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Groundwater: A Call For a Comprehensive Management Program

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Groundwater: A Call for a Comprehensive Management Program

Water is acknowledged as an invaluable resource.[1] Groundwater[2] is one particular supply source for water, which may be found in large quantities and in a wide range of areas throughout the state of California.[3] Approximately forty percent of the applied water need of California is supplied from groundwater basins.[4] The development of California was influenced by groundwater[5] in a major way. Groundwater provided a readily available source of water to those who settled the state to take advantage of the many bounties of the state.[6] This purified source of water provides for irrigation making possible the watering of stock and crops,[7] as well as providing a source of drinking water for people. Thus, groundwater has played, and continues to play, an important role in the development and economy of California. In addition, during a drought year when surface water supplies have been depleted, groundwater can serve as an emergency source of water, avoiding the potentially disastrous effects on agriculture which a drought may bring.[8] Therefore, groundwater is tremendously important to all Californians.

In California, as well as in all the arid western states, groundwater is

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1. SEE GOVERNOR'S COMM'N TO REVIEW CALIFORNIA WATER RIGHTS LAW, FINAL REPORT 1 (1978) [hereinafter cited as FINAL REPORT].

2. Groundwater is defined as the water in the zone of saturation, the top of which is called the water table. A. SCHNEIDER, GROUNDWATER RIGHTS IN CALIFORNIA 98-9. (Governor's Comm'n to Review California Water Rights Law Staff Paper No. 2, July 1977); *see also* California Department of Water Resources, Bulletin No. 118, California's Groundwater 4-5 (1975) [hereinafter cited as Bulletin No. 118].

3. Approximately 40 percent of California is underlain by groundwater basins. The total storage capacity of all basins is some 1.3 billion acre-feet. The usable storage capacity, excluding that of a large number of the smaller basins where it has not been determined, is 143 million acre-feet.

Bulletin No. 118, *supra* note 2, at 3.

4. *Id.*; *see also* FINAL REPORT, *supra* note 1, at 136. The estimated net demand for both surface and groundwater is 31 million acre-feet. Normally "groundwater supplies twenty-four percent of the net water demand, and forty percent of the applied water demand." FINAL REPORT, *supra* note 1, at 136.

5. *See* Bulletin No. 118, *supra* note 2, at 20.

6. *Id.*

7. *Id.*

8. *See* FINAL REPORT, *supra* note 1, at 138.

a limited resource.[9] An illustration of the limited nature of groundwater is the condition of an overdrafted groundwater basin.[10] This condition occurs because there is an insufficient supply of water. In California alone, long-term overdrafting averages 2.2 million acre feet annually.[11] There are forty-two groundwater basins in which some degree of overdraft has been found.[12] Eleven basins are subject to "critical overdraft".[13] The problem of overdraft is the most commonly recognized problem in groundwater management in California.[14] To those who must continue to pump groundwater, overdrafting means much greater expenses.[15] Examples of the greater expenses are pumping water a greater distance,[16] as well as, the expense of sinking deeper wells, lowering pumps, or drilling new wells.[17] In addition to exhausting a groundwater supply, overdrafting may lead to saltwater intrusion into fresh water aquifers.[18] Another problem is land subsidence,[19] which results from dropping groundwater pressures in a confined aquifer, causing water to be squeezed out of the clay layers so that the layers compact.[20] Finally, a complex array of water quality problems also exists in the area of groundwater management.[21] These problems include salinity, contamination, degradation, and pollution from various sources.[22] The makeup of groundwater, including chemical, physical and bacterial components, is also affected by elements such as soil permeability, climate, drainage, irrigation practices and types of crops grown, all of which vary from basin to basin.[23] To control the varied problems associated with groundwater, a comprehensive management program is necessary.[24]

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9. *See* 1 WATERS AND WATER RIGHTS 15 (R. Clark ed. 1972) [hereinafter cited as CLARK].

10. "Overdraft" means the condition of the basin when the amount of water extracted from the groundwater basin exceeds the long-term average annual recharge to the basin from both natural and imported sources, plus what has been called "temporary surplus." SCHNEIDER, *supra* note 2, at 99.

11. FINAL REPORT, *supra* note 1, at 140.

12. California Dep't of Water Resources, Bull. 118-80, Groundwater Basins in California 13 (1980) [hereinafter cited as Bulletin 118-80].

13. "[A] basin is subject to critical conditions when continuation of present water management practices would probably result in significant adverse overdraft-related environmental, social, or economic impacts." *Id.* at 11.

14. FINAL REPORT, *supra* note 1, at 140.

15. *Id.*

16. *Id.*

17. *Id.*

18. An aquifer is defined as "a geological formation that stores, transmits, and yields significant quantities of water to wells and springs." Bulletin No. 118, *supra* note 2, at 4.

19. The Santa Clara and San Joaquin Valleys have suffered substantial subsidence, dropping as much as 28 feet in one particular area in the San Joaquin Valley. FINAL REPORT, *supra* note 1, at 141.

20. *Id.*

21. *Id.*

22. *Id.*

23. *Id.*

24. *See infra* notes 257-301 and accompanying text.

With few exceptions, groundwater legislation has been enacted only since World War II.[25] The trend is toward permit systems[26] as well as legislative efforts to combine controls and management of surface and underground sources.[27] In California the call for a comprehensive groundwater management system has been made continuously since the beginning of the twentieth century.[28] Although California has a comprehensive scheme regulating surface water,[29] the Legislature has failed to adopt any comprehensive management program for groundwater at a statewide level.[30] As a result of this inaction, the management of groundwater has been left to local controls[31] and to the courts, which have decided water rights in a piecemeal fashion.[32] Consequently there is a great deal of uncertainty in groundwater law as well as inefficient use of water caused by the current lack of management of our groundwater. This comment will trace the development of groundwater case law and the development of local control, both of which have failed to efficiently manage groundwater.[33] Next, the absence of any comprehensive state regulation and management of groundwater will be illustrated.[34] Then, this comment will show that even though both constitutional and water code policy provisions demand a comprehensive management program,[35] there has been a consistent failure on the part of the Legislature to enact an all-inclusive management program.[36] In addition, past legislative proposals have offered suggestions for an efficient management plan; however, these ill-fated proposals were not without flaws.[37] The end result of the failure to manage groundwater is uncertainty with respect to water rights, which results in the inefficient use of water. Finally, this comment will offer a fresh approach for a comprehensive management scheme at a statewide level, based on Oklahoma Groundwater Law.[38] The suggested program would put into effect the California Constitutional provision which calls for specific water use to be "reasonable and beneficial . . .

25. 5 CLARK, *supra* note 9, at 414. Although there was some groundwater legislation enacted late in the nineteenth century and early twentieth century, the main thrust of groundwater legislation has come since World War II. *See* 1 CLARK, *supra* note 9, at 163-65.
26. 5 CLARK, *supra* note 9, at 415.
27. *Id.*
28. Rossman & Steel, *Forging the New Groundwater Law: Public Regulation of "Proprietary" Groundwater Rights*, 33 HASTINGS L.J. 903, 926 n.132 (1982).
29. *See* CAL. WATER CODE §§1200-1801.
30. *See infra* notes 216-37 and accompanying text.
31. *See infra* notes 157-83 and accompanying text.
32. *See infra* notes 42-150 and accompanying text.
33. *See infra* notes 42-183 and accompanying text.
34. *See infra* notes 184-98 and accompanying text.
35. *See infra* notes 201-24 and accompanying text.
36. *See infra* notes 224-38 and accompanying text.
37. *See infra* notes 227-43 and accompanying text.
38. *See infra* notes 276-96 and accompanying text.

in the interest of the people and for public welfare."[39] The recommended program would provide California with the needed management to ensure the most efficient use of the valuable resource of groundwater and would be consistent with the California Supreme Court's interpretation of the constitutional provision of reasonable and beneficial use.[40] Finally, this proposed management scheme would be a reasonable exercise of the state's police power.[41] The first area to be explored is the development of case law concerning groundwater rights, illustrating the incapacity of the courts to provide for a comprehensive groundwater program.

THE PRESENT SYSTEM OF GROUNDWATER MANAGEMENT

At present, the "management" methods of California related to groundwater include adjudications by the courts and controls by local government.[42] As will be illustrated, these methods are inefficient management tools creating uncertainty in groundwater law and use.

