CHART B
DROUGHT GROUNDWATER RELIANCE
IN THE TULARE AND SAN JOAQUIN HYDROLOGIC STUDY AREAS
ESTIMATED PERCENTAGES OF WATER USE BY SOURCE

	Tulare Basin			San Joaquin Basin		
	1975	1976	1977	1975	1976	1977
Local Surface Water Development	18%	8%	6%	37%	29%	16%
Imported Surface Water	28%	29%	10%	22%	22%	18%
Groundwater (Safe yield and Overdraft)	54%	72%	84%	41%	49%	66%

Source: Compiled from California Department of Water Resources, The 1976-1977 California Drought, A Review, Table 3 (1978).

Groundwater basins have been used for many years as water storage reservoirs. The total storage capacity of all basins in the State has been estimated to be 1.3 billion acre-feet. Usable storage capacity has been conservatively estimated by the Department of Water Resources to be 143 million acre-feet.

Artificial replenishment programs were first conducted in some parts of Southern California before the turn of the century. Since 1957, the conjunctive use of groundwater, surface water, and groundwater basin storage capacity has been part of the State Water Plan. [9/] Conjunctive use means the coordinated operation of a groundwater basin and surface water supplies. The concept of conjunctive use is generally considered to have three aspects: Increased groundwater use or decreased groundwater replenishment with surface supplies in dry years when surface supplies are less than normal; increased use of surface water in lieu of groundwater, either to allow groundwater levels to recover, or to replenish artificially groundwater supplies in years

of more abundant surface water supplies; and long-term storage of water in a groundwater basin.

It has been recognized for a number of years that the control and regulation of sufficiently large volumes of water over long climatic cycles by surface storage alone is not economically feasible. Storage in groundwater reservoirs is increasingly attractive as difficulties of constructing additional surface facilities increase. The costs of putting water underground are minimal, there are virtually no evaporation losses involved in underground storage, and basins often can be used to distribute water. Some of the costs of underground storage involved can be substantial, however, such as the cost of providing standby pumping capacity required to extract the water when needed.

4. Groundwater Problems

Overdraft is the most commonly recognized groundwater problem in California and occurs to some extent in most areas of the State. Long-term overdraft amounts to an average of 2.2 million acre-feet annually. More than half of this long-term overdraft occurs in the Tulare Basin hydrologic study area. Overdraft occurs when the amount of water extracted from a 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." Temporary surplus is the amount of water that can be extracted from a basin to provide storage space for wet year runoff that would otherwise be lost.

Overdraft is expensive. In terms of direct extraction expenses, power costs, and of the related problems it can cause or aggravate, such as seawater intrusion and subsidence, overdraft costs are large. Direct costs of overdraft include increased pumping energy costs to lift water a greater distance, costs of deepening wells or of lowering pumps, and costs of sinking

new wells. The estimated average pumping depth in the Central Valley is 118 feet, but in some areas pumping depths are in the 500 to 1000-foot range, which has made the water too expensive for many agricultural uses.

There are several types of problems related to over-pumping, besides the problem that the usable groundwater supply in a given area may be exhausted. One example is seawater intrusion into fresh water aquifers, which occurs when groundwater extraction increases to the point that the normal seaward movement of fresh water ends and seawater moves inland. Land subsidence also results from overpumping from certain aquifers. Subsidence may occur when the groundwater pressure level in a confined aquifer is lowered by over-pumping, causing water to be squeezed out of the clay layers so that the layers compact. When this happens, the overlying land surface drops. The Santa Clara and San Joaquin Valleys have suffered some of the most substantial subsidence, with drops of as much as 28 feet in one small area of the San Joaquin Valley.

Diminishing water quantity and its side effects are not the only groundwater problems in the State. A complex array of water quality problems also exists. Groundwater quality problems encompass salinity, contamination, degradation, and pollution from thousands of sources, from feed lots and waste disposal sites to irrigation water that accumulates excess fertilizer and salts as it percolates through the soil. The kinds and concentration of chemical, physical, and bacterial constituents in groundwater are also affected by a range of factors, such as soil permeability, climate, drainage, irrigation practices, and types of crops grown. These factors differ greatly from basin to basin. Steps to combat water quality problems involve groundwater management choices which vary with the types and extent of groundwater quality degradation as well as with the availability of water generally.

