California." *Id.* at 678. Regardless of whether the *Pasadena* court intended to adopt the mutual prescription doctrine, the practical result (i.e., the remedy) was the same.

the court found that by their continued pumping overlying owners retained their rights to future extractions. As the *Pasadena* court held:

> The original owners by their own acts . . . thus retained or acquired a right to continue to take some water in the future. The wrongdoers also acquired prescriptive rights to continue to take water, but their rights were limited to the extent that the original owners retained or acquired rights by their pumping.[38]

In upholding the trial court's decision, the Supreme Court limited total withdrawals to the safe yield of the basin and found all acquired prescriptive rights were of equal priority. The extractions of all parties were limited to their proportion of the safe yield based on total extractions during any five-year period from the beginning of the overdraft until the filing of the suit.[39]

Concerning the mutual prescription doctrine and the stipulated judgment approach after *Pasadena* one commentator noted:

> Many adjudications . . . have followed a pattern of negotiation to find a physical solution, stipulation for judgment, and judgment. The first step of this stipulated judgment approach generally has been to apply the mutual prescription formula to the available pumping data. By agreeing to apply a formula, the parties have avoided adversary proceedings in many situations where determination of complex appropriative priorites might in any event have been impossible because of insufficient and unreliable data.[40]

E. Mutual Prescription After San Fernando

In 1975, the California Supreme Court decided the case of *City of Los Angeles v. City of San Fernando*[41]. The *San Fernando* case had a significant impact on several aspects of California groundwater law.

In 1955, the city of Los Angeles brought suit against the cities of San Fernando, Glendale, and Burbank, the Crescenta Valley County Water District and various private parties. Los Angeles sought to quiet title and obtain a declaration of its superior rights

38. City of Pasadena v. City of Alhambra, 33 Cal. 2d 908, 933, 207 P.2d 17, 32 (1949).

39. The decision in the *Pasadena* case was based on a stipulation agreed to by all parties in the case, save the appellant, California-Michigan Land & Water Company. The court's decision applied to all the parties. *Id.* at 922, 207 P.2d at 26.

40. GROUND WATER RIGHTS, *supra* note 31, at 23-24 (footnotes omitted). The author cites several cases that have followed this approach including: California Water Service Co. v. Sidebotham & Son, Inc., 224 Cal. App. 2d 715, 37 Cal. Rptr. 1 (1964) and Tehachapi-Cummings County Water Dist. v. Armstrong, 49 Cal. App. 3d 992, 122 Cal. Rptr. 918 (1975).

41. 14 Cal. 3d 199, 537 P. 2d 1250, 123 Cal. Rptr. 1 (1975).

to water underlying the upper Los Angeles River area.[42] In addition, Los Angeles sought to enjoin the defendants from making extractions that interfered with the plaintiff's claimed, prior right.[43]

The impact of the *San Fernando* decision on the mutual prescription doctrine was primarily threefold. First, the court upheld the city of Los Angeles' argument that California Civil Code section 1007,[44] prohibiting the acquisition of prescriptive rights by any person, firm or corporation against a city, county, public utility or other public entity; prevented courts from imposing a mutual prescription formula on a city absent the city's consent.[45] Accordingly, this placed private pumpers at a disadvantage vis-a-vis public pumpers. Specifically, private pumpers can lose their rights through prescription to public pumpers, but public pumpers cannot lose their rights to either private or public pumpers through prescription.

A second impact which the *San Fernando* decision had on prescription, and on available management alternatives for groundwater basins, concerned the definition of overdraft. In *Pasadena* the court defined overdraft as a condition in which extractions exceeded safe yields.[46] The *San Fernando* court expanded this definition by interpreting safe yield to include additions and withdrawals over an extended period of time. The court noted:

> Ground basin levels tended to vary in accordance with wide fluctuations in precipitation. Thus if a rising level of extractions were halted at the point of the safe yield based on the 29-year long term average, ensuing heightening of ground water levels during years of higher-than-average precipitation would

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42. *Id.* at 207, 537 P.2d at 1258, 123 Cal. Rptr. at 9.

43. *Id.* at 207, 537 P.2d at 1259, 123 Cal. Rptr. at 10.

44. California Civil Code section 1007 was amended in 1935 to read in pertinent part,

> no possession by any person, firm, or corporation no matter how long continued of any land, water, water right . . . owned by any county, city and county, city, irrigation district, public or municipal corporation or any department or agency thereof, shall ever ripen into any title, interest or right against such county, city and county . . . .

CAL. CIV. CODE § 1007 (1935) (amended 1968). In 1968 the section was amended to read:

> but no possession by any person, firm or corporation no matter how long continued of any land, water, water right . . . dedicated to a public use by a public utility, or dedicated to or owned by the state or any public entity, shall ever ripen into any title, interest or right against the owner thereof.

CAL. CIV. CODE § 1007 (West 1982). The *San Fernando* court found "any person, firm or corporation" to include municipal entities. *San Fernando*, 14 Cal. 3d at 278, 537 P.2d at 1307, 123 Cal. Rptr. at 58.

45. *San Fernando*, 14 Cal. 3d at 270, 537 P.2d at 1301, 123 Cal. Rptr. at 52.

46. City of Pasadena v. City of Alhambra, 33 Cal. 2d 908, 929, 207 P.2d 17, 30 (1949).

cause waste.[47]

The court thus concluded that overdraft occurred only when extractions exceeded safe yields plus any temporary surplus.[48]

An essential element of prescription is that there be adversity. In a given case, overdraft constitutes the necessary adversity. For the prescriptive right to ripen, overdraft must continue for five consecutive years. If, however, during any one of the five years there is a surplus, the prescriptive period ceases to run. Consequently, the definition of overdraft articulated by the *San Fernando* court will make overdraft, and therefore prescription, more difficult to establish.

The third impact *San Fernando* had on prescription, concerns the element of notice. For the prescription period to run, the holders of the original rights must be on notice that an overdraft exists. In *Pasadena* the lowering of the water table was determined to be adequate notice of an overdraft.[49] Consistent with its new definition of overdraft, the *San Fernando* court found that the lowering of the water table alone was not adequate notice, and that owners of prior rights must be on notice, *in fact*, that there is an overdraft.[50]

Additionally, in its discussion of mutual prescription, the *San Fernando* court stressed several drawbacks of the doctrine. The court noted that determinations of prescriptive rights on the basis of the highest level of pumping during any five-year period of the overdraft had in the past resulted in a "race to the pumphouse . . . each party endeavoring to increase the volume of continuous use on which his prescriptive right will be based . . . ."[51] In accordance therewith, after the *San Fernando* decision, one of the state's leading hydrologists wrote: "More than one industry has gone into agricultural activities on lands adjacent to its plant, and has been granted pumping rights on the basis of both industrial and agricultural use, the latter sometimes of questionable economic justification."[52]

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47. *San Fernando*, 14 Cal. 3d at 208, 537 P.2d at 1309, 123 Cal. Rptr. at 59 (footnotes omitted).

48. *Id.* at 280, 537 P.2d at 1309, 123 Cal. Rptr. at 60.

49. City of Pasadena v. City of Alhambra, 33 Cal. 2d 908, 930, 207 P.2d 17, 31 (1949).

50. *San Fernando*, 14 Cal. 3d at 283, 537 P.2d at 1311, 123 Cal. Rptr. at 62. One commentator observed: "It may be that, in order to establish notice after *San Fernando*, a pumper who wants to perfect his prescriptive rights will finance hydrodogical determinations of overdraft in a basin, and, based on that data, actually notify other basin pumpers of the basin's overdraft." GROUND WATER RIGHTS, *supra* note 31, at 34.