A. Case Law: Correlative Rights

The correlative rights doctrine has been developed and used by the California courts to determine groundwater rights.[43] This doctrine was developed through case law after the rejection of the English common law view of "reasonable use."[44] The California doctrine of correlative rights, however, causes groundwater management problems, the most prominent of which is the specific problem of overdraft.[45]

Disputes in California regarding groundwater have primarily been resolved by the courts.[46] Early California courts followed the English common-law rule[47] with respect to percolating groundwater[48] as first

39. CAL. CONST. art. X, §2.
40. *See infra* notes 303-10 and accompanying text.
41. *See infra* notes 303-10 and accompanying text.
42. *See infra* notes 43-182 and accompanying text.
43. Water Law is subdivided into various categories. The first major division is between water found on the surface of the earth and water found below the surface of the earth. Surface water is then subdivided into categories: diffused water, which is illustrated by water in water courses and other waters, as in ponds. Subsurface water has been subdivided as flowing water in subterranean channels or as percolating groundwater. Rossman & Steel, *supra* note 28, at 905.
44. *See infra* notes 49-66 and accompanying text.
45. *See infra* notes 71-88 and accompanying text.
46. *See* SCHNEIDER, *supra* note 2, at 3; *see also* 5 CLARK, *supra* note 9, at 414 n.27.
47. In 1871 the California Supreme Court adhered to the English common law view in Hanson v. McCue, 42 Cal. 303, 309 (1871). The court adhered to this view as late as 1899 in Vineland Irrigation Dist. v. Azusa Irrigation Co., 126 Cal. 486, 494, 58 P. 1057, 1059 (1899).
48. According to the California Supreme Court the essential consideration in determining percolating groundwater is that:

> it is essential to the nature of percolating waters that they do not form any part of the body or flow, surface or subterranean, of any stream. They may either be rain waters which are slowly infiltrating through the soil, or they may be waters seeping through the

enunciated in *Acton v. Blundel*.[49] The rule basically is that an overlying landowner owns everything that lies below the surface of the land.[50] The rules applied to water running in streams were not used in groundwater adjudications because of the belief in the unascertainable movement of percolating groundwater.[51] Thus, under the common-law rule, the overlying owner had absolute control over percolating water;[52] therefore, one overlying owner had no cause of action if his supply of water was lessened as a result of pumping by another overlying owner.[53]

In 1903 the California Supreme Court rejected the common-law rule in *Katz v. Walkinshaw*.[54] The court found that groundwater was not an unlimited resource[55] and a rule of absolute ownership would threaten all the water resources of the state.[56] The court was of the view that when the total water supply, including both surface water and groundwater, is limited,[57] there is the necessity of having a rule that would protect those who already have invested capital, providing some measure of certainty to those who later would provide capital for development of groundwater sources.[58] The Supreme Court rejected the English common law view of absolute ownership upon the belief that the overlying landowner had no protection in law against others in a more favorable position,[59] since wealthier owners could afford stronger pumps and sink deeper wells, resulting in the taking of unlimited quantities of water to the detriment of those with more limited financial resources.[60] The Supreme Court, therefore, attempted to find a solution that would prevent the injustices that could occur under the common law rule.

In *Katz*, the California Supreme Court rejected the inequities caused by the common law doctrine of absolute ownership, and established the doctrine of correlative rights.[61] A leading authority summarizes the

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banks or bed of a stream which have so far left the bed and the other waters as to have lost their character as part of the flow.

126 Cal. 486, 494, 58 P. 1057, 1059 (1899).

49. 152 Eng. Rep. 1223 (Ex. 1843).

50. *Id.* at 1233-35.

51. *Id.*

52. *Id.*

53. The common law rule was modified so as to impose liability to an overlying owner who maliciously or negligently extracted water. *See* Bartlett v. O'Connor, 102 Cal. xvii, 4 Cal. Unrep. 610, 36 P. 513 (1894); W. HUTCHINS, THE CALIFORNIA LAW OF WATER RIGHTS 430 (1956).

54. 141 Cal. 116, 74 P. 766 (1903).

55. *See id.* at 126, 74 P. at 768.

56. *See id.*

57. *See id.* at 126-27, 74 P. at 768-69.

58. *See id.*

59. *Id.* at 133, 74 P. at 771.

60. *Id.*

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

doctrine in this way:

> In the exposition of that doctrine, the courts have stated the owners of tracts that overlie a common supply of percolating water have *correlative rights* in the common supply; and that the exercise of one's correlative right entitles him to make a *reasonable use* of the water for the benefit and enjoyment of his overlying land. These correlative rights belong to all overlying landowners in common, and each may use only his reasonable share when the water is insufficient to meet the needs of all.[62]

Under the California correlative rights doctrine, the overlying landowner's right of reasonable *use* of a limited supply of percolating groundwater is limited to his reasonable share.[63] However, the correlative owner's share will not be limited by the correlative rights of another landowner until there is the realization that the groundwater in a particular basin is limited.[64] By the time this realization is made, the basin is in a condition of overdraft.[65] Therefore, the correlative rights limit to water use is a superficial limit, which checks water use only after the damage to the basin has been done.[66]

The correlative rights doctrine seems consistent with the California Constitutional Amendment of 1928[67] that requires water to be put to reasonable and beneficial use.[68] When the two concepts are combined, an overlying landowner has a right to the reasonable, beneficial use of a reasonable share of groundwater for use on or in connection with his overlying land.[69] The courts, by rejecting the English common law view in favor of correlative rights have provided the first impetus to

62. HUTCHINS, *supra* note 53, at 447-48. The early California courts in defining an overlying users rights under the doctrine of correlative rights analogized to the rights of riparian landowners in surface streams, namely, a right of reasonable use. *Id.* at 447-48. Justice Temple in the first Katz v. Walkinshaw opinion, 70 P. 663 (1902), (This opinion sheds light on the correlative rights doctrine; there is no official cite because the Supreme Court ordered its removal from the official reporter) discussed a riparian owner's rights. A riparian owner may take a reasonable amount of water including an amount that is equal to the entire flow, even if that amount is to the detriment of a neighbor who has an equal right to the water. The question posed is whether the use of the water is reasonable. *Id.* at 666. There were two opinions written. The first was written by Justice Temple. *Katz*, 70 P. 663 (1902). The second opinion was written by Justice Shaw upon rehearing to more fully consider the issues of the case. *Katz*, 141 Cal. 116, 74 P. 766 (1903). In the second *Katz* opinion, Justice Shaw restated the reasonable use doctrine and applied the doctrine to overlying users. Then as to the correltive rights between overlying landowners, if there is insufficient water for all, each overlying owner is given a "fair and just portion," even though all have equal rights to a reasonable amount of water. 141 Cal. 116, 135. 74 P. 766, 772 (1903). Thus, correlative rights were imposed upon the doctrine of reasonable use, resulting in the new doctrine of correlative rights. *See* HUTCHINS, *supra* note 53, at 446.

63. HUTCHINS, *supra* note 53, at 448.

64. *See infra* notes 71-88 and accompanying text.

65. *See infra* notes 71-78 and accompanying text.

66. *See infra* notes 71-88 and accompanying text.

67. CAL. CONST. art. X, §2.

68. SCHNEIDER, *supra* note 2, at 6.

69. *Id.*

develop a way to supervise the various competing interests to the limited resource of groundwater.

1. Correlative Rights Doctrine and the "Tragedy of the Commons"

The doctrine of correlative rights is not without its problems.[70] The major problem caused by the doctrine is called "the tragedy of the commons."[71] Groundwater is a "common pool" resource, and like other common pool resources, it is subject to this condition.[72] The problem occurs in the following way: Overlying landowners will drill their respective wells into the common groundwater basin. Over time, the total of drilling extraction from the basin will approximately equal the total replenishment to the basin,[73] thus, the level of the basin remains at a constant state.[74] In this state of equilibrium there is a safe yield of water.[75] Each overlying owner, in determining what is in his best interest, will then decide whether he should increase the amount of water pumped.[76] The advantage to the overlying owner of obtaining a greater amount of water for the beneficial use of the overlying land almost invaribly exceeds the disadvantage to that particular landowner resulting from a slightly lowered water table in the basin.[77] The owner ordinarily would conclude that in the best interest of his own farm, he should pump the additional amount:

> But this is the conclusion reached by each and every rational [overlying owner] . . . sharing a commons. Therein is the tragedy. Each man is locked into a system that compels him to increase his [use] . . . without limit . . . in a world that is limited.[78]

"The tragedy of the commons" leads to overdrafting[79] of groundwater basins and the serious consequences that result from an overdrafted condition.[80] At some point, the increased cost of drilling deeper wells will become so high that the owner will cease operation; however, by that time the damage to the basin already will have been done.[81] Communities that rely on groundwater for domestic and other uses risk disruption of their economies, harm to the water basin and loss of energy resources consumed by drilling and lifting the water from greater

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70. *See infra* notes 71-88 and accompanying text.
71. *See* FINAL REPORT, *supra* note 1, at 143-45.
72. *Id.* at 143; Hardin, *The Tragedy of the Commons*, 162 SCIENCE, 1243, 1244 (1968).
73. *See* FINAL REPORT, *supra* note 1, at 144.
74. *Id.*
75. *Id.*
76. *Id.*
77. *Id.*
78. Hardin, *supra* note 72, at 1244.
79. FINAL REPORT, *supra* note 1, at 144.
80. *See supra* notes 71-88 and accompanying text.
81. FINAL REPORT, *supra* note 1, at 144.

depths.[82] The correlative rights doctrine, which causes "the tragedy of the commons," encourages these problems by forcing a landowner to drill for additional water at a damaging cost to the basin.[83] Resolution of disputes is attempted in a piecemeal fashion, at a great expense, and possibly after the damage to a basin has been done.[84] Correlative rights management by the courts has not been overly successful as illustrated by the continuing and increasing problem of overdraft.[85]

Agriculture uses 85 percent of the water in California.[86] The importance of agriculture to the state economically and as a food supply cannot be underestimated.[87] A "no action" groundwater management system in the state can only lead to disaster.[88] To some extent, the courts have recognized the problem of overdraft and have modified the doctrine of correlative rights to deal with overdrafting.