B. Groundwater Rights Law

Groundwater rights law has several main aspects. Overlying landowners who put the groundwater they extract to reasonable overlying uses have rights which are "correlative." Each overlying user may take only his reasonable share of the supply. An overlying use, regardless of when it begins, is correlative with all other overlying use rights. There is no priority system among overlying uses.

When groundwater is extracted and taken out of the basin or otherwise put to non-overlying use, that groundwater is said to be "appropriated." Overlying users have priority over appropriators, regardless of when the various uses began. Appropriators may take only "surplus" water, water that is not needed for overlying use, and overlying users may stop any appropriation of non-surplus groundwater. The rule of first in time, first in right applies among groundwater appropriators.

If a groundwater user takes either more than his correlative share of the supply or takes non-surplus water for an appropriative use, he may acquire a "prescriptive" right to the amount of water he takes. In a groundwater adjudication, the court in Pasadena v. Alhambra [10/] developed the doctrine of "mutual prescription". In a chronically overdrafted basin, all pumping -- for both overlying and appropriative uses -- was deemed to be adverse to all other pumping, so that every user in the basin acquired prescriptive rights against every other user. Mutual prescription was viewed as a convenient legal device courts could use to reach an acceptable result. The court awarded each user a pro rata share of the basin supply. The court decided that this allocation was equitable and the least disruptive solution. The mutual prescription doctrine was used in a number of subsequent groundwater adjudications.

In 1975, the California Supreme Court decided the lengthy adjudication in Los Angeles v. San Fernando. [11/] This decision made it unlikely that mutual prescription would be used in the future unless all parties agree to its use. At the same time, however, Los Angeles v. San Fernando did not point back to the correlative sharing and prior appropriation principles as the solution in future adjudications. The court suggested that some form of equitable apportionment may be worked out for each case, and that "physical solutions" -- water supply arrangements made between parties to ease the burden of reducing groundwater extractions -- should be more broadly conceived and used.

Overall, groundwater law is at a point of great uncertainty. Mutual prescription probably cannot be imposed in most cases. Application of the correlative and appropriation principles is probably impractical since their application would be exceedingly complex. At this time, a groundwater user in a basin which has not previously been adjudicated can have only a very uncertain idea of what his "right" actually is. To determine what his "right" is, a groundwater user would have to initiate an adjudication of the entire basin.

If there is a basin adjudication, according to current law, groundwater users in the basin would be limited to extraction of "safe yield." In both cases in which the California Supreme Court has considered groundwater basin adjudications, the court has approved limiting aggregate pumping to safe yield, although in the most recent case a flexible definition of safe yield was adopted. [12/]

C. The Existing Groundwater Management Situation

1. The Tragedy of the Commons

Groundwater is a "common pool" resource. Groundwater may be extracted by overlying owners for overlying uses, and the limit of an overlying owner's

right is that he may take only his reasonable, correlative share of the common supply. Like other common pool resources, groundwater is subject to what has been called "the tragedy of the commons". 13/

The tragedy of the commons develops in the following way: Overlying owners drill wells in a common groundwater basin. After a period of time, total extraction approximately equals total replenishment to the basin, so that the basin is in a steady-state condition. Each owner, at that point, calculates whether it is to his benefit to increase the amount he pumps. The advantage to him of an additional amount of water almost invariably exceeds the disadvantage to him of a slightly lowered water table in the basin overall. The owner will ordinarily conclude that 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 [pumping] ... without limit -- in a world that is limited. 14/

Although at some point long-term overdraft eventually would be curtailed as rising extraction costs forced enough users to stop extracting groundwater, taking "no action" could have serious drawbacks. Communities that rely on groundwater to develop their economies risk disruption of their water supply, the groundwater resource itself could be irreparably harmed, and taking no action would also waste a tremendous amount of energy since water must be lifted from greater and greater depths. If extraction is limited to the amount of water replenishing the basin, at a point at which water levels have not dropped drastically, the unfortunate consequences of taking no management action can be avoided.