51. *San Fernando*, 14 Cal. 3d at 267, 537 P.2d at 1299, 123 Cal. Rptr. at 50.

52. Mann, *The San Fernando Case—Its Impact on Future Ground Water Manage-*

The court also questioned the equity of mutual prescription as a solution to groundwater disputes. Although avoiding direct criticism of the *Pasadena* decision, and the application of the doctrine, given the facts in the case, the court noted that use of the doctrine "does not necessarily result in the most equitable apportionment of water according to need. A true equitable apportionment would take into account many more factors."[53]

F. Pueblo Rights

The *San Fernando* case also dealt extensively with the "pueblo rights doctrine." The pueblo rights doctrine gives a right to any city that can trace its origins to Spanish or Mexican land grants. All Spanish or Mexican laws that existed prior to the annexation of California are the law of the state unless expressly amended or repealed.[54] In addition, the United States Supreme Court has held that pueblo rights are a question of state and not federal law.[55]

Since considered the "most litigated issue in the history of water rights"[56] the courts first directed their attention to pueblo rights in 1881.[57] In the litigation dealing with pueblo rights prior to 1975, two early cases are most often cited, *Lux v. Haggin*,[58] decided in 1884, and *Vernon Irrigation Co. v. City of Los Angeles*,[59] decided in 1895.

Interestingly, the *Lux* case dealt with pueblo rights in dicta,[60] and the *Vernon* case did not articulate any particular Spanish or Mexican law establishing the right, but rather concluded that the right was implied from the role assigned by the Spanish and Mexican governments to the pueblo. These and other cases on the pueblo right led one longtime water rights commentator to observe: "[t]hus this vitally important principle that has enabled great cities to monopolize the entire flow of streams, regardless of water developments thereon by others . . . was added to the jurisprudence of California as the result of a presumption."[61]

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ment in PROCEEDINGS OF THE TENTH BIENNIEL CONFERENCE ON GROUND WATER, 212 (1975) [hereinafter cited as Mann].

53. *San Fernando*, 14 Cal. 3d at 265, 537 P.2d at 1298, 123 Cal. Rptr. at 49 (footnote omitted).

54. Ohm v. City & County of San Francisco, 92 Cal. 437, 28 P. 580 (1891).

55. Los Angeles Farming & Mill Co. v. City of Los Angeles, 217 U.S. 217, 234 (1910).

56. Mann, *supra* note 52, at 209.

57. Feliz v. City of Los Angeles, 58 Cal. 73 (1881).

58. 69 Cal. 255, 4 P. 919 (1884).

59. 106 Cal. 237, 39 P. 762 (1895).

60. HUTCHINS, *supra* note 37, at 147.

61. Mann, *supra* note 52, at 209.

In the *San Fernando* case, the trial court spent months establishing a record for the existence of a pueblo right in Spanish and Mexican law.[62] The lower court concluded that such a right could not be found and ruled against Los Angeles. The supreme court concluded that the "case for the existence of the pueblo right is essentially based on inferences from historical circumstances rather than on any express provision of Spanish or Mexican law."[63] This being so, the court found that although the data presented at trial did not conclusively establish a basis in Spanish-Mexican law for the right, it also did not conclusively establish its nonexistence. Therefore, in light of the numerous cases that had upheld the right, and considering the reliance the city of Los Angeles had made on the right in its water planning, the court chose not to disturb the right.[64]

Pueblo rights attach to all surface water serving the original pueblo and to that native groundwater that is hydrologically related to the surface water supply. Hence, in *San Fernando*, the city of Los Angeles was found to have no right to groundwater in basins that were hydrologically independent, because of natural barriers, from the basin which feeds the Los Angeles River.[65]

Of particular importance to the nature of the pueblo water right is its priority over other rights and the amount of water that can be claimed under it. Pueblo rights are superior to both riparian rights,[66] and the rights of appropriators.[67] The right is limited to that amount necessary to satisfy the municipal needs of the city including annexed land outside the original boundaries of the pueblo. Hence, the right expands with the expansion of the city.[68] Finally, the right is not subject to loss by nonuse or statutory forfeiture.[69]

G. Conjunctive Use

Conjunctive use is the coordinated operation of surface water reservoirs and underground reservoirs so that total yield over a

62. City of Los Angeles v. City of San Fernando, 14 Cal. 3d 199, 232, 537 P.2d 1250, 1274, 123 Cal. Rptr. 1, 25 (1975).

63. *Id.* at 232, 537 P.2d at 1275, 123 Cal. Rptr. at 26.

64. The right, however, does not attach to non-native groundwater or water that has been imported from outside and stored within the basin. *Id.* at 251, 537 P.2d at 1288, 123 Cal. Rptr. at 39 (1974).

65. *Id.*

66. Vernon Irrigation Co. v. City of Los Angeles, 106 Cal. 237, 39 P. 762 (1895).

67. City of Los Angeles v. City of Glendale, 23 Cal. 2d 68, 142 P.2d 289 (1943).

68. City of Los Angeles v. City of San Fernando, 14 Cal. 3d 199, 537 P.2d 1250, 123 Cal. Rptr. 1, (1975); City of Los Angeles v. City of Glendale, 23 Cal. 2d 68, 142 P.2d 289 (1943); City of Los Angeles v. Hunter, 156 Cal. 603, 105 P. 755 (1909); City of Los Angeles v. Pomeroy, 124 Cal. 597, 57 P. 585 (1899).

69. City of Los Angeles v. City of Glendale, 23 Cal. 2d 68, 142 P.2d 289 (1943).

period of years may exceed uncoordinated yields. Independent operation of surface or underground reservoirs designed to produce a long term, safe, dependable yield, requires that extraction rates roughly equal rates of replenishment. Conjunctive operation of surface and underground reservoirs allows for the temporary overdrafting (i.e., extractions beyond safe yield) of surface reservoirs during dry years. The additional yield resulting from conjunctive management is therefore obtained from saving water that might otherwise be wasted during wet years from overflow and a reduced amount of evaporation.

The *San Fernando* decision and an earlier case, *Alameda County Water District v. Niles Sand and Gravel Co.*[70] had a significant impact on the ability of water purveyors to conjunctively manage surface and groundwater sources. In *Niles* the Alameda County Water District had been recharging the Niles Basin by percolation for storage purposes to prevent salt water intrusion. The Niles Sand and Gravel Company dug pits to a depth of 120 to 125 feet below the surface elevation and 80 to 85 feet below the water table.[71] To continue operations, the company was pumping and releasing roughly five-million gallons of water per day into San Francisco Bay.[72] The court found that based on the statutory powers granted to the water district by the state, and the doctrine of correlative rights, landowners in the Niles Basin had a public servitude that imposed "such obligations . . . limiting the use of lands lying in a particular geographical area, where an overriding public interest requires it."[73] The right to enforce the servitude is held by the district and it limits overlying landowners' rights to groundwater when such use interferes with a public groundwater storage program. The court found the district had a right to store water, to prevent others from extracting the water and was not liable for damage caused by flooding from such storage when water levels went no higher than their natural levels, i.e., the level absent extractions.[74]

In the *San Fernando* case the court distinguished between native and imported groundwater, and concerning the latter, found an importer had the right to recapture water either spread for storage or percolating back into a basin after distribution.[75] The court

70. 37 Cal. App. 3d 924, 112 Cal. Rptr. 846 (Ct. App. 1974) *cert. denied*, 419 U.S. 869 (1975).

71. *Id.* at 929, 112 Cal. Rptr. at 849.