B. Case Law: Correlative Rights Adapted

The courts drew upon the law involving appropriative rights to influence correlative rights.[89] Therefore, prior to analyzing how the adaptation of correlative rights was accomplished, a discussion of appropriative rights must be made.

1. Appropriative Rights

Groundwater is subject to a claim of prior appropriation if there is surplus water in excess of the reasonable and beneficial needs of the overlying owners and if the water can be used reasonably and beneficially on nonoverlying lands.[90] The measure of the appropriative right extends only to beneficial uses and does not extend a right to take additional water in the future. Between appropriators, priorities in time govern their respective rights; thus, the earlier appropriator can take all that he can beneficially use of the surplus water, up to what he has previously used, before the latter appropriator may use any.[92] If no surplus water exists, then no appropriative right can be gained.[93] The appropriator that follows the overlying user is limited to using only that

82. *Id.*
83. *See id.*
84. *See infra* notes 90-136 and accompanying text.
85. *See supra* and *infra* notes 71-88 and accompanying text.
86. FINAL REPORT, *supra* note 1, at 144.
87. *See id.* at 145.
88. *Id.*
89. *See supra* notes 90-114 and accompanying text.
90. Rossmann & Steel, *supra* note 28, at 908. *See generally* HUTCHINS, *supra* note 53, at 456-61.
91. City of San Bernardino v. City of Riverside, 186 Cal. 7, 31, 198 P. 784, 794 (1921).
92. HUTCHINS, *supra* note 53, at 456.
93. *Id.* at 457.

water which is surplus to the overlying use.[94] If the appropriator's use is acquired prior to the overlying owner's use the landowner's right of use is limited to a "quantity necessary for use."[95] Appropriative rights, therefore, are another source of legal rights to groundwater that must be considered when the entire scheme of groundwater management is to be examined.[96] When there is surplus water, appropriation is at its strongest point. When there is no surplus, then the correlative rights of overlying landowners take precedence, helping to preserve the finite resource.[97] There still exists, however, the problem of overlying landowners draining the basins to the extent of overdraft. The California Supreme Court in the case of *The City of Pasadena v. The City of Alhambra*[98] attempted to resolve the problem by developing the "mutual prescription doctrine."[99]

2. The City of Pasadena v. The City of Alhambra *and the Development of the Mutual Prescription Doctrine*

Courts increasingly looked for physical solutions to apply where the adherence to the established legal doctrine of correlative rights would lead to the excessive waste of water and the crippling problem of overdraft.[100] The California Supreme Court in *Pasadena* attempted a physical solution by the development and application of the new legal doctrine of mutual prescription.[101] The Supreme Court first limited the groundwater extraction to that of safe yield.[102] The court then had to decide who was to bear the burden of reduced groundwater extraction to limit the mining to the safe yield.[103] At this point, the court departed from *Katz v. Walkinshaw* and later California court interpretations of the interaction of correlative rights and appropriative rights.[104] The Supreme Court was determined that there would not be an unequal distribution of the burden to reduce drilling, in order to reduce the overdrafted condition of the basin, especially since all the parties in-

94. *Id.*

95. *See* Katz v. Walkinshaw, 141 Cal. 116, 135, 74 P. 766, 772 (1903). These rules are modified with respect to groundwater storage rights; an importer of water to an underground basin has first priority to the amount of water the importer added to the basin's water supply. *See* City of Los Angeles v. City of San Fernando, 14 Cal. 3d 199, 257-59, 537 P.2d 1250, 1292-93, 123 Cal. Rptr. 1, 43-4 (1975); *see also* Rossmann & Steel, *supra* note 28, at 909.

96. *See supra* notes 90-95 and accompanying text.

97. Rossmann & Steel, *supra* note 28, at 909.

98. 33 Cal. 2d 908, 207 P.2d 17 (1949).

99. *See generally* SCHNEIDER, *supra* note 2, at 19-29.

100. SCHNEIDER, *supra* note 2, at 19.

101. *Id.* at 22.

102. Groundwater extraction can be limited from a basin "for the purpose of protecting the supply and preventing a permanent undue lowering of the water table." 33 Cal. 2d. at 924, 207 P.2d at 27.

103. SCHNEIDER, *supra* note 2, at 20.

104. 33 Cal. 2d at 932, 207 P.2d at 32.

volved had been pumping water for many years unconcerned with the damage being done and unconcerned with attempting to protect the basin.[105] Thus, the Supreme Court in *Pasadena*, through the use of the mutual prescription doctrine,[106] found a way to equitably reduce the rights of all involved rather than totally eliminate some of those rights.[107] The court found the elements of prescription to be present in the case at hand.[108] The court held:

> [P]rescriptive rights were established by appropriations made in the western unit subsequent to the commencement of the overdraft, . . . such rights were acquired against both overlying owners and prior appropriators, [and] . . . the overlying owners and prior appropriators also obtained, or preserved, rights by reason of the water which they pumped . . . .[109]

The Supreme Court through this holding limited pumping from the basin to the safe yield of that basin.[110] All parties in the action were restricted to a proportionate reduction in the highest continuous amount of water each overlying owner *had* pumped and put to beneficial use in any five year period after overdraft began and before the complaint was filed.[111] The parties were entitled to this proportion provided there was no cessation of use by that party during any subsequent continuous five year period.[112] The correlative rights doctrine enabled the Supreme Court to quantify rights and avoid the total destruction of any of the rights involved, all while working toward the goal of controlling the problem of overdraft.[113] The ruling in *Pasadena*, generally, was a practical solution involving the parties before the court and the particular basin involved.[114]

The ruling of the Supreme Court only perpetuates the practice of unlimited drilling until overdraft problems occur. An overlying owner is encouraged to pump a basin to overdraft because he cannot obtain a prescriptive right until he is taking adverse to another's right.[115] In ad-

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105. *Id.*

106. *See infra* notes 107-109 and accompanying text.

107. For a prescriptive right to groundwater to ripen, it must be established that the taking of non-surplus groundwater was actual, open and notorious, hostile and adverse to the other party, continuous and uninterrupted for the statutory period of 5 years, and under a claim of right. *Id.* at 926, 207 P.2d at 29.

108. All the parties in *Pasadena* stipulated to all of the necessary elements except for the 5 year period of adverse use. The court went on to hold that the lowering of the water table gave all parties notice of the overdraft and that commencement of the overdraft provided sufficient adversity to establish that element of prescription. *Id.* at 929-30, 207 P.2d at 29-31.

109. *Id.* at 933, 207 P.2d at 32.

110. SCHNEIDER, *supra* note 2, at 22.

111. 33 Cal. 2d at 922, 207 P.2d at 26; *see also* SCHNEIDER, *supra* note 2, at 23.

112. 33 Cal. 2d at 922, 207 P.2d at 26; *see also* SCHNEIDER, *supra* note 2, at 22.

113. SCHNEIDER, *supra* note 2, at 23.

114. *See id.* at 23-24.

115. *See supra* note 107 and accompanying text.

dition, adverse users will not even discuss possible overdraft until the problem is in existence. The parties must then go to court to resolve the dispute. This after-the-fact, piecemeal management system does not take into account the resources and overdraft problems at a statewide level and is not the most efficient method of managing a statewide problem.

The mutual prescription doctrine was not to be the last word of the California Supreme Court with respect to resolving groundwater disputes. In 1955, the city of Los Angeles filed suit against the cities of San Fernando, Glendale, Burbank and other groundwater pumpers.[116] Los Angeles asserted a prior right to all the groundwater in the upper Los Angeles River area.[117] The city attempted to stop all other pumpers from extracting the groundwater without permission from the city of Los Angeles.[118] The resulting Supreme Court opinion of *The City of Los Angeles v. The City of San Fernando*,[119] if taken to its logical conclusion, means that the mutual prescription doctrine will not be used again unless stipulated by the parties.[120] *San Fernando* illustrates the continuing modification of the correlative rights doctrine by the California Supreme Court.