Because agriculture uses 85 percent of the water used in California, agriculture has the most to lose from a serious depletion of the groundwater

resource and the most to gain from effective management. The role agriculture plays in California's economy is so substantial that all state residents have a considerable interest in encouraging uninterrupted agricultural productivity. Farm production grossed more than $9 billion in 1977, and hundreds of thousands of Californians were involved in food transport, processing and sales, and production of textiles and apparel from natural fibers. [15/] A "no action" choice for groundwater management involves unacceptably high risks for an industry upon which Californians and the nation depend.

2. Problem-Solving Management

a. Management at the Local Level

There are no comprehensive groundwater management programs at the state level. There are Department of Water Resources guidelines for counties to use in adopting well construction and abandonment ordinances, and there are informational filing requirements for well drilling and other well-related activities. Limited studies are conducted to gather groundwater data. An act which requires pumpers to report the amount of groundwater pumped to the State Water Resources Control Board each year applies only to four Southern California counties. In addition, some water districts and other local public entities collect groundwater data or require groundwater users to report extractions periodically. Since 1969, the State Water Resources Control Board has had the power to initiate an adjudication of a groundwater basin to prevent destruction of or irreparable injury to groundwater quality, although the Board has never exercised this power. The Department of Water Resources also has been negotiating to develop conjunctive use programs to use available groundwater basin storage space to store State Water Project water.

Groundwater management has occurred solely on an ad hoc basis at the local level, in response to local initiative. Ingenious and sophisticated

management structures have been created to deal with specific groundwater conditions, such as seawater intrusion and critically lowered water tables, or to compel the purchase of available supplemental water in areas where there are groundwater problems. The success of local management programs shows that locally conceived and controlled groundwater management programs can be adequate and that state-level management is neither essential nor necessarily desirable where effective local programs are undertaken. Local management is also appropriate in view of the varied physical characteristics of basins throughout the State.

It should be noted, however, that no area has undertaken an adjudication or district management program unless adequate supplemental water has been available or is expected to be available. It should be anticipated, therefore, that management efforts of the type proposed by the Commission are not likely to be taken voluntarily in areas without immediate prospects of adequate supplemental water delivery.

There have been two main approaches in California to instituting successful groundwater management. One has been by formation of a water district with powers to carry out a groundwater management program. The second has been management by a court-appointed watermaster with powers similar to those of a management district, after an adjudication of substantially all rights to extract groundwater in the management area.

b. Water District Groundwater Management

The Orange County Water District [16/] has been the leader in the water district non-adjudication approach to groundwater management. The district has a wide range of management powers, including the power to require pumpers to file periodic "water production statements" with the district.

The district's financing powers are extensive. It was the first district to levy a pump tax ("replenishment assessment"). The pump tax applies to all groundwater extraction, so there is no advantage to being an overlying landowner or an early appropriator. The district uses "basin equity assessments" either to increase or decrease the cost of groundwater in order to influence the relative amounts of groundwater and surface water that are used, and to regulate pumping patterns.

A central function of the Orange County Water District is to use imported water to replenish the groundwater supply. The district's replenishment operations include "spreading" the water in areas chosen because they allow the water to percolate rapidly into the groundwater basin, and "in-lieu" replenishment. In-lieu replenishment involves substituting a surface water supply for groundwater pumping in a particular area to allow the groundwater level to recover as a result of natural recharge.

c. Adjudication-Watermaster Groundwater Management

The San Gabriel adjudication [17/] watermaster program indicates the direction that the adjudication-watermaster approach to groundwater management is taking. The San Gabriel watermaster has a much more sophisticated range of powers and authority than the Department of Water Resources has as watermaster for the court in four areas in Southern California. The San Gabriel watermaster, composed of nine members appointed by the court pursuant to an agreement among groundwater users in the adjudicated area, is a policy maker. It can levy a "replacement water assessment", which is a charge on pumping in excess of a pumper's adjudicated share of the basin's yield, can conduct a groundwater replenishment program, and has authority to control storage in the basin.