72. *Id.*

73. *Id.* at 934, 112 Cal. Rptr. at 853 (citations omitted).

74. *Id.* at 935, 112 Cal. Rptr. at 854. *See also* GROUND WATER RIGHTS *supra* note 31, at 67-68.

75. City of Los Angeles v. City of San Fernando, 14 Cal. 3d 199, 261, 537 P.2d 1250, 1295, 123 Cal. Rptr. 1, 46 (1975).

based this ruling on an interpretation of Water Code section 7075, which reads: "Water which has been appropriated may be turned into the channel of another stream, mingled with its water, and then reclaimed; but in reclaiming it the water already appropriated by another shall not be diminished."[76]

Citing the *City of Los Angeles v. City of Glendale*,[77] the court found Water Code section 7075 applicable to groundwater storage.[78] In addition, the right to recapture was found to be of equal priority with pueblo rights and superior to rights based on the ownership of overlying land or appropriation.[79] Further, concerning the recapture of delivered water, the court stated:

> The purpose of giving the right to recapture returns from delivered imported water priority over overlying rights and rights based on appropriations of the native ground supply is to credit the importer with the fruits of his expenditures and endeavors in bringing into the basin water that would not otherwise be there.[80]

Thus, during the periods of basin surplus, importers cannot prevent appropriators from making extractions if the importer has failed to recapture the imported water.[81]

In addition to providing greater certainty in planning for the utilization of conjunctive use for municipal water agencies in California, the *San Fernando* and *Niles* decisions can also provide a firm legal basis for significantly increasing the yield of the California State Water Project (SWP). The current gross surface storage capacity of the SWP is approximately thirty-nine million acre feet.[82] Of a 143 million acre-feet of groundwater storage capacity close enough to the surface and permeable enough to be managed conjunctively, fifty-two million acre feet are empty.[83]

II. STATUTORY PROVISIONS IN CALIFORNIA GROUNDWATER LAW

Article 10, Section 2 of the California Constitution states:

> The right to water or to the use flow of water in or from any natural stream or water course in this State is and shall be limited to such water as shall be reasonably required for the bene-

76. *Id.* at 260, 537 P.2d at 1295, 123 Cal. Rptr. at 46 (citing CAL. WATER CODE § 7075 (West 1971)).
77. 23 Cal. 2d 68, 142 P.2d 289 (1943).
78. *San Fernando*, 14 Cal. 3d at 260, 537 P.2d at 1295, 123 Cal. Rptr. at 46 (1975).
79. *Id.* at 287, 537 P.2d at 1314, 123 Cal. Rptr. at 65.
80. *Id.* at 261, 537 P.2d at 1295, 123 Cal. Rptr. at 46.
81. *Id.*at 293, 537 P.2d at 1318, 123 Cal. Rptr. at 69.
82. Robie & Donovan, *Water Management of the Future: A Ground Water Storage Program for the California State Water Project* 11 PAC. LAW. J., 41, 43 (1979).
83. *Id.*

> ficial use to be served, and such right does not and shall not extend to the waste or unreasonable use . . . .[84]

Although not specifically mentioned in the foregoing section, the California Supreme Court has found the above provision applicable to groundwater.[85] As discussed earlier, the reasonable, beneficial use and avoidance of waste requirements provide broad guidelines for the courts in adjudicating water rights.

Various sections of the water code establish a public interest in the use and development of groundwater and additionally declare the states inherent right to regulate groundwater for public benefit and protection.[86] Furthermore, section 12922 of the code states that there is a public interest in protecting groundwater basins from damage or impairment caused by "overdraft, depletion, sea water intrusion or degraded water quality."[87]

The manifestations of these declarations of public interest in terms of legislation to end overdrafting, control pollution, regulate pumping, and address other groundwater problems have been sparse.

The water code provides for the inspection of "improperly constructed, abandoned or defective wells" by the Department of Water Resources (DWR) either independently or in conjunction with other governmental units.[88] The Code also authorizes the DWR to make recommendations for well construction standards to the Regional Water Quality Control Boards,[89] and "from time to time" to report to the legislature recommendations for the sealing of abandoned wells.[90]

Prior to commencing any digging or deepening of a well, and prior to the abandonment or destruction of a well, a permit must be obtained from the DWR.[91] After completion of any one of these projects, it is required that a report of completion be filed with the DWR within thirty days.[92] Failure to obtain the necessary permit or to file the report is a misdemeanor.[93]

If the DWR determines that certain standards are necessary for the construction, maintenance, abandonment, or destruction of wells in a given area, it makes recommendations to the appropriate regional board and to the State Department of Public

84. CAL. CONST. art. 10, § 2 (West Supp. 1984).
85. Peabody v. City of Vallejo, 2 Cal. 2d 351, 40 P.2d 486 (1935).
86. CAL. WATER CODE §§ 104, 105 (West 1971).
87. *Id.* at § 12922.
88. *Id.* at § 231.
89. *Id.*
90. *Id.*
91. *Id.* at § 13750.
92. *Id.* at § 13751.
93. *Id.* at § 13754.

Health.[94] After receiving a recommendation from the DWR, the regional boards are required to hold a hearing on the proposed standards.[95] Absent a recommendation, regional boards, may hold hearings when they have information that standards are necessary to protect water quality in a groundwater basin.[96] Upon a determination that standards are necessary, the board must report those standards along with any standards recommended by the DWR to the county and cities within the affected area.[97]

Upon receipt of the regional boards' recommendations, the county or city involved must determine, within 120 days, regulations establishing the recommended standards.[98] Such ordinances take effect sixty days thereafter, unless the regional board finds the proposed standards inadequate.[99] If found inadequate, the county or city has ninety days to adopt new standards. If the city or county fails to adopt or modify its standards within the time periods outlined above, the regional board is authorized to set standards for the area which will in turn take effect thirty days from inception.[100]

Additionally, the State Water Resources Control Board can review the action (or inaction) of any regional board, either on its own or at the request of a concerned city or county. Moreover, the state board may review city or county standards in the event regional boards have failed to do so.[101]

A. Porter-Dolwig

In 1961, the legislature found that groundwater basins, are "subject to critical conditions or overdraft, depletion, sea water intrusion and degraded water quality causing great detriment to the peace, health, safety and welfare of the people of the State."[102] The legislative response was the Porter-Dolwig Ground Water Basin Protection Law.[103] Porter-Dolwig authorizes the DWR to study or investigate projects that could protect groundwater and to review and evaluate the plans of any local agency that submits its groundwater protection plans to the DWR.[104] The DWR is also authorized to provide technical assistance to local agencies on a

94. *Id.* at § 13800.
95. *Id.* at 13801.
96. *Id.*
97. *Id.* at § 13802.
98. *Id.* at § 13803.
99. *Id.* at § 13804.
100. *Id.* at § 13805.
101. *Id.* at § 13806.
102. *Id.* at § 12922.1.
103. *Id.* at §§ 12920-12925.
104. *Id.* at § 12923.

cost sharing basis.[105] Any results from DWR studies are required by law to be sent to the State Water Resources Control Board (State Board) and the Regional Water Quality Control Boards (Regional Boards) so that they may be used in formulating water quality standards.[106] In 1967, the law was amended to provide funding for studies "whenever money has been appropriated for the purpose . . . ."[107]

If the DWR recommends to the State Board that action is necessary to protect the quality of groundwater basins, the legislature has granted the State Board authority to bring suit in superior court to restrict pumping or impose physical solutions.[108] In such cases, all groundwater pumpers, except those extracting less than ten acre feet a year,[109] shall be named as party defendants.[110]