3. *Effect of* The City of Los Angeles v. The City of San Fernando *on the Mutual Prescription Doctrine.*[121]

In *San Fernando*, the court believed that formal legal doctrines of groundwater law should be subordinate to equitable, physical, and practical solutions.[122] The *San Fernando* case[123] rejected the previous reliance in *Pasadena* on prescriptive rights on two bases: first, the court interpreted the California Civil Code[124] to prohibit prescriptive rights from ripening against the city of Los Angeles;[125] second, the court re-

116. City of Los Angeles v. City of San Fernando, 14 Cal. 3d 199, 207, 537 P.2d 1250, 1258, 123 Cal. Rptr. 1, 9 (1975); *see also* SCHNEIDER, *supra* note 2, at 29.

117. 14 Cal. 3d 199, 207, 537 P.2d 1250, 1258, 123 Cal. Rptr. 1, 9 (1975); *see also* SCHNEIDER, *supra* note 2, at 26.

118. 14 Cal. 3d 199, 207, 537 P.2d 1250, 1258. 123 Cal. Rptr. 1, 9 (1975); *see also* SCHNEIDER, *supra* note 2, at 26.

119. 14 Cal. 3d 199, 537 P.2d 1250, 123 Cal. Rptr. 1 (1975).

120. *See* SCHNEIDER, *supra* note 2, at 30.

121. *See generally id.* at 29-31.

122. 14 Cal. 3d at 265-66 n.61, 537 P.2d at 1298-99, 123 Cal. Rptr. at 45-50; *see also* Rossman & Steel, *supra* note 28, at 910.

123. In *San Fernando*, certain extractors competing with Los Angeles asserted a mutually prescriptive restraint on Los Angeles' extractions, citing *Pasadena* as authority. Los Angeles, in opposition, argued that the city should have an absolute first call on any future imports of Owens Valley water to the San Fernando Basin.
Rossmann & Steel, *supra* note 28, at 910.

124. CAL. CIV. CODE §1007.

125. 14 Cal. 3d at 270-77, 537 P.2d at 1301-07, 123 Cal. Rptr. at 51-58. California Civil Code section 1007 precludes prescriptive rights against the property of certain public entities. *See also* Rossmann & Steel, *supra* note 28, at 910.

fused to apply the physical solution, provided for by "mutually prescriptive rights" in *Pasadena*, to the facts of the *San Fernando* case.[126] The Supreme Court in *San Fernando* believed that the *Pasadena* case reached a fair result on the facts presented.[127] The theory of mutual prescription in *Pasadena*, however, could no longer be relied upon.[128] The Supreme Court espoused the view that California courts should now base their decisions upon "broad equitable powers" to accomplish physical solutions[129] rather than legal doctrinal theories.[130]

In *San Fernando*, the Supreme Court set forth a court administered management method through adjudication that was to take into account the many equitable factors that would influence a fair result.[131] In a groundwater basin adjudication, however, the conclusion of one court as to the best, most pragmatic solution may not be the most efficient management solution.[132] A court will not be examining the overall, comprehensive water problems when that court is adjudicating the rights of the parties before it.[133] An adjudicating court will not be considering other interested parties who are not before the court, nor will the court be examining the state interest in managing a scarce resource.[134] The Supreme Court, even by adapting the correlative rights doctrine to present groundwater problems, cannot provide for the most efficient management system. At best, judicial solutions can only be piecemeal problem solving. Not only does the modified correlative rights doctrine lead to inefficient management, but that doctrine also causes uncertainty in groundwater law.[135] Currently, groundwater users have very uncertain ideas of what their respective rights are if the basin has not been adjudicated.[136] This state of the law prevents fulfillment of the constitutional requirement that water be put to reasonable and beneficial use.[137]

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126. 14 Cal. 3d at 267, 537 P.2d at 1299, 123 Cal. Rptr. at 50; *see also* Rossmann & Steel, *supra* note 28, at 910.

127. 14 Cal. 3d at 266, 537 P.2d at 1298, 123 Cal. Rptr. at 49; *see also* Rossmann & Steel, *supra* note 28, at 910.

128. "[The theory of prescriptive rights is not conducive to] the most equitable apportionment of water according to need. A true equitable apportionment would take into account many more factors." 14 Cal. 3d at 265, 537 P.2d at 1298, 123 Cal. Rptr. at 49 (footnote omitted); *see also* Rossmann & Steel, *supra* note 28, at 910.

129. 14 Cal. 3d at 292, 537 P.2d at 1317, 123 Cal. Rptr. at 68.

130. Rossman & Steel, *supra* note 28, at 911.

131. *See* FINAL REPORT, *supra* note 1, at 143.

132. *See* Rossmann & Steel, *supra* note 28, at 911.

133. *Id.*

134. *Id.*

135. *See* FINAL REPORT, *supra* note 1, at 143.

136. *Id.*

137. *Id.* at 21-5.

C. *Uncertainty, Correlative Rights and The Failure to Fulfill the Requirement of Reasonable and Beneficial Use*

Uncertainty in groundwater law and the impact of this uncertainty on overlying owners is a significant problem hampering management and supervision of water uses.[138] One source of uncertainty is that dormant rights[139] to groundwater may suddenly become active when the overlying user decides to use previously unextracted water.[140] In addition, the right to groundwater is not to a specific quantity but is rather a reasonable use-correlative share amount.[141] Finally, the inefficient allocation of the scarce resource of water increases uncertainty since no owner of a water right will know how much of the limited supply he will be entitled to use.[142]

Uncertainty of rights in groundwater law has injurious effects.[143] Costly and recurrent litigation is one effect that can only result in sporadic efforts to solve an ever worsening water problem.[144] Another injurious effect of uncertainty of legal rights is that rational choices by overlying users may be inhibited.[145] When certainty of rights is accomplished then an overlying landowner will have the security of knowing precisely the extent of his individual right to the water.[146] This certainty gives the impetus for planning and rational investment and without certainty there can only be the lack of rational management.[147] Indeed, even irrational thinking may result, in that an overlying driller may decide to increase usage as much as possible in order to get the most use from the water before the limited resource runs out, to the detriment of overlying landowners. Uncertainty adds further to the cost of litigation because the quantity of a dormant right is unknown and the only way to determine accurately a user's individual rights is by going to court.[148] Continuing litigation is a tremendous drain of time and economic resources for all parties involved.[149] In addition, some of the overlying landowners may not have the resources for protracted litigation;[150] therefore, they cannot afford the opportunity to

138. *Id.*
139. A dormant right exists when a legal doctrine confers a present right to the future use of water. *Id.* at 18.
140. *See id.* at 18-21.
141. *See supra* notes 62-63 and accompanying text.
142. *See* FINAL REPORT, *supra* note 1, at 25.
143. *See id.* at 21-23.
144. *See id.* at 22.
145. *See id.* at 16.
146. *See id.*
147. *See id.*
148. *See id.* at 16, 143.
149. *See id.* at 159.
150. *See id.*

protect their rights. The result is the inefficient use of water which is generated by uncertainty illustrating that overdrafting and uncertainty of rights go hand in hand. California needs to develop an efficient management program that will bring the problem of overdraft under control as well as bring more certainty to groundwater rights.[151] At present, however, there is no comprehensive program.[152] There is only some limited management combined with some scattered state regulations.[153]

CURRENT GROUNDWATER CONTROLS

Currently there exist limited management forms over various basins in California,[154] which are in addition to the adjudication approach of the courts. The dominant form of control is management at the local level.[155] The state water codes, however, do have some provisions that deal with groundwater on a statewide basis.[156] This section of the comment will focus on how these "management systems" have failed and will continue to fail to provide the needed efficiency and certainty that is essential to the efficient and prolonged use of the valuable resource of groundwater.