Nearly all groundwater adjudications have ended with a stipulation for judgment. In other words, strict water law doctrine has usually not been followed in determining rights to extract groundwater. Parties have reached agreements on allocations they believe to be fair and reasonable and have agreed to watermaster management.

D. Groundwater -- A Complex Management Problem

The following examples illustrate a variety of groundwater problems and some of the management efforts to resolve these problems.

1. Piecemeal Regulation -- Filling the Groundwater Management Vacuum

In many areas there is no groundwater management program. Various agencies, including state agencies, are tempted to fill this vacuum where they perceive that there are problems related to their area of interest. The actions of the Coastal Commission show that groundwater controls may be uncoordinated, uneven, and illogical when they are imposed by an entity which lacks the power to approach groundwater problems in a comprehensive fashion.

The Coastal Commission has jurisdiction over the "coastal zone," a region extending from the coastline to as far as five miles inland.[18/] A permit must be obtained for all coastal developments, which include "change in the intensity of use of water, or of access thereto" and "the placement or erection of any ... structure ...."[19/] Water supply and quality must be considered for all development permit applications.

In at least four cases the Coastal Commission has denied an overlying owner a permit to drill a well or to construct a "project" requiring groundwater extraction. In another twenty-nine cases it has imposed conditions on well permits.[20/] The Coastal Commission justifies these denials and conditions upon the somewhat uncertain basis that water use restrictions are

mandated by directives from the Legislature to protect coastal resources, such as wetlands or vegetation, and to grant preferential treatment to the development of agriculture, coastal-dependent industries, and visitor-serving recreational facilities. Only in those basins where it believes it has the ability usefully to control overdraft or seawater intrusion has the Coastal Commission restricted the installation of wells. The Coastal Commission has not attempted to adjudicate groundwater rights as such, nor are groundwater rights considered or reflected in Coastal Commission decisions.

While the right to extract groundwater theoretically may remain unimpaired by the Coastal Commission's action, the value of a groundwater right is greatly diminished if it cannot be exercised. An inequity exists when pumpers in the same basin but outside the coastal zone may increase their groundwater use regardless of the priority of their rights relative to the rights of those within the coastal zone who are restricted. Groundwater adjudication is a remedy, but it is realistically beyond the reach of any small user.

The Coastal Commission's restrictions on groundwater extraction have been attempts to manage an endangered resource within the scope of the Coastal Commission's mandate. These restrictions suggest that governmental agencies will fill the groundwater management vacuum elsewhere unless comprehensive groundwater management programs are established. Integrating groundwater extraction rights into more comprehensive resource management programs would be both more equitable and more effective than the patchwork system which is now developing.

2. Well Interference -- A Challenge for Local Management

Most problems caused by a lack of groundwater management, though extremely serious in their ultimate consequences, develop gradually. Communities often have a number of years in which to correct groundwater practices before

a situation becomes intolerable. Well interference, however, sometimes develops very quickly, with potentially devastating results for those pumpers affected. The challenge of controlling well interference has not been met by most communities. 21/

An operating well dewaters the aquifer around it in a pattern known as a "cone of depression." A large well operated at capacity creates a large cone of depression and smaller nearby wells may run dry if they are situated within the cone of depression created by the large well. Wells of the same size may interfere with each other if they are so closely placed that their cones of depression intersect. Occasionally portions of a basin may become completely dewatered.

Periods of drought greatly accelerate well interference problems because pumping increases dramatically to supplement diminished surface water supplies. During the 1976-1977 drought, serious cases of well interference occurred in many areas of the State, and those pumpers affected became painfully aware of the absence of any speedy remedy for persons in their predicament.