B. Porter-Cologne

In 1969, the legislature passed the Porter-Cologne Water Quality Control Act to establish a statewide water quality control program administered on a regional basis.[111] The act applies to both surface and groundwater.[112]

Established within the California Resources Agency,[113] the State Board has the responsibility, in consultation with other governmental units,[114] of adopting state policy for water quality control.[115] Additional responsibilities include: adopting procedures for regional boards to follow when formulating water quality control plans,[116] distributing appropriated funds to regional boards for their administrative costs,[117] annually evaluating the need for water quality research,[118] and conducting such research or coordinating research with other units of government or private organizations.[119]

The nine regional water quality control boards are responsible, subject to state board approval, for formulating and implementing

105. *Id.*
106. *Id.* at § 12923.1.
107. *Id.* at § 12923.
108. *Id.* at § 2100.
109. *Id.* at § 2102.
110. *Id.* at § 2100.
111. *Id.* at §§ 13000-13806.
112. *Id.* at § 13050(e).
113. *Id.* at §§ 175, 13100.
114. *Id.* at § 13144.
115. *Id.* at § 13140.
116. *Id.* at § 13164.
117. *Id.* at § 13168.
118. *Id.* at § 13161.
119. *Id.* at § 13162.

water quality control plans.[120] These plans, must, among other things, "ensure the reasonable protection of beneficial uses and the prevention of nuisance . . . ."[121] The attorney general is authorized to enforce regional plans.[122] At the request of the regional board, the attorney general will seek a restraining order or injunction from the superior court.[123]

C. Recordation Act

In 1955, the legislature found that because of a "combination of light rainfall, concentrated population, the transition of considerable areas of land from agricultural use to urban use, and a similar dependence on groundwater supplies . . . ."[124] the counties of Riverside, San Bernandino, Los Angeles and Ventura would be subject to recordation requirements for groundwater extractions and diversions.[125]

Accordingly, individuals extracting groundwater in excess of twenty-five acre feet a year are required to file a "Notice of Extraction and Diversion of Water" with the State Water Resources Control Board.[126] Such notice must contain: the name of the pumpers, the location and description of the pump site, the quantity of water pumped, and any additional facts the state board may deem appropriate.[127] Likewise, prescriptive rights cannot be acquired unless a notice has been filed,[128] and for legal purposes, pumping without having filed notice is considered nonuse.[129] Finally, the wilful misstatement of facts in a notice is a misdemeanor.[130]

The Recordation Act has allowed for a much more precise monitoring of extractions in the four southern counties than had been possible in the past. The Act also makes it more difficult to acquire rights by prescription inasmuch as prior right holders are in a better position to know when they need to act to protect their rights.

The various statutory measures outlined above have given the state power to protect groundwater basins from pollution and to generate useful information on the extent of groundwater pump-

120. *Id.* at §§ 13200, 13201, 13225.
121. *Id.* at § 13241.
122. *Id.* at 13262.
123. *Id.*
124. *Id.* at § 4999.
125. *Id.* Santa Barbara County was excluded in 1959.
126. *Id.* at § 5001.
127. *Id.* at § 5002.
128. *Id.* at § 5003.
129. *Id.* at § 5004.
130. *Id.* at § 5008.

ing in the southern part of the state. Although local districts can manage groundwater basins to prevent overdraft and courts have appointed watermasters to provide local management, some basins are without such management. Under current law, the state is powerless to prevent additional pumping in overdrafted basins.

III. COMMISSION TO REVIEW CALIFORNIA WATER RIGHTS LAW

During the 1976-77 drought in California, deliveries from state's major surface water systems were severely curtailed and groundwater overdrafting increased significantly. In the San Joaquin and Tulare hydrologic study areas alone, overdrafting was close to five times the normal rate.[131] Throughout the state an estimated 28,000 additional wells were drilled, deepened, or repaired.[132]

On May 11, 1977, California Governor Edmund G. Brown, Jr., by executive order, created the Governor's Commission to Review California Water Rights Law.[133] Among other things, the order noted that the drought underscored the need to review California water rights law and that existing law contained impediments to the "fullest beneficial use of the state's water resources . . . ."[134] The order establishied a twelve-member Commission chaired by retired Chief Justice of the California Supreme Court, Donald R. Wright. The Commission's mandate was to "review existing California water rights law, . . . evaluate proposals for modification in this law and . . . recommend appropriate Legislation . . . ." to the governor.[135]

The Commission concentrated on six topics for intensive review.[136] Although most of these topics are not directly related to groundwater rights, one of the Commission's members has observed that "[f]rom the outset, groundwater was the major issue before the Commission."[137]

In the context of groundwater, the Commission was primarily concerned with developing a means of managing heretofore unmanaged groundwater basins to prevent overdrafting and related

131. CALIFORNIA GOVERNOR'S FINAL REPORT, *supra* note 2, at 138.
132. CALIFORNIA GOVERNOR'S FINAL REPORT, *supra* note 2, at 138.
133. *Id.*
134. *Id.* at 2.
135. *Id.*
136. *Id.* at 3. These topics were as follows: appropriative water rights, groundwater rights, legal aspects of water conservation, riparian water rights, transfer of water rights, and legal aspects of instream uses.
137. Littleworth, *New Legislation in California and Its Effects*, in PROCEEDINGS OF THE THIRTEENTH BIENNIAL CONFERENCE ON GROUND WATER, 46 (1981) [hereinafter cited as Littleworth].

problems. In light of what the Commission considered adequate groundwater management in certain local areas (either through adjudication or local districts as discussed above), the Commission recommended statutory groundwater management only in areas not currently managed on a safe-yield basis. Such local management areas would be established taking into account both political boundaries and hydrology.[138]

It was further recommended that local management units should have powers similar to those exercised by many existing water districts and court-appointed watermasters, including the authority to "levy pump taxes, collect data, require meters, regulate underground storage of water, regulate exports, issue licenses for new wells, and limit pumping where necessary."[139] The Commission also recommended that the State Water Resources Control Board have authority to evaluate and approve local management programs and to seek judicial relief through the attorney general in the event local programs failed to meet broad, state-management objectives.[140]

The Commission made a number of additional recommendations designed to streamline and improve adjudication procedures in groundwater suits. For the most part, these changes were nonsubstantive and noncontroversial.[141] In an effort to temper the *San Fernando* finding that private pumpers could not gain prescriptive rights against public pumpers where as public pumpers could gain such rights against private pumpers, the Commission recommended that preliminary injunctions be authorized in overdrafted basins and that groundwater rights, including public rights, be allocated primarily on the basis of recent use.[142] In the area of conjunctive use and groundwater storage, the Commission recommended the codification of those parts of the *San Fernando* and *Niles* decisions which relate to storage rights.[143]

From 1978 to 1981, numerous bills were introduced to implement the various recommendations of the Commission. Three bills, Senate Bill 1505, Assembly Bill 442 and Assembly Bill 835, incorporated most of the major Commission recommendations. Senate Bill 1505 was gutted to require only that the DWR identify groundwater basins in the state and further identify those subject to critical conditions of overdraft.[144] Assembly Bill 442 and As-

138. CALIFORNIA GOVERNOR'S FINAL REPORT, *supra* note 2.
139. Littleworth, *supra* note 137.
140. *Id.*, *see also* CALIFORNIA GOVERNOR'S FINAL REPORT, *supra* note 2.
141. *Id.*
142. CALIFORNIA GOVERNOR'S FINAL REPORT, *supra* note 2, at 237.
143. *Id.*
144. Littleworth, *supra* note 137, at 46-47.

sembly Bill 835, after being heavily amended and having portions relating to groundwater management deleted, nevertheless died in committee.[145]

In total, nine measures were introduced from 1978 to 1981 and, with minor exceptions, all failed.[146] Such defeats were attributable in large part to the California Legislature's failure to respond favorably to the groundwater recommendations made by the Commission and various interest groups and individuals. Many of these groups were associated with the environmental movement and organized as the California Water Resources Protection Council to qualify for a vote—Proposition 13 entitled "The Water Resources Conservation and Efficiency Act."[147]

The groups and interests in active opposition to Proposition 13 were the same as those against the various bills that would have implemented the groundwater management recommendations of the Governor's Commission to Review California Water Rights Law.[148] This is not surprising given the similarities between the Commission's recommendations and those parts of Proposition 13 relating to groundwater management. The provisions of the Water Resources Conservation and Efficiency Act are summarized below, followed by an analysis of why the initiative was defeated, and issues (and concerns of interests) that will need to be addressed before meaningful groundwater reforms to prevent overdrafting are approved in California.