A. Management at a Local Level

Generally, local groundwater management has occurred on an ad hoc basis in response to local initiative.[157] Local programs have proven to be successful in areas where there is a surplus supply of water, especially in dealing with specific problems, including seawater intrusion[158] and critically lowered water tables.[159] Without a supplemental supply of water, however, local programs have a very difficult time being successful.[160] One authority suggests that it is essential that there be a supplemental supply of water to effect a successful basin management program.[161] Supplemental water ensures cooperation between adverse users to control overdrafting, because a particular user's supply is not threatened if water can be obtained from another source. However, insufficient supplies lead to adversity and the failure to cooperate

151. *Id.* at 166-67.
152. *See supra* notes 101-37 and accompanying text.
153. *See infra* notes 157-98 and accompanying text.
154. *See infra* notes 157-98 and accompanying text.
155. *See infra* notes 157-77 and accompanying text.
156. *See infra* notes 187-98 and accompanying text.
157. FINAL REPORT, *supra* note 1, at 145.
158. *Id.* at 146.
159. *Id.*
160. *Id.*
161. Krieger & Banks, *Groundwater Basin Management*, 50 CAL. L. REV. 56, 61 (1962).

which local subdivisions cannot overcome; therefore, the problem of overdraft is not resolved. In areas similar to the San Joaquin Valley, where there is a serious overdraft problem and a lack of surface water, no management programs are present.[162] Contractual and fiscal considerations may constrain the policy-making decisions of local water entities and their abilities to use imported supplemental supplies.[163] The state, however, has a wide financial base and will be better able to take into account the statewide water situation and import water more efficiently into the overdrafted regions, thus overcoming local management's inability to manage when there is no supplemental water. In the areas where local programs have been relatively successful, there have developed basically two main approaches.[164]

1. Local Management by Water District

The first approach involved is the formation of a water district with powers to carry out a groundwater management program.[165] These districts normally are organized on the basis of a convenient political subdivision.[166] The Orange County Water District has been the leader in the water district nonadjudication approach to groundwater management.[167] Water districts use "basin equity assessments"[168] which either increase or decrease the cost of the groundwater thereby influencing the amount of groundwater that is consumed[169] and in turn regulating the amount of water to be pumped from the ground.[170] Another central function of water districts is the importation of water to replenish the groundwater supply.[171]

2. Local Management by Court Appointed Watermasters

The second major approach to local management is the court-

162. SCHNEIDER, *supra* note 2, at 61.
163. *See* FINAL REPORT, *supra* note 1, at 151-53.
164. *Id.* at 146-49.
165. A district may have a wide range of powers; for example, the power to require pumpers to file periodic water production statements. Other powers may include a broad power to raise finances, as by levying a pump tax. *Id.* at 146-47.
166. *Id.* at 146.
167. *Id.*
168. The Orange County Water District Board sets a basin production percentage for one year. This amount is the maximum amount that should be extracted from the basin that year. Based on information regarding supplemental supplies and a pumper's own extractions, a pumper's extractions are required to be a certain amount. The ratio of groundwater pumping to total use may be more or less than the production percentage for the entire basin. If that ratio is more, then the pumper must pay the district. If that ratio is less then the district will pay the pumper. *See* SCHNEIDER, *supra* note 2, at 48-49.
169. *Id.* at 147.
170. *Id.*
171. *Id.*

appointed watermaster.[172] Normally, the court will appoint a watermaster to be the policy maker for a groundwater basin pursuant to an agreement among groundwater users in an adjudicated area.[173] The watermaster's main resource is the power to levy replacement water assessments.[174] The assessment is a charge on pumping in excess of a pumper's adjudicated share of the yield of the basin.[175] The watermaster may also conduct a groundwater replenishment program,[176] as well as control storage in the groundwater basin.[177] Both types of local management systems have inherent problems that will not allow for a comprehensive statewide management program to be designed solely on the basis of local control.

3. The Failure of Local Management

Local management cannot provide for the management of the limited resource at a statewide level. First, there was the problem of no supplemental water in some districts, which means that local management cannot be established throughout the state.[178] Another problem is that local management depends upon setting up a scheme based on local political subdivisions including cities, counties, or general districts.[179] Groundwater basins, however, do not limit themselves to neat political boundaries.[180] Thus, comprehensive local management would be exceptionally difficult when more than one political subdivision attempts to manage a regional groundwater basin. This especially would be true in an area that lacks a supplemental supply of water.[181] Local management, however, does have a role in managing the resource of groundwater. Currently some local agencies do manage the resource efficiently when there is supplemental water.[182] Local input is needed to help understand the intricacies involved in dealing with the local management. Since, however, groundwater is a limited resource and not confined to particular areas within defined political lines, local needs may cause disputes between the local managers that would need a neutral statewide program as referee to help resolve the dispute. The

172. *Id.* at 147-49.
173. *Id.* at 147.
174. *Id.*
175. *Id.*
176. *Id.*
177. *Id.* To have a watermaster appointment made, a local groundwater ajudication will end with a stipulation for judgment. The parties abandon strict water law doctrine and agree to an allocation they believe to be fair and reasonable. The parties then agree to a watermaster management system. *Id.* at 148.
178. *See supra* notes 160-62 and accompanying text.
179. *See supra* notes 165-77 and accompanying text.
180. *See* Bulletin No. 118, *supra* note 2, at 2.
181. *See supra* notes 160-62 and accompanying text.
182. *See supra* notes 166-68 and accompanying text.

problems inherent in local management call for a statewide control combined with local management so that the difficult decisions concerning the limited resource can be made. If the limited resource of groundwater is going to be put to the best use for all in the state then statewide management is called for. A comprehensive program must replace the ad hoc approach of local management that acts only when there is surplus water or a crisis. Finally, the existing state statutory law regarding groundwater is inadequate to resolve these problems.[183]

B. Scope of Current State Statutory Control

Although the state currently has a broad range of powers to manage surface water,[184] there is no comprehensive statewide groundwater management program.[185] Scattered throughout the state Water Code are various provisions that do deal with groundwater,[186] but none of these Code sections provides California with a needed management program. The Department of Water Resources (hereinafter referred to as DWR) has guidelines for counties to use in adopting well construction and abandonment ordinances,[187] as well as informational filing requirements with DWR for well digging, deepening, reperforating, abandoning or destruction.[188] These provisions deal only with water quality problems; they do not resolve the worsening problem of overdraft in the groundwater basins of the state. DWR also is authorized to conduct investigations and studies of projects that could protect groundwater[189] since the Legislature has declared that the policy of the state is to prevent irreparable damage to and correct impaired use of groundwater.[190] But the power to conduct studies does not enable the state to enact an all-encompassing statewide management program. Further, the Porter-Cologne Water Quality Control Act[191] establishes statewide water quality control that is administered on a regional basis,[192] but the Act does not come to terms with the problem of overdraft. In addition, the Recordation Act[193] requires a pumper to report to the State Water Resources Control Board [hereinafter cited as SWRCB] each year how much groundwater that individual pumped,[194]

183. *See infra* notes 186-198 and accompanying text.
184. *See supra* note 29 and accompanying text.
185. FINAL REPORT, *supra* note 1, at 145.
186. *See infra* notes 187-188 and accompanying text.
187. *See* CAL. WATER CODE §13800.
188. *See id.* at §§13750-13751.
189. *Id.* at §12923.
190. *Id.* at §12922.
191. *Id.* at §§13000-13988.
192. *Id.* at §13000.
193. *Id.* at §§4999-5008.
194. *Id.* at §5002.

but it does not sanction against overdraft. Also the Recordation Act is limited to only four southern California counties.[195] Finally, SWRCB has the power to initiate an adjudication of a groundwater basin to prevent destruction of or irreparable injury to groundwater quality.[196] SWRCB has never exercised this power.[197] There are other Code provisions; however, none establishes a groundwater management program.[198] This general sampling of statewide provisions relating to groundwater illustrates that at present there is no statutory basis for the needed comprehensive management program.

This comment has illustrated the ineffectiveness of local management and the lack of a comprehensive system at the state level.[199] The time to enact a comprehensive statewide management program has arrived. The limited resource of groundwater must be preserved. Only through preservation may the bounties of a limited resource be continued for the welfare of all. The California Constitution and policy statements in the state Water Code call out for a comprehensive management program.

CONSTITUTIONAL AND STATE MANDATES FOR MANAGEMENT AND THE FAILURE TO REACT

Presently, the Constitutional Amendment of 1928,[200] as well as Water Code provisions, call for a comprehensive management system.[201] All past attempts to pass a groundwater program enacting these provisions have failed,[202] and the need for an all-inclusive management program only grows more pressing. The Constitutional Amendment of 1928[203] requires that water be put to beneficial use and in order for groundwater to be put to beneficial use there must be enacted an overall groundwater management program.

A. Constitutional Amendment of 1928

In 1928, in response to the decision of *Herminghaus v. Southern Cali-*

195. The Recordation Act is limited to the counties of Riverside, San Bernardino, Los Angeles, and Ventura. *Id.* at §500(c). The Legislature found that only those counties should be included because of the combination of light rainfall, concentrated population, agricultural to urban transition and dependence on generally overdrawn groundwater supplies. *Id.* at §4999.

196. *Id.* at §2100.

197. SCHNEIDER, *supra* note 2, at 85.

198. *See generally* CAL. WATER CODE §§1005.1-.14, 1242, 7075; 23 CAL. ADMIN. CODE §64.10-.13.

199. *See supra* notes 157-78 and accompanying text.

200. CAL. CONST. art. X, §2.

201. *See infra* notes 224-37 and accompanying text.

202. *See infra* notes 224-38 and accompanying text.