Informal attempts to resolve problems with neighbors were no doubt the most common, and the most successful, way of coping with well interference. Unhappy pumpers also frequently called or wrote their legislators and the Governor. Pumpers have also occasionally sought administrative relief from the State Water Resources Control Board or filed suits in superior court to enjoin pumping that was causing well interference. Relief has rarely been granted in such proceedings. Furthermore, civil suits are expensive and may be too slow to provide water when it is needed.

In part because of the difficulties which individuals encounter in reaching a satisfactory solution to well interference problems, a number of cities and counties enacted ordinances which limit the installation of new

wells. The City of Grass Valley enacted an ordinance which restricts new wells that are intended to provide water for land outside the city limits. Placer County also enacted a temporary ordinance, which has expired, limiting the construction of new wells in some parts of the county to those wells eight inches in diameter or less.

An effective means must be provided for protecting small users from the dilemma of choosing among the following: a total loss of water; the installation of a larger, expensive well which will itself aggravate well interference problems for other neighbors; and expensive, lengthy, and possibly ineffective litigation. In many cases cost is decisive and injured pumpers are able to obtain water only through the good will of their neighbors. The frequency of well interference problems and the general absence of reliable remedies indicate that comprehensive local groundwater management is needed.

3. Imported Water -- No Simple Solution to Overdraft

The importation of surface water is by itself no panacea for uncontrolled groundwater overdraft. Even in severely depleted basins, groundwater pumping may be much less expensive than the purchase of imported water. Consequently, water users are unwilling or unable to purchase imported water if groundwater sources are accessible to them.

Contractual and revenue considerations may also constrain local water entities' policies on the use of imported water in lieu of groundwater or on replenishment of groundwater supplies. A comparison of the history of Colorado River water use in Southern California with State Water Project water allocation in Kern County illustrates the effect of differing financial, legal, and policy stances.

The Metropolitan Water District of Southern California is composed of member water retailers and wholesalers, including cities and municipal

water districts.[22/] In 1931, Metropolitan Water District voters authorized bonds for the construction of the Colorado River Project. Member units were not placed under an obligation to make payments to the Metropolitan Water District beyond repayment of the construction bonds until they wished to use the water made available by the project.

Although groundwater basins became severely depleted, little water was purchased until the late 1950's. This was partially due to the decision in Pasadena v. Alhambra, in which rights to extract groundwater were based upon the volume of recent pumping by each pumper. Pumpers chose to maximize their rights under the Pasadena formula, rather than to buy more expensive Metropolitan Water District water. Eventually the groundwater situation became so critical that some member districts began to seek the power to manage groundwater use within their service areas. Orange County instituted a dramatic program, described above, which coordinates the management of groundwater and local and imported surface water. The opportunity for member units to purchase imported water at the times and in the amounts needed, rather than at the outset of the Colorado River Project, has been an aid in solving groundwater problems.

Groundwater overdraft has also been a severe problem in Kern County. In the years prior to delivery of State Water Project water, overdraft was estimated to be between 500,000 and 800,000 acre-feet per year.[23/] Some attempt was made to mitigate this problem by the Kern County Water Agency at the time that the State Water Project was planned. Nevertheless, the present overdraft is nearly the same as that which existed prior to the annual importation of approximately 800,000 acre-feet of State Water Project water.

Unlike the Colorado River Project, the State Water Project demanded firm commitments to purchase water before construction of water transportation

facilities commenced. The agency was unable to assure purchase of water unless its constituent districts agreed. Despite the overdraft, State Water Project water was more expensive than pumped water, and the Kern County Water Agency had no power at that time to institute a pump tax which could equalize the cost. Individual users had insufficient motivation to purchase the more expensive water.

Although the agency attempted to obtain contracts with water users who were relying on local surface and groundwater sources, it was eventually forced to sell much of the water to develop previously unirrigated lands. Sales to new users did nothing to reduce excessive pumping, and the development of new land aggravated problems of water shortage during the 1976-77 drought.

Since the early 1960's, when contracts for State Water Project water were signed, the Kern County Water Agency has instituted programs, including a limited pump tax in some areas, to correct groundwater overdraft. These programs have been hampered not only by the recent drought, but also by the fact that nearly all imported water has already been allocated. Little water is left for groundwater recharge.