IV. WATER RESOURCES CONSERVATION AND EFFICIENCY ACT (THE ACT)[149]

The Water Resources initiative contained four principal provisions. They dealt with interbasin water transfers, instream appropriations, the Stanislaus River and New Melones Dam, and groundwater management. These provisions will be summarized below with particular emphasis on portions of the initiative dealing with groundwater management.

A. Interbasin Water Transfers

"Interbasin transfer" was defined as "the transfer of water for use in a basin other than the basin in which the source of the

145. *Id.*
146. Littleworth, *supra* note 137, at 48.
147. L.A. Times, Sept. 13, 1982, at 1, col. 1.
148. *Id.*
149. Water Resources Conservation & Efficiency Act, Proposition 13 (rejected by voters Nov. 1982) [hereinafter cited as Water Act] [copy on file in the offices of California Western Law Review].

water is located."[150] The Act required that any such interbasin transfer by a "supplier of, or contractor with the state or federal government for, more than 20,000 acre-feet of water per year" prepare and submit to the Water Resources Control Board a "water conservation program" on or before January 1, 1985.[151]

Conservation programs were required to identify all reasonable water supply alternatives, including conservation, waste water reclamation, conjunctive use, pricing and rate structures that result in water conservation, inter and intrabasin transfers, and in-basin conventional water supply development.[152]

Water conservation programs were further required to contain cost comparisons of the alternatives to importation listed above, and where a water conservation program or a portion of a conservation program "will cost less on a marginal-cost basis than importation of additional supplies, the program or portion thereof, shall be implemented prior to commencing additional importation projects. Implementation of alternatives shall thus include adoption of all necessary ordinances or regulations."[153]

This last provision effectively mandated conservation and the development of alternate water resources when such sources could be developed at a cost below the cost of importation.

B. Instream Appropriation

This section of the Act was designed to protect instream uses from harm resulting from future water appropriations and to allow for appropriation of water for such uses. Instream uses included "fishery and water-related wildlife uses and recreational, aesthetic, scientific, scenic, and water quality uses . . . ."[154]

C. Stanislaus River

This section of the Act prohibited the impoundment of water behind the New Melones Dam until "long-term water service contracts for specific municipal, industrial, or agricultural uses representing at least 75 percent of the firm yield . . ."[155] were entered into by project operators. Firm yield was to be determined by the Water Resources Control Board.[156]

The Act further directed the Water Resources Control Board to

150. *Id.* at § 15101(b).
151. *Id.* at § 15102.
152. *Id.* at § 15104.
153. *Id.*
154. *Id.* at § 15201.
155. *Id.* at § 15225.
156. *Id.*

restrict storage of water within New Melones, to the extent possible, consistent with the terms of the chapter, "to the area downstream of Parrott's Ferry Bridge, 808 feet above mean sea level."[157]

D. Groundwater Management and Applicability

As noted above, in many ways the groundwater management recommendations contained in the Act were similar to the recommendations of the Governor's Commission Review California Water Rights Law.[158] As to practical implementation the groundwater management provisions of the Act apply to those groundwater basins in the state identified by the California Department of Water Resources as being subject to critical conditions of overdraft.[159] Those basins are the Santa Cruz-Pajaro Basin; the Cuyama Valley Basin; the Ventura County Basin; the Eastern San Joaquin County Basin; the Chowchilla Basin; the Madera Basin; the Kings Basin; the Kaweah Basin; the Tulare Lake Basin; the Tule Basin; and the Kern County Basin.[160] All of these basins, excepting the first three are located in California's central valley.

E. Management Authority

The Act directed local entities within the groundwater basins subject to critical conditions of overdraft to nominate, within one year of the effective date of the Act, a local authority to carry out the provisions of the Act.[161] In the event such a nomination was contested by a local entity within sixty days or no nomination was made, the board was directed to determine if such an authority existed and, if so, to designate that entity as the local groundwater management authority for the area.[162] In the event the board determined no such authoritiy existed, local entities had 180 days after receiving notice of such a determination to create a joint-powers authority to carry out groundwater management and, to be officially designated the local management authority by the board.[163]

Local groundwater management authorities designated by the

157. *Id.* at § 15229.
158. *See* CALIFORNIA GOVERNOR'S FINAL REPORT, *supra* note 2, at 170-255.
159. Water Act, *supra* note 149, at § 15320.
160. GROUND WATER BASINS IN CALIFORNIA, *supra* note 2, at 3.
161. Water Act, *supra* note 149, at § 15330. The Act instructs local entities to nominate one of the following: "(a) a local entity which is a public agency; (b) a joint powers authority organized under Chapter 5 (commencing with Section 6500) of Division 7 of Title 1 of the Government Code; or (c) a ground water management district organized pursuant to law, if and when such a law is enacted." *Id.* at § 15331.
162. *Id.* at § 15332.
163. *Id.* at § 15333.

board pursuant to the Act would have been able to exercise any of the powers contained in the Orange County Water District Act,[164] the Sierra Valley Groundwater Basin Act,[165] or in future legislation expanding the management powers of groundwater management authorities in California. As the Act further stipulated:

> any such authority shall have the power to limit, control, or prohibit extraction of groundwater within the groundwater management area to respond to conditions of long-term overdraft, subsidence, water quality degradation, significant environmental harm, well interference, or the threat of any of those conditions.[166]

F. Management Programs

Within two years of designation by the board of a groundwater management authority within a management area, the local authority was required to adopt and submit to the board a groundwater management program.[167] Management programs were to include four objectives[168] and a plan for implementing those objectives.[169] The objectives were:[170]

(1) Reduction of water demand by means of water conservation, waste water reclamation, and other means;

(2) Preservation and improvement of water quality by means of soil and drainage management;

(3) Effective use of the storage capacity of the groundwater basins; and

(4) Maintenance of groundwater supplies to provide water for wetlands. Once established, groundwater management programs could have been revised as long as they were consistent with the above objectives.[171]

One year after the effective date of the Act[172] and until the board had approved a management plan for an area,[173] the Act stipulated that no land within a critical groundwater overdraft area was to be irrigated unless the land had been irrigated for at least one growing season during the immediately preceding three

164. CAL. WATER UNCOD. ACTS, Act 5683.
165. CAL. WATER UNCOD. ACTS, Act 7662.
166. Water Act, *supra* note 149, at § 15334.
167. *Id.* at § 15340.
168. *Id.* at § 15341(a).
169. *Id.* at § 15342.
170. *Id.* at § 15341.
171. *Id.* at § 15343.
172. *Id.* at § 15350.
173. *Id.* at § 15351.