203. CAL. CONST. art. X, §2.

fornia Edison Company,[204] the Constitution of California was amended so that the right to water or the use of water was limited only to the water reasonably necessary for the beneficial use to be served.[205] Under the amended Constitution, the right to use water does not extend to any wasteful or unreasonable use of that water.[206]

The Amendment provided constitutional status to the reasonable and beneficial use rule enunciated in *Katz v. Walkinshaw*.[207] Although the constitutional provision does not specifically so state, the provision has been held to apply to groundwater.[208] The enactment of this constitutional provision illustrates the commitment of the state to put water to the most beneficial use.[209] By making the commitment to the reasonable use of water, the state will increase productivity and prevent the waste of a valuable resource.[210]

In *Gin S. Chow v. City of Santa Barbara*,[211] the California Supreme Court held that the constitutional amendment of 1928 was a proper exercise of the police power of the state.[212] The court, in *Gin S. Chow*, recognized the importance of groundwater to the "well-being" and "prosperity" of the state[213] and the fact that the limited resource of groundwater must be preserved.[214] In a later case,[215] the supreme court expounded the view that a beneficial use would be defined by the facts and circumstances of each case and that what is beneficial at one point in time may later become a waste of water.[216] Therefore, the supreme court would have flexibility in defining beneficial uses for the acquisition of water rights. In addition, there is flexibility in determining beneficial versus wasteful uses. Generally, the California Constitution calls for California to make the most "reasonable and beneficial" use of the groundwater resource; however, California has not fulfilled this re-

204. 200 Cal. 81, 252 P. 607 (1926); *see* Joslin v. Marin Mun. Water Dist., 67 Cal. 2d 132, 137, 429 P.2d 889, 892, 60 Cal. Rptr. 377, 380 (1967). *Herminghaus* held that a single riparian landowner could insist on maximum flow of water, at the expense of upstream beneficial uses. 200 Cal. at 111-12, 252 P. at 618-19. The 1928 Constitutional Amendment was designed to prevent waste by allowing only reasonable beneficial uses rather than allowing proprietary doctrine to dictate that one may use the water to the exclusion of others. Rossmann & Steel, *supra* note 28, at 911 n.54.

205. CAL. CONST. art. X, §2.

206. *Id.*

207. 141 Cal. 116, 74 P. 766 (1903); *see* Rossmann & Steel, *supra* note 28, at 911.

208. Peabody v. City of Vallejo, 2 Cal. 2d 486 (1935).

209. *See* CAL. CONST. art. X, §2.

210. *See* CAL. CONST. art. X, §2.

211. 217 Cal. 673, 22 P.2d 5 (1933).

212. *Id.* at 701, 22 P.2d at 16.

213. *Id.*; *see* Rossmann & Steel, *supra* note 28, at 912.

214. 217 Cal. at 701, 22 P.2d at 16; *see* Rossmann & Steel, *supra* note 28, at 912.

215. Tulare Irrig. Dist. v. Lindsay-Strathmore Irrig. Dist., 3 Cal. 2d 489, 567, 45 P.2d 972, 1007 (1935); *see* Rossmann & Steel, *supra* note 28, at 912.

216. 3 Cal. 2d at 567, 45 P.2d at 1007; *see* Rossmann & Steel, *supra* note 28, at 912.

quirement.[217] The state has allowed the problem of overdraft to worsen without enacting any program to control the groundwater resource.[218] The state Water Code contains policy statements that suggest the need for a comprehensive groundwater management program; nevertheless, the state has failed to enact this essential program.

B. California Water Policy and the Failure to React

The California Water Code calls for the more efficient use of groundwater. A comprehensive groundwater management program would ensure efficiency in the beneficial use of groundwater. The Water Code declares that the people of the State of California have a "paramount interest" in the use of surface and groundwater[219] and the state must determine when the water should be controlled for the public benefit.[220] The Water Code goes on to declare that the people of California have a vital concern that the state protect the public interest in the development of all the water resources of the state.[221] The state should determine in what ways both groundwater and surface water are to be developed for the greatest public benefit.[222] In addition, the public interest demands the protection of groundwater basins in order to prevent irreparable damage to them[223] as a result of overdraft conditions.[224] The state, in these policy provisions, expresses the view that the protection of the limited resource of groundwater is of vital concern to the public interest of the state of California. A comprehensive groundwater management program must be enacted to protect that public interest.[225] The Legislature, however, has totally failed to enact a program that would fulfill the state's own policy declarations.[226]

The Final Report of the Governor's Commission to Review California Water Rights Law (hereinafter referred to as the Commission)[227] recommends that in view of the severe and extensive groundwater problems in California, legislation should be enacted providing for groundwater management.[228] The proposed legislation by the Commission allows for management by local entities.[229] The state is en-

217. *See infra* notes 226-37 and accompanying text.
218. *See infra* notes 226-37 and accompanying text.
219. CAL. WATER CODE §§104-217.
220. *Id.*
221. *Id.* at §105.
222. *Id.*
223. *Id.* at §12922.
224. *Id.*
225. *See infra* notes 244-99 and accompanying text.
226. *See infra* notes 227-37 and accompanying text.
227. *See* FINAL REPORT, *supra* note 1.
228. *Id.* at 165.
229. *See id.* at 166-69. For text of proposed legislation see *id.* at 170-250.

powered to review the local management programs periodically to assure uniformity on a policy level.[230] The Commission believed that with many successful local management programs already in existence,[231] combined with the local expertise over the varied groundwater basins,[232] a strong local groundwater approach was appropriate.[233] In 1979, the Legislature considered the statutory approach advocated by the Commission. Senate Bill 47[234] and Assembly Bill 442[235] contained essentially the same language as that recommended by the Commission. Each bill contained legislatively designated areas needing a comprehensive groundwater management program. The bill allowed for local control over those management programs. SWRCB would then periodically review the local management programs to ensure uniformity at a policy level. Both of these bills died in committee.[236] The groundwater provisions reappeared in committee in mid-1980 only, again, to go down to defeat.[237] Various strong lobbying interests have continually been able to thwart the needs of the state by destroying any attempt to secure some type of comprehensive management system.[238] In the view of this comment, however, the defeated proposed legislation, based on the final report by the Commission was not the most efficient program to establish a comprehensive groundwater management program. The recommended legislation carried with it the problems inherent in local management.[239] Local management, to be successful, needs supplemental water supplies;[240] however, in the areas of critical overdraft when supplemental supplies are not available, the local programs have great difficulty in efficiently managing the resource.[241] The state needs greater control to manage efficiently and combine the areas of supplemental water and areas of limited water so that the overall picture of groundwater in California may be im-

230. *Id.*

231. *See id.* at 166.

232. *See id.*

233. *See id.*

234. Senate Bill 47 failed January 31, 1980. *See* SENATE FINAL HISTORY, 1979-80 Reg. Sess. 41 (1980).

235. *See* ASSEMBLY FINAL HISTORY, 1979-80 Reg. Sess. 334 (1980).

236. During this session the Legislature did pass California Water Code section 12924; this section directs the Department of Water Resources to identify the groundwater basins in the state, including those subject to critical overdraft. *See* Act of Sept. 7, 1978 Ch. 601, 1978 Cal. Stat. 2037 (codified at CAL. WATER CODE §12924).

237. *See* SENATE FINAL HISTORY, 1979-80 Reg. Sess. 787 (1980).

238. The Los Angeles Times reported that passage of the bills was blocked by those interests who "are against any semblance of state supervision on the use of underground water supplies. . ." Los Angeles Times, Aug. 26, 1980, pt. 1, at 3, 21, col. 2.

239. *See supra* notes 178-180 and accompanying text.

240. *Id.*

241. *Id.*

proved.[242] This comment does not suggest that local programs are not important in knowledge of and expertise in local intricacies; however, state control is needed to best manage groundwater for the use of all.[243]

IMPETUS FOR CHANGE: A PROPOSAL FOR COMPREHENSIVE GROUNDWATER MANAGEMENT IN CALIFORNIA

Overdrafting is the most commonly recognized problem confronting groundwater basins today.[244] Combined with and resulting from overdrafting is the problem of an overlying user's uncertainty as to what water he actually owns.[245] Current "management" systems have not helped to alleviate any of these problems; indeed, the problems have only worsened.[246] This comment will propose a comprehensive groundwater management program that will come to grips with overdrafting and uncertainty, offering hope for the preservation of the limited resource of groundwater.[247]

Three major components form the basis of an efficient comprehensive groundwater program that would control groundwater problems.[248] First is the storage and conjunctive use of water,[249] which would establish management of all the water of the state, as well as provide water for areas of particular need.[250] The second component is a complete administrative process based on Oklahoma Groundwater Law[251] which would lead to certainty in the law.[252] Finally, local input[253] into management of the resource of groundwater would provide the state with invaluable information concerning local intricacies.[254] Although no comprehensive management program has been enacted, it has been shown that California needs a management system.[255] New management concepts, therefore, must continue to be advocated until the Legislature can see fit to tackle the politically sensitive issue that groundwater management poses. The first component of a modern proposal for groundwater management should include the storage and conjunctive use of water.[256]

242. *See infra* notes 257-74 and accompanying text.
243. *See infra* notes 276-99 and accompanying text.
244. *See supra* notes 9-32 and accompanying text.
245. *See supra* notes 138-51 and accompanying text.
246. *See supra* notes 43-243 and accompanying text.
247. *See infra* notes 257-97 and accompanying text.
248. *See infra* notes 257-97 and accompanying text.
249. *See infra* notes 257-74 and accompanying text.
250. *See infra* notes 257-74 and accompanying text.
251. *See infra* notes 276-96 and accompanying text.
252. *See infra* notes 276-96 and accompanying text.
253. *See infra* notes 297-99 and accompanying text.
254. *See infra* notes 297-99 and accompanying text.
255. *See* FINAL REPORT, *supra* note 1, at 165-69.
256. *See infra* notes 257-74 and accompanying text.