The importation of water itself will not reduce overdraft where financial and legal incentives are lacking. Furthermore, an inability or failure to allocate a portion of the imported water for groundwater management when the water is first available may thwart future management efforts.

4. Surface Water and Groundwater -- Management of an Interconnected Resource

Importing additional surface water does not guarantee a solution to groundwater shortages, but there is no doubt that the management of surface water and groundwater are very closely connected. Allocation of surface water

affects supply and demand for groundwater. Comprehensive management of groundwater is as important in the planning of further surface water development as surface water management is in mitigating existing groundwater problems. A transaction in Kern County involving surface water rights belonging to Tenneco West, Inc., and concurrent development of extensive groundwater extraction facilities by Tenneco illustrates the problem. 24/

The City of Bakersfield filed two lawsuits, one to condemn water rights held by Tenneco West, and one to adjudicate all rights in the Kern River, some of which were held by Tenneco West. A settlement was reached, and Tenneco agreed in 1976 to sell its surface water rights to Bakersfield.

During the time the litigation and negotiations were in progress, Tenneco West was changing 24,650 acres of land from sporadically irrigated pasture and grazing to field crops in the James-Pioneer Improvement District. Prior to 1975, consumptive water use for this land was probably in the neighborhood of 15,000 to 16,000 acre-feet annually. It now equals about 63,450 acre-feet per year. Well fields were installed to provide a reliable water supply for this land. Neighbors were distressed that more intensive farming of Tenneco's lands, coinciding with the loss of Tenneco's surface water rights, would severely increase the burden on the area's already heavily overdrafted groundwater resources.

Tenneco West has attempted to mitigate groundwater problems by installing a dual irrigation system which can deliver either surface water or groundwater to its 24,650 acres. Surface water is purchased from Bakersfield when possible, and a five-year contract to purchase water from the Kern-Tulare Water District has been signed. The ability to use surface water and the efforts to acquire it have lessened the fears of neighboring farmers. Nevertheless, irrigation needs in excess of water provided by water purchases will be met by

the dwindling groundwater resource which Tenneco West shares with other farmers in the area.

No single party is responsible for the creation of this potentially serious situation. Nevertheless, the combination of a change in land use with a loss of surface rights in a very water-short area presents the spectre of a greatly increased rate of overdraft, with serious financial consequences for everyone in the area. Management programs which coordinate the efforts of all groundwater users would provide greater security for all.

5. Conjunctive Use - Opportunities for Far-Sighted Management

An effective means of increasing the firm yield of a surface water supply without the construction of surface storage facilities is to integrate the use of surface water with groundwater through "conjunctive management."The value of conjunctively using surface water and groundwater resources has been recognized and practiced for some time as a management policy by local water agencies.

The number of recharge facilities in Central California has increased from 15 in 1940, to 261 in 1970. [25/] One of the local agencies most actively engaged in conjunctive use through groundwater recharge is the Arvin-Edison Water Storage District. [26/] The district is located in southeastern Kern County, and comprises approximately 130,000 acres. Because very little surface water exists naturally in this area, surface water is imported, primarily from the federal Central Valley Project. Water is delivered both through the Friant-Kern Canal and via the California Aqueduct and Cross Valley Canal. Only about 20 percent, or 40,000 acre-feet, of Arvin-Edison's CVP water is Class 1, or "firm", water. Actual deliveries of surface water vary greatly from approximately 10,000 to 350,000 acre-feet annually.

Through implementation of a conjunctive use program, Arvin-Edison expects to be able to increase firm water service to 180,000 acre-feet per year, without withdrawing more groundwater than has been stored in its basin. Rather than install a dual irrigation system throughout the district, as has been done in some parts of the Valley, Arvin-Edison has chosen to provide surface water only to the portion of the district for which full water service can be provided. Water is delivered to these lands either from an aqueduct or is pumped from the underground after having been stored through recharge. Approximately 52,000 acres, or about 40 percent of the district, will eventually be served. The remainder of the district will continue to rely on private, uncontrolled groundwater extraction.