calendar years.[174] Nevertheless, the board was empowered to grant variances to this provisions where it could be shown the irrigation would not increase net water use within an overdrafted area.[175]

The Act directed the board not to approve any inter-basin transfers to critical groundwater areas until basin management and implementation plans had been approved.[176] Additionally, wells producing less than seventy-five gallons of water per minute were not subject to the provisions of the Act.[177]

G. Enforcement

The Act directed the board to take whatever action necessary before executive, legislative, or judicial agencies to carry out the provisions of the Act.[178] In fact, within sixty days of final board action, any individual could, pursuant to the Act, file a petition for a writ of mandate with the Sacramento County Superior Court. Failure to file within the appropriate time, however, precluded further challenges to the board's actions in any judicial or administrative proceeding.[179]

V. FAILURE TO ENACT A POLICY

Given the similarity of the groundwater management provisions of Proposition 13 and the groundwater management recommendations of the Governor's Commission to Review California Water Rights Law and the failure of each to win approval of the voters and the California Legislature respectively, an analysis of the reasons these measures have been unsuccessful and the interests that have worked against groundwater management to prevent overdraft seems timely. Such analysis follows with considerations that may need to be taken into account by public policymakers for any future groundwater management proposals that are to have a chance of success in California.

A. The Actors

To help in understanding the political environment which pro-

174. *Id.* at § 15350.
175. *Id.* at § 15351.
176. *Id.* at § 15352.
177. *Id.* at § 15370.
178. *Id.* at § 15401.
179. The intiative stipulated that any individual would have standing to sue for declaratory or injunctive relief, and that the board could request the California Attorney General to "seek injunctive relief and other appropriate judicial remedies . . ." in Sacramento County Superior Court to enforce the provision of the Act. *Id.* at § 15402.

hibited enactment of groundwater law reforms designed specifically to curtail overdrafting in California, an examination of the interests and interest group actors in the state active on groundwater matters and the influence such entities have on the policymaking process is required. The groups evaluated were the California Farm Bureau, the Association of California Water Agencies, the California Chamber of Commerce, the California Cattlemen's Association, the Sierra Club, and the Planning and Conservation League.[180]

Although their reasons vary, the Farm Bureau, Association of California Water Agencies, Chamber of Commerce, and the Cattlemen's Association (hereinafter referred to as agriculture/local option groups) all agreed on the non-desirability of any changes in California groundwater law that would limit local control and management of groundwater basins. Although not opposed to local control, the Sierra Club and the Planning and Conservation League leaders interviewed (hereinafter referred to as the environmental groups), felt local control had not, given exisiting groundwater law, allowed for curtailment of overdrafting in many areas. Rather, they favored some constraints on local options. Both the Sierra Club and the Planning and Conservation League representatives cited Proposition 13 as the desired approach. Furthermore, and consistent with their positions, the agricultural/local option groups opposed Propostion 13 and the various recommendations of the Governor's Commission pertaining to groundwater management, and the environmental groups supported these measures.

That the agricultural groups have been successful in the battles over groundwater management in both the legislature and the November 1982 election is not surprising upon examining the resources these groups have at their disposal vis-a-vis the environmental groups. A summary of those resources follows along with a brief explanation of the utility of the resources for influencing the policymaking process.

Two group resources that are very useful for influencing the legislative process are a group's membership base, or size, and the

180. Interest group leaders were identified on the basis of interviews with employees of the California Department of Water Resources active in the California Legislature on groundwater matters. In addition, during the interviews with the interest group leaders so identified, the leaders themselves were asked to identify other groups active in groundwater matters on the state level.

As part of the research undertaken for the preparation of this Article, interest group leaders active in groundwater matters in California were identified and interviews conducted with these leaders to determine: a) what their positions were on ground water management to prevent overdraft, and why they held these positions; and b) what political resources these groups had to influence the policymaking process.

ability to make campaign contributions. The utility of these group resources for influencing the legislative process lies in the fact that legislators find them useful for helping them realize one of their highest goals—reelection.[181] As Beatty, Doerksen and Pierce observed in their study of interest groups in Washington state, "legislators will be responsive to the demands of groups which can deliver electoral support—whether in the form of votes, financial support or other resources."[182]

In initiative campaigns, particularly in California, money is an important political resource. In statewide elections in California television plays a very important role, often being the only contact voters have with candidates or issues.[183] Television is expensive, and the candidate or group without the resources to effectively use television to communicate with voters is at a serious disadvantage in statewide elections.[184] Thus comparing the resources of the agricultural/local option groups with the environmental groups active in California groundwater matters, it is quickly apparent that there is wide a variation in the resources available to each group.

Among the agricultural/local option groups, all save one, the Association of California Water Agencies, are active and heavy contributors to political campaigns. The California Cattlemen's Association and California Farm Bureau were frequent contributors to political campaigns. The Cattlemen's Association (through Cattle-PAC) averaged between $1,000 to $2,500 with much of the money going to legislative leadership.[185] Farm Bureau contributions ranged from $1,000 to $5,000 to a wide variety of legislative races.[186] In addition, many individual farmers and farm corporations were found to be active contributors. Although the California Chamber of Commerce committees campaign for or against ballot measures and initiatives, Chamber members including most of the state's major corporations, are active campaign contributors. In contrast, the environmental groups make few or no monetary contributions to political campaigns in California.[187]

There are also significant differences between the agricul-

181. For a discussion of the importance of reelection to legislators, *see* D. MAYHEW, CONGRESS: THE ELECTORAL CONNECTION (1974).

182. Beatty, Doerksen, & Pierce, *Water Resources Politics and Interest Group Tactics*, 14 WATER RESOURCES BULL. 399 (April 1978).

183. *See* M. LEARY, PHANTOM POLITICS: CAMPAIGNING IN CALIFORNIA (1977).

184. *See, .e.g.*, E. Lee & H. Dunning, *Political Dynamics and Decision Making*, in CALIFORNIA WATER 186 (E. Engelbert, 1982).

185. This information was obtained upon examination of campaign spending reports on file in the office of the California Secretary of State.

186. *Id.*

187. The California Sierra Club reported, as of May 1982, making one $1,000 legislative contribution. The Planning and Conservation League had none.

tural/local option groups and the environmental groups in terms of membership size and composition. Of the environmental groups, the Planning and Conservation League has approximately 1,500 largely professional members concentrated in urban areas. The Sierra Club has roughly 150,000 members in California also concentrated in urban areas.[188] Hence, in sheer voting power the environmental organization are not strong and that legislative influence which exists by virtue of membership is concentrated in urban areas.

In contrast, the California Chamber of Commerce membership includes over 4,000 firms and corporations, 385 local chambers of commerce and 150 trade associations representing businesses throughout the state.[189] The California Farm Bureau has 95,000 individual members and 54 county farm bureaus throughout the state, although individual members are obviously concentrated in rural areas.[190] The Association of California Water Agencies is a federation of 285 local public water suppliers including all the major water districts in the state.[191] Hence, although in numbers the Water Association membership is not large, their influence and input on water matters is great. The California Cattlemen's Association is a relatively small organization, roughly 4,000 members whose numbers are concentrated in rural areas in the northern part of the state.[192]

Perhaps even more important than the actual membership and political contributions of the agricultural/local option groups is the nature of the interests they represent and the importance of those interests to the state's economy. Water Association members distribute between 85 and 90 percent of the surface water in California.[193] Agriculture in California is big business. California produces one-fourth of the nation's food supply and farm marketings are in excess of eight billion dollars.[194] Finally, the Chamber of Commerce represents thousands of businesses of every size throughout the state. Therefore, in addition to the direct support the above groups can provide to legislators, the groups also have influence by virtue of the importance to the state's economy of their activities.