A. Storage and Conjunctive Use of Water

"Conjunctive use"[257] refers to the storage of water in groundwater basins combined with the use of surface water when it is available.[258] Groundwater is used when surface water is not available.[259] Communities have for some time relied on basic groundwater storage programs as a method of managing groundwater.[260] The California courts recently entered the area of storage rights to determine who has the right to use underground storage space and whether a person storing has a right to recapture the stored water.[261] The cases of *Niles Sand Gravel Company v. Alameda County Water District*[262] and *The City of Los Angeles v. The City of San Fernando*[263] answer some of these questions.[264] The *Niles* and *San Fernando* cases made possible a general storage program.[265] First, these cases created a right allowing a public entity to import water into groundwater basins when space is available without paying overlying landowners.[266] Next, a public entity has the right to protect the water that it has stored in the basin from expropriation by others.[267] Finally, a public entity has the right to recapture water it has stored in that basin when the water is needed.[268]

Niles and *San Fernando* would allow public agencies to create comprehensive groundwater storage programs by recognizing their authority, in the public interest, to store water in an underground basin for the use of the overlying community,[269] therefore allowing the storage of needed supplemental water which is essential to a management program. Conjunctive use and storage of water, which was sanctioned by *Niles* and *San Fernando*, would use public agencies at a statewide level to make the optimum use of the existing resources of the state.[270]

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257. "Conjunctive use" and "Conjunctive operation" are defined as:
> The coordinated operation of a groundwater basin and surface water supplies. One purpose is to artificially recharge a basin during years of above-average precipitation so that groundwater can be withdrawn during years of below-average precipitation, when surface supplies are less than normal. Conjunctive operation also refers to meeting the needs of an area through the coordinated use of surface water during years when it is available and groundwater in years when surface water is not available.

SCHNEIDER, *supra* note 2, at 98.
258. *Id.* at 63.
259. *Id.*
260. Robie & Donovan, *Water Management of the Future: A Groundwater Storage Program for the California State Water Project*, 11 PAC. L.J. 41, 52 (1979).
261. *Id.*
262. 37 Cal. App. 3d 924, 112 Cal. Rptr. 841 (1974), *cert. denied*, 419 U.S. 869 (1974).
263. 14 Cal. 3d 199, 537 P.2d 1250, 123 Cal. Rptr. 1 (1975).
264. *See generally id.*; 37 Cal. App. 3d 924, 112 Cal. Rptr. 841 (1974).
265. Robie & Donovan, *supra* note 260, at 54.
266. *Id.*
267. *Id.*
268. *Id.*
269. *Id.* at 55.
270. *See id.* at 62.

Conjunctive use will allow the state to preserve water sources currently available and that become available to the state. Supplementary water should be stored in order to use that extra water in areas of low water supply.[271] If supplemental water exists in a particular area of the state and if there is not sufficient storage space in that area, then the supplemental water can be lost.[272] The state should oversee the transfer and storage in other basins that have a greater storage capacity.[273] This process would make for greater preservation of water and allow for more water to be available for those basins in the state that are subject to overdraft. To take into account all the supplemental water supplies as well as all the available storage basins in the state, state control is needed.[274] Therefore, the broad state control over the conjunctive use of water may be viewed as the first component in a comprehensive statewide management program that would take into account all the present water supplies of the state and preserve those supplies for their most beneficial use in the areas that lack water.

The second component of a groundwater management system for California is based upon the statutory groundwater program of the state of Oklahoma.[275] This component, when combined with the base of stored supplemental water, adds a measure of certainty to groundwater law in California.

B. Oklahoma Groundwater Law: A Model for California

Oklahoma applies the American rule of "reasonable use" to its groundwater.[276] Under the "reasonable use rule" a landowner owns use of that water as long as that use is reasonable.[277] The "reasonable use rule" places fewer restrictions on the overlying owner's rights than does the correlative rights doctrine of California[278] because in Oklahoma an overlying landowner is not restricted by the correlative rights of another owner. Even though Oklahoma overlying owners enjoyed liberal rights under this rule, Oklahoma saw fit to enact a statewide management system cutting back on these rights.[279]

The Oklahoma groundwater statute parcels out withdrawals from

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271. *See* FINAL REPORT, *supra* note 1, at 155-58.
272. *See id.* at 158.
273. *See id.* at 155-58.
274. *See id.* at 157.
275. *See* Trelease, *Legal Solutions to Groundwater Problems—A General Overview*, 11 PAC. L.J. 863, 869 (1979).
276. Jensen, *The Allocation of Percolating Water Under the Oklahoma Groundwater Law of 1972*, 14 TULSA L.J. 437, 455 (1979).
277. Trelease, *supra* note 260, at 867.
278. *Id.*
279. *See generally* OKLA. STAT. ANN. tit. 82, §§1020.1-1020.22.

the groundwater basin on the basis of the number of acres overlying that basin.[280] The Oklahoma Water Resources Board must hydrologically survey each groundwater basin, determine the maximum annual yield of that basin and then determine the amount of that water yield to be allocated to each acre of overlying land.[281] If more water becomes available, then the allocated shares to the overlying owners may be increased.[282] In addition, appropriative rights to groundwater would be granted if surplus water was available. Through the quantification of the water, each overlying owner would know precisely how much water could be used,[283] and the basin would not be overextended.[284] Then when more water became available, the shares would be increased, therefore always keeping the groundwater basin in a state of equilibrium.[285] If a neighbor used more than the allocated amount, then the other overlying owners could enforce their rights.

California should enact a program similar to that of Oklahoma since this type of program would bring certainty to water rights and provide for a strong state agency.[286] A California program, based on Oklahoma law, would take into account prior rights[287] in determining allocation of water by using a priority system.[288] Under the proposed California program, to determine the allocation of water, the determination of prior rights in the basin and the priority of those rights should be made by the state by examining all current water rights in a particular basin.[289] Hydrological studies of the basins to determine the maximum yield within the basin would follow.[290] Hearings would be held by the administering California state agency to ensure equitable determination of rights before the final decisions are made.[291] Once the maximum yield is determined, allocations can be made based on surface area of overlying land and the priority of prior water uses including prior appropriative rights.[292] Permits would then be issued.[293] The California administrative agency would be required to update the hydrological surveys periodically in order that allocations could be re-

280. *Id.* §1020.6.
281. *Id.* §1020.4-1020.6, 1020.11.
282. *Id.* §1020.6.
283. Trelease, *supra* note 275, at 869.
284. *Id.*
285. OKLA. STAT. ANN. tit. 82, §1020.6.
286. *See id.* §1020.1-.22; *see also* Trelease, *supra* note 273, at 869.
287. The language of the Oklahoma Statute suggests that rights under the prior law are superior to those acquired after 1972. *See generally* Jensen, *supra* note 274, at 462-65.
288. This program would be justified. *See infra* note 295.
289. *See* Jensen, *supra* note 276, at 465.
290. *Id.*
291. OKLA. STAT. tit. 82, §1020.6.
292. *See* Jensen, *supra* note 276, at 465.
293. OKLA. STAT. tit. 82, §1020.9.

vised.[294] The final allocation of water to landowners and subsequent modifications does not create new rights or destroy old rights, but rather manages existing rights based on land ownership.[295] This proposal would provide certainty in California water law by allowing for sensible allocation of water based upon availability.[296] The California proposal, however, would not destroy existing rights but would only modify rights in the name of management of the scarce resource. This proposal looks toward a broad and comprehensive range of state control that would put into effect the constitutional mandate that water be put to the most beneficial use.

A wide range of state control, however, does not mean that local agencies would not be without an important role in this California proposal. The use of local input comprises the third component of this comprehensive state management proposal.