Implementation of the Arvin-Edison conjunctive use program required construction of extensive project facilities. These include a 44-mile canal system, a major pumping plant, 49 booster pumping plants, and 170 miles of pressure pipeline. The district now has two spreading areas totalling 950 acres. Fifty-five district wells have been installed to recapture the stored water.

Revenue to repay project construction costs is raised from tolls levied on those receiving water service from the conjunctive use operations of the district and from general administrative and project service charges levied on land still relying on private extraction of groundwater but benefitting from district operations. Removing 40 percent of the acreage within the district from dependence upon naturally occurring groundwater resources benefits those who continue to pump by reducing the rate of groundwater overdraft and the resulting drop in water levels. Stated district policy is to equalize the cost of water to those in like situations with respect to groundwater production costs, regardless of their actual source of water.

It is more complicated to undertake conjunctive use programs at the state level. The Department of Water Resources, administrator of the State Water Project, has a two-part task in developing conjunctive use programs. It must identify those basins with a significant amount of available storage capacity which have spreading basins accessible from State Water Project conveyance facilities. In addition, unless the Department develops its own extraction facilities, it must negotiate agreements with the local water agencies which pump water from the groundwater basin in which storage is to take place and to whom, in many cases, the stored water will be sold. 27/

Problems with negotiating agreements with local agencies have proved to be the real bar to state involvement in conjunctive use programs. Although the Department is attempting to establish long-term programs in several areas, it has not yet been successful. Recently, however, it has entered into a short-term conjunctive use program with the Mojave Water Agency and the San Bernardino Valley Municipal Water District. The cooperation of these two agencies has made possible the storage of more than 22,500 acre-feet of water.

The agreements between these local agencies and the Department overcame circumstances of an unforeseen surplus of surface water which needed immediate storage, ample storage capacity in a location with relatively low need for additional water, and little immediate underground storage capacity in the area in which the water was needed in the future.

The heavy rains of the 1977-1978 winter filled most surface storage facilities throughout the State. The Kern River threatened to flood agricultural lands unless some of the water was diverted into the California Aqueduct. The State Water Project lacked storage space for this water, and the Department of Water Resources sought a location in which the water could be stored underground.

Substantial available storage capacity existed in Mojave River groundwater basins. The Mojave Water Agency was willing to participate in a conjunctive use program, but only during the next few years, since it anticipates that it will not need the increases in deliveries now included in its contract for water from the State Water Project. The 22,500 acre-feet of water stored in Mojave basins will be withdrawn in lieu of deliveries from the State Water Project over the next four years.

The San Bernardino Valley Municipal Water District intends to continue to take substantial amounts of State Water Project water, but the groundwater basins in its area are nearly full. Only 5,000 acre-feet can be stored in 1978. In the next four years, the water which would have been delivered to the Mojave Water Agency, no longer needed because of the 22,500 acre-feet in storage there, will be delivered for storage to San Bernardino instead.

The Department hopes that the Mojave-San Bernardino conjunctive use program will show that conjunctive use is economically and environmentally sound, and possible even when circumstances of storage capacity and need do not coincide. The proliferation of conjunctive use programs would ensure that excess water will be conserved for those periods when it is in greater demand.

6. Roadblocks to Management via Adjudication

Rules of civil procedure are stumbling blocks for groundwater adjudications under the existing system. Although management without adjudication is possible and often desirable, the diversity of interests in many areas has prevented comprehensive management without adjudication.

Adjudication has led to successful programs for several groundwater basins in Southern California. Procedural rules appropriate for less complex litigation can, however, effectively prevent the successful conclusion of a groundwater adjudication. The attempt to adjudicate the Mojave River Basin

illustrates the manner in which an adjudication may be defeated even though the vast majority of the parties involved agree to a stipulated judgment.