That the above attributes contribute to the legislative influence of the agricultural/local option groups was evident during inter-

188. *See supra* note 185 and accompanying text.
189. *Id.*
190. *Id.*
191. *Id.*
192. *Id.*
193. *Id.*
194. J. CULVER & J. SYER, POWER AND POLITICS IN CALIFORNIA 7 (1980).

views conducted with interest group leaders.[195] When asked to choose among having their differences with other groups settled in the courts, the legislature, or by the bureaucracy, all of the agricultural/local option group leaders interviewed said they would choose the legislature. Basically all gave the same explanation—they would have more influence in the legislative branch by virtue of the resources the group enjoyed for influencing legislative policymaking.[196]

Representatives of the environmental organizations interviewed said that given a choice they would prefer using the courts over the legislature or bureaucracy. Again, the explanations referred to the lack of resources necessary for working with the legislature.[197]

As discussed previously, an important resource for influencing the initiative process in California is money for purchasing television time. Here, environmental organizations (i.e., Proposition 13 proponents) were at a serious disadvantage. Whereas, the proponents of Proposition 13 spent approximately $650,000 during the campaign, and much of that was spent to qualify the initiative, the opponents spent approximately 1.8 million dollars, not a great deal by California initiative standards, but it did allow for a superior television campaign.[198]

The policymaking process is too complex to simply equate certain group resources with success at some type of policy influence. The foregoing summary of the resources of groups active in California groundwater matters does not "explain" why the environmental groups have been unsuccessful in changing California groundwater law while the agricultural/local option groups have been successful at maintaining the status quo. Most political observers would agree, however, that certain group resources are beneficial for influencing the policymaking process and that groups lacking those resources are at a disadvantage as compared with groups that possess those resources. From the foregoing summary of group resources it seems clear that the environmental groups studied are at a serious disadvantage vis-a-vis the agricul-

195. *See supra* note 180 and accompanying text.

196. Group leaders rarely spoke in terms of resources per se, rather they referred to a particular resource as being beneficial for working with the legislature. For example, spokespersons for the Chamber of Commerce and Cattlemen's Association referred to the distribution of membership, and the ability of the group to mobilize membership to apply pressure on legislators as a reason why working with the legislature was preferable. Others referred to the fact many of the groups' members were active campaign contributors.

197. Representatives of both environmental organizations mentioned the lack of campaign contributions as a problem.

198. *See* Brazil, *supra* note 9. For a discussion of the ads developed by both sides *see* L. A. Times, October 5, 1982, at col. 1; L.A. Times October 27, 1982, at col. 23.

tural/local option groups when attempting to influence public policy.

B. Those Benefited by the Status Quo

What follows is an analysis of how and why some groups or interests are advantaged by the status quo, why previous attempts to rewrite California groundwater law threaten those interests, and what future groundwater law reform proposals may need to contain to satisfy those interests.

Since California groundwater law has largely been case law, interest groups possessing the resources to work within the judicial system are obviously at an advantage over groups lacking those resources. Necessary resources for using the courts to protect or enforce groundwater rights include money[199] and standing.[200] The problem is particularly acute in groundwater matters because prior to forcing the adjudication of a groundwater basin, environmental organizations may be forced to purchase rights within the basin. In other words, under the status quo, agricultural groundwater pumpers are in a much better position to protect their rights vis-a-vis those that would have the courts adjudicate those rights and impose a management plan designed to prevent overdrafting.

A group of agricultural economists at the University of California at Davis have suggested five reasons farmers oppose groundwater management.[201] First, farmers in many areas not being overdrafted don't want groundwater regulation because they feel it unnecessary. Second, the real costs of overutilization of groundwater basins may be mitigated or hidden by other cost and price trends. Third, farmers fear that groundwater regulation could shift control over allocation of the resources to non-farmers, thereby increasing the likelihood that some agricultural use will be lost to municipal, industrial, and other users. Fourth, farmers fear regulation will necessitate cutbacks in irrigated acreage, resulting in reduced profits and reduced land values. Not to mention a loss on investments. And finally, many farmers feel that prior to reaching groundwater levels at which farming is unprofitable, new surface water supplies will be made available to offset the overdraft.

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199. Good water attorneys are not cheap and these cases are notorious for the time they take to settle. City of Los Angeles v. City of San Fernando, 14 Cal. 3d 199, 537 P.2d 1250, 123 Cal. Rptr. 1 (1975) was in the courts twenty-four years prior to resolution.

200. Standing has often been a problem for environmental organizations in the past. *See e.g.*, Sierra Club v. Morton, 405 U.S. 727 (1972).

201. Gardner, Howitt & Nuckton, *The Case for Regional Ground Water Management*, 35 CAL. AGRICULTURE, 1, 2, 9-10 (1981).

The problem with current California groundwater law according to many water specialists[202] is that absent adjudication or water district management, farmers have an incentive to continue and/or expand groundwater pumping. Incentives for continued and/or expanded pumping are provided by both the court decisions establishing prescriptive rights[203] and by the fact that under current law, groundwater in California is a "common pool" resource. Absent adjudication or water district groundwater management, groundwater is common property. By not utilizing the water for use at some future date, one is running the risk that some other extractor will take the water. Furthermore, farmers have not for the most part been harmed by the existing system of groundwater rights.

Given the lack of conventional political resources necessary to influence the policymaking process by those who have been most active in attempting to change California groundwater law in comparison to the political strength of those interests desiring to maintain the status quo, political analysts may speculate whether changes will be made to permit the control of groundwater overdrafting.

Given the concerns of farmers and their general satisfaction with current groundwater law, it seems at least three things should be taken into consideration by anyone attempting to change groundwater law to prevent overdrafting in the future.

First, state level control should be kept to a minimum. The agricultural/local option groups have made it clear both during interviews and throughout the Proposition 13 campaign that they want to maintain local control. Whenever possible the decisions concerning where or when and how much to pump should be made by the local farmers themselves. Decisions about types of conservation measures, if any, should also be made on the local level. Proposition 13, by mandating conservation measures and requiring that local management plans be approved by the Water Resources Control Board, sparked fears in farmers that water decisions would be taken out of their hands. Those fears will need to be addressed before any plan to curtail overdrafting will meet with success.

Second, groundwater management should not be tied to threats

202. *See e.g.*, D. GARDNER, AGRICULTURE IN CALIFORNIA WATER 11-36 (Engelbert 1982); CALIFORNIA GOVERNOR'S FINAL REPORT, *supra* note 2; GROUND WATER RIGHTS, *supra* note 31; and Reis, *Legal Planning for Ground Water Production* 38 S. CAL. LAW REV. 484 (1965).

203. City of Pasadena v. City of Alhambra, 33 Cal. 2d 908, 207 P.2d 17 (1949); City of Los Angeles v. City of San Fernando, 14 Cal. 3d 199, 537 P.2d 1250, 123 Cal. Rptr. 1 (1975).

of withholding *additional* supplies of surface water. By empowering the Water Resources Control Board to halt any interbasin transfers of water prior to the approval of basin management and implementation plans, Proposition 13 effectively would have withheld surface water deliveries pending reductions of water demand in critical groundwater areas.[204] Farmers are unlikely to acquiesce to any management plan that threatens to halt surface deliveries. By allowing *additional* surface deliveries (i.e., those not in existence prior to the enactment of new law) agricultural interests would be free to push for development of additional surface water supplies, for example, through the Peripheral Canal or north coast rivers. These supplies could be used for putting additional lands into agricultural production or to offset groundwater pumping or for any other purposes.