C. The Local Role in a California Management System

The third component of the comprehensive California management program should include local management programs, as well as local subdivisions that are already in existence.[297] The agencies could assist the state in determining how much water is available and what prior rights are involved in the basin. The local California agencies can also advise as to the most beneficial uses for a particular local basin. The local assistance would greatly aid the state in making the final allocation of water, while at the same time help to protect local interest. These local districts should then manage the allocations of water and changes in available water that occur. In areas lacking management authorities, the state could step in to efficiently manage the areas or provide for designation of authorities over which the state would be

294. *Id.* at §1020.4.

295. There may be a constitutional problem if such a proposal was viewed as a destruction of water rights. *See* CAL. CONST. art. X, §2. This proposal, however, should be viewed as a simple modification of water rights. The decision of In re Water of Long Valley Creek System, 25 Cal. 3d 339, 599 P.2d 656, 158 Cal. Rptr. 350 (1979), shows the continuing flexibility that the California Supreme Court affords the state to redefine water rights in terms of reasonable and beneficial uses. The Court cited *Joslin* for the proposition that the SWRCB has the power to determine the scope, nature, and priority of surface rights to promote reasonable and beneficial use. *Id.* at 353-54. The court stated that the SWRCB had the power to prioritize rights along a stream system. *Id.* at 358-59, 599 P.2d 668-69, 158 Cal. Rptr. at 362-63. The court, therefore, redefined water rights since traditionally a riparian owner could make any reasonable use of water, including the use of more water over more acreage. *Long Valley* interpreted the Constitutional Amendment of 1928 with respect to surface water rights; however, that Constitutional provision also applies to groundwater rights. *See* Peabody v. City of Vallejo, 2 Cal. 2d 351, 40 P.2d 486 (1935). Therefore, by applying the decision of *Long Valley*, groundwater rights can be redefined for the goal of groundwater management that would make the most reasonable and beneficial use of the groundwater of the state. *See* Rossmann & Steel, *supra* note 28, at 912-13.

296. *See* Trelease, *supra* note 275, at 869.

297. *See supra* notes 165-177 and accompanying text.

given final approval. Although the proposed comprehensive program would make use of local authorities already in existence, the state must be given broad control in order to efficiently manage the overall water needs of California.

The three suggested components of the proposed comprehensive program—storage and conjunctive uses, allocations of water based on available supplies and priorities, and local assistance—will provide an efficient comprehensive management system for the state of California. Under the proposal, conjunctive uses of water will play an important role in allowing for efficient use of supplemental water for use in areas of high overdraft.[298] Once again, local agencies should have a large measure of say as to what the most beneficial use of all the water resources would be, and the state would be the final arbitrator so that the limited resource of groundwater is not overextended. An efficient management program created and overseen by the state with input from local agencies would lead to the more efficient use of water and the prevention of waste, while landowners would still maintain rights in the water. This plan would bring comprehensive groundwater management to California.[299] The Legislature of the State of California has the power to enact this proposed management program.[300] The legislative enactment of the comprehensive proposal would be a legitimate exercise of the police power that would not result in the taking of any landowners property rights in groundwater.[301]

D. Constitutional Authority for the Management of California Groundwater Through Legislation

The suggested comprehensive management program will mean substantial modification to the groundwater rights in California, which in turn raises the issue of a compensable taking under the California Constitution. This same question was raised when the 1928 Constitutional Amendment, providing for water to be put to reasonable and beneficial

298. *See supra* notes 257-274 and accompanying text.

299. The most recent attempt at groundwater management was the Water Resources Initiative Statute that went down to defeat on the November 2, 1983 general ballot. The Initiative would have established state supervised groundwater management in 11 critically overdrafted basins designated by the Department of Water Resources. The Initiative used the vehicle of local management for conservation and a strong state role through enforcement provisions. Although the Initiative was on the correct track by providing for a stronger state influence in the management of groundwater, there still was no provision for an all-encompassing management system at a statewide level. *See generally* Proposition 13, California Ballot Pamphlet, General Election 1982 (proposed amendment to CAL. WATER CODE §§15000-15405) (copy on file at the *Pacific Law Journal*). To have an efficient management program that will overcome uncertainty and overdrafting, the state must use all of its water resources effectively for the good of the entire state.

300. See *infra* notes 302-310 and accompanying text.

301. "Private property may be taken or damaged for public use only when just compensation . . . has first been paid. . . ." CAL. CONST. art. I, §19.

use, was passed.[302] The 1928 Amendment,[303] however, was interpreted in *Joslin v. Marin Municipal Water District*[304] to permit the state to operate under the provisions of the amendment limiting water rights, without requiring the exercise of the eminent domain provisions of the California Constitution because the amendment reasonably exercises the police power of the state.[305] The court was of the view that the Amendment redefines water rights.[306] The court stated that no property right can exist in an unreasonable use and the deprivation of that unreasonable use is not a compensable taking.[307] The court went on to say:

> . . . [s]uch an inquiry cannot be resolved *in vacuo* isolated from statewide considerations of transcendent importance. Paramount among these we see the ever increasing need for conservation of water in this state, an inescapable reality of life quite apart from its express recognition in the 1928 Amendment.[308]

Thus, the California Supreme Court, in *Joslin*, upheld the power of the state to modify existing water rights without compensating those who would take less water under a subsequent ruling of reasonable and beneficial use.[309] Applying the same rationale to the proposed management system, the state could modify existing water rights for the benefit of the overall scheme of reasonable use and conservation of the limited resource of groundwater without compensating the parties involved.[310] Therefore, not only is the proposed system vital to meet an essential need of the state of California, but the proposal also would be a legitimate exercise of police power of the state.

CONCLUSION

As Judge Ronald B. Robie,[311] past-Director of the Department of Water Resources, recently stated:

> In my opinion, the acceleration of groundwater problems and general absence of solutions since (1960) . . . have demonstrated beyond any doubt that 'ad hoc' solutions are not satisfactory. I find it curious that although regulation of surface waters is properly a responsibility

302. 67 Cal. 2d 132, 144, 429 P.2d 889, 897, 60 Cal. Rptr. 377, 384 (1967).
303. CAL. CONST. art. X, §2.
304. 67 Cal. 2d 132, 429 P.2d 889, 60 Cal. Rptr. 377 (1967).
305. *Id.* at 144, 429 P.2d at 897, 60 Cal. Rptr. at 384.
306. *Id.*, 429 P.2d at 897, 60 Cal. Rptr. at 384.
307. *Id.* at 140, 429 P.2d at 894, 60 Cal. Rptr. at 381.
308. *Id.* (footnote omitted).
309. Rossmann & Steel, *supra* note 28, at 912.
310. *See supra* notes 303-309 and accompanying text.
311. Municipal Court Judge, County of Sacramento; Adjunct Professor of Law, University of the Pacific McGeorge School of Law.

> of the state, groundwater regulation is somehow viewed as a 'local' concern . . . .
>
> The lack of adequate state authority in allocating water resources encourages poor local decisions . . . . The result is uncoordinated administration of interrelated resources.[312]

Groundwater is a valuable and limited resource upon which all Californians rely.[313] Limited resources must be effectively managed in order to put them to their most productive, beneficial, and lasting uses. One authority, however, states that the California solution to the underground water problems of the state is to simply "pour water on it and it will go away."[314] California must meet its responsibility to efficiently manage all its groundwater resources because the problems will not go away by simply pouring water on them. The problems of destruction of the resource, overdrafting, decreased production, and legal uncertainty of rights will only worsen.

The California Constitution and current statutes call for an efficient groundwater management program that would put the resource to its most reasonable and beneficial use.[315] The California Legislature, however, has not responded.[316] The job of efficient management of this resource cannot be left to the courts or local agencies since they have neither the resources nor the capacity to manage for the good of the entire state.[317]

California needs a comprehensive management program that will integrate surface water through conjunctive use, with an administrative process run by the state with the help and input of local agencies.[318] The proposed management program would redefine respective rights without destroying rights,[319] and provide an agency to manage all the intricacies involved in water resource management.[320] The end result of the proposed comprehensive groundwater management program will be to put groundwater to its most reasonable and beneficial use.

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312. Robie, Carley Porter Memorial Luncheon Address, in Proceedings of the Ninth Biennial Conference on Groundwater 146 (1973) (emphasis in original). The debate over a stronger state management of groundwater versus local control has been going on for years. See Schneider, *supra* note 2, at 91-3.
313. *See supra* notes 2-8 and accompanying text.
314. Trelease, *supra* note 275, at 865.
315. *See supra* notes 200-24 and accompanying text.
316. *See supra* notes 226-37 and accompanying text.
317. *See supra* notes 43-183 and accompanying text.
318. *See supra* notes 255-99 and accompanying text.
319. *See supra* notes 255-99 and accompanying text.
320. *See supra* notes 255-99 and accompanying text.