Third, and related to the first two points, a politically viable groundwater management program should not employ groundwater management as a land use planning mechanism. Proposition 13 would have prohibited the irrigation of new land, that is land not irrigated for at least one growing season during the immediately preceding three calendar years.[205] Farmers understandably resist restrictions on how they manage their land, particularly if the land was purchased with the intention of putting it into agricultural production at some later date. If additional surface supplies are made available, increased overall irrigation within a critical groundwater management area is not necessarily inconsistent with management to curtail overdraft.

The three points outlined above address three major objections and reasons which the agricultural/local option groups had against many past proposals to manage groundwater. Given the political strength of the agricultural/local option groups, as was evidenced by their ability to prevent changes in the way groundwater is managed, any future management plan should address these objections.

VI. A PROPOSAL

One might wonder how local discretion, a lack of prohibitions on developing surface supplies and no limitations on putting new land into agriculture, would be consistent with groundwater management to curtail overdrafting. What follows is an outline of a management plan designed to curtail overdrafting and satisfy

204. Water Act, *supra* note 149, at § 15341.

205. *Id.* at § 15350.

most of the objections of the agricultural/local option groups to previous management plans.

First, where the objective being sought is groundwater management to prevent overdrafting, any management plan, to be politically viable, should limit itself to that objective and not attempt other agricultural or water development reforms.

Moreover, the three conditions addressed earlier can be met if state levels of involvement are limited to monitoring groundwater withdrawals and withholding *some* deliveries of surface water if basin-wide rates of extraction do not decline over a period of years. This can be accomplished in the following ways: first, reasonable expectations of decreases in groundwater pumping should be established and implemented over a period of time sufficient to allow farmers to make comfortable and economic transistions to less dependence on groundwater. Using current estimates of overdraft in a given critical groundwater basin, targets should be established for reductions in those amounts for every five-year period. For example, a beginning target might be a one percent reduction per year in basin-wide overdrafting for the first ten years—resulting in a ten percent decline in overdrafting over ten years. During the second ten-year period the rate could be increased to two percent, resulting in a thirty percent reduction in overdrafting over twenty years. During the third ten-year period the rate could be increased to three percent reduction, resulting in a sixty percent reduction in overdrafting after thirty years and finally during the final ten-year period the rate could be increased to four percent, resulting in a one-hundred percent reduction in overdrafting over forty years.[206]

The state's role would be limited to monitoring rates of extraction and estimating a basin's progress at meeting the ten-year goals. In the event a ten-year goal was not met, delivery of surface water could be curtailed in an amount equal to the difference between the ten-year goal and actual reductions in groundwater pumping. The base from which to determine any necessary reductions in surface water deliveries would be the average deliveries to a critical groundwater area over the five years prior to passage of the management plan. In other words increases in surface water deliveries, above and beyond existing deliveries, would not be affected.

There would be a number of advantages for this type of plan. The initial goal for a reduction in overdraft would be low enough

206. Nothing is special about the percentages and periods listed here. They do, however, seem to allow a gradual transition to decreased groundwater use over a reasonably long period.

(ten percent over ten years) to allow pumpers ample time to develop alternative supplies (e.g., through conservation, reclamation, crop substitution, or surface water) and should therefore have a minimal impact on the agricultural economy.

In addition the plan would give the pumpers or their representatives complete discretion as to meeting the reduction goals while taking into account the particular needs and desires within critical groundwater areas. The groundwater users are in a much better position in regard to any outside authoritiy to determine the most desirable mix of measures designed to decrease dependence on groundwater. Within critical groundwater areas local groundwater management authorities with powers to control overdrafting may need to be created absent voluntary compliance with management goals like, for example, the Orange County Water District which has powers to require data from pumpers, regulate pumping patterns, and levy pump taxes.[207] However, the form of management, that is the new water districts or coordination between existing districts with the cooperation of pumpers, would be at the discretion of people in the critical groundwater area.

There are a number of reasons this plan might be more acceptable to agriculture in light of past opposition to state management of groundwater wells. First, past concerns of farmers over local control, or the fear of state control by "outsiders" should not be as great under the proposed plan. Second, the plan will allow agricultural interests to pursue the development of additional surface supplies. If successful in that pursuit, they can use the water for increased agricultural expansion. Finally, the plan described herein will allow for a gradual reduction in groundwater pumping over an extended period and should not, therefore, disrupt the agricultural economy.

An additional reason farmers may be more receptive to groundwater management is the consequences of allowing the status quo to continue indefinitely. Ultimately, all groundwater basins reach a "steady state" wherein withdrawals equal the amount of water returning to the basin. If an aquifer is pumped dry, further extractions will necessarily have to be equal to rates of replenishment. The decision of when to limit rates of withdrawal to rates of replenishment determines at what level a given groundwater basin will reach a steady state. If that decision is made when aquifer levels are low (i.e., after many years of overdrafting) the costs of pumping the water will be greater than they would have been if the decision to limit pumping was made when water levels are

207. CAL. WATER UNCOD. ACTS, Act 5683.

higher.[208]

Essentially, uncontrolled groundwater pumping is only forestalling the inevitable. A steady state will eventually be reached and, absent some groundwater control, may unfortunately be reached when aquifers are low and pumping costs high.

It is unlikely that farmers will pump their aquifers dry. Prior to reaching that form of steady state, market forces will likely curtail groundwater pumping. Since water levels decline and pumping costs increase, it will simply be uneconomical to use groundwater for all forms of irrigation.

In addition, declining water levels may cause agricultural lenders to question the value of farmland with uncertain sources of water for collateral. A similar situation faced farmers in Roswell, New Mexico, during the 1920's. Technological developments and cheap energy facilitated increased groundwater pumping throughout New Mexico during the 1920's. In the 125,000-acre Roswell basin, large pumps and numerous uncontrolled wells were ruining artesian pressures and putting many farmers out of business. Lacking adequate water supplies, these farmers were unable to secure loans to continue operation or to dig the newly necessary wells.[209]

In California one of the state's largest agricultural lenders, Bank of America, has already sent out signals indicating the current situation cannot continue indefinitely. During the Proposition 13 campaign Bank of America opposed the initiative but warned farm organizations that the decision to oppose Propostion 13 was a close one and that absent water reforms "the next time around" a proposal such as Proposition 13 "might be such that it would merit strong support" from the bank.[210]

CONCLUSION

Existing California groundwater law has provided a useful tool for the management of groundwater supplies to prevent overdrafting in many parts of the state. In large parts of the state, however, primarily in the agriculturally-rich San Joaquin Valley, groundwater managers have been unable or unwilling to regulate groundwater pumping to prevent overdraft. This resistance is often based on two interrelated concerns. First, individual groundwater pumpers and water agencies involved in groundwater extraction resist state interference with local control. Sec-

208. Pumping costs are greater because of the need for new and deeper wells, more powerful pumps and more energy required to lift the water from greater depths.

209. Clark, *Ground Water Law: Problem Areas* 8 NAT. RES. LAW. 377 (1975).

210. L.A. Times, Nov. 5, 1982, at 3.

ond, these same individuals and entities resist any imposition of state restriction on groundwater pumping absent assurance that additional surface water supplies will be made available to offset decreased groundwater extraction.

It is clear that given the rate of overdrafting in California and the serious environmental, economic and social costs associated with a continuance of long term overdrafting, some solution to the problem must be found. Although the proposals contained herein may not necessarily be more successful than previous proposals, these and others must be tested to curtail the undesirable consequences of groundwater overdraft.