In 1966 the Mojave Water Agency filed an action to adjudicate water rights in the groundwater basin fed by the Mojave River in San Bernardino County. 28/ During the following three years the plaintiff conducted hydrological studies and negotiated a water management plan with pumpers in the area. By November 1970, 88 percent of the parties, representing approximately 95 percent of water extraction, had executed the stipulation for judgment or had defaulted. Subsequent procedural delays together with an erosion of political support for adjudication prevented the successful conclusion of the action. In 1976, the board of directors of the Mojave Water Agency requested that the case be dismissed. The cost to the agency was reported to be in excess of $500,000.

One of the most time-consuming issues in an adjudication is the determination of the parties to be included in the action. Hydrological studies provide information needed to define the area to be adjudicated, but there is no way to prevent persons within the defined area who wish to be excluded, or persons outside of the area who wish to be included, from litigating their status. This issue lends itself to dilatory tactics by those who wish to prevent any successful adjudication. Nearly two years after defendants were served with the complaint in the Mojave case, attempted interventions were still being litigated.

A secondary, but significant, problem is the identification of parties within the geographic boundaries selected. Records listing names of pumpers are rarely complete and quickly become obsolete as property changes hands. Inadequate records, plus such factors as joint ownership of property, make identification and service of parties difficult.

The hindrance posed by party determination and identification is a function of a more general problem -- the sheer number of parties involved.

Over 700 pumpers were involved in the attempt to adjudicate the Mojave River Basin. Other groundwater cases have involved over 1,000 parties. The number of groundwater extractors which would be included in an adjudication of a portion of the San Joaquin Valley would probably be even greater.

The cost of litigation which involves so many parties is great, individually to the plaintiff and cumulatively to the many defendants. Attempts to mitigate costs in the Mojave case included provisions that stipulating defendants need not answer the complaint and that discovery materials would be available but not sent to stipulating defendants. Furthermore, an agreement was reached that there would be no interference with the rights of extractors whose annual use was 10 acre-feet or less.

Delay, whether the result of coping with complex litigation or the product of dilatory tactics by those who oppose the action, is a problem in any adjudication. Dismissal is mandatory if defendants are not served within three years, or if the trial does not commence within five years after the action is filed. Delay by the opponents of the adjudication may make it impossible to meet these deadlines.

Even if dismissal can be avoided, protracted litigation may destroy any consensus previously achieved. The first three years of the Mojave adjudication were devoted to study and to negotiations with the hope of expediting the actual trial. Litigation over the parties to be included and attempts by certain interests to prevent setting a date for trial filled the following two years of the statutory period. To prevent mandatory dismissal the trial was begun with the testimony of one witness, but was continued to a later date to permit additional pretrial proceedings. During these extensive delays the political climate in the agency changed. Gradually, members of the board of directors who supported the action were replaced with those who opposed it.

Parties withdrew from the stipulation for judgment. The final blow, if any potential for an adjudication remained, was delivered by the opinion in Los Angeles v. San Fernando. This decision undermined the stipulated judgment by casting doubt upon the vitality of the mutual prescription doctrine employed in negotiating the judgment.

7. Management Efforts to Maintain a Groundwater Supply

Groundwater management has in many areas been premised upon an expectation of increasing amounts of imported water. The expectation of and demand for imported water has also been offered as a justification for the failure to manage the groundwater supply. So long as the total water supply is increasing, it is easier to postpone the difficult decision of how to allocate a finite resource. At some point, however, water supply is finite. One of the communities which is faced with the problem of a water supply which will not increase, Goleta, has found that under the present system it is difficult to avoid overdraft even when management is desired.

The major water supplier in the Goleta area is the Goleta Water District. [29/] It was organized in the 1940's to distribute the water available to Goleta from the Cachuma Reservoir. Water from Cachuma is the only imported water available in the area. A period of tremendous population expansion began shortly after the district was organized, and it soon became apparent that additional water sources were needed. A number of wells were sunk to provide the extra water.

Other major water users in the area include a mutual water company, which purchases Cachuma water from the district and which owns wells, and agricultural users who rely primarily on groundwater. By 1972, the total average demand for water exceeded the Cachuma supply plus the safe yield of the groundwater basins. It had once been hoped that State Water Project

water would be available, but by 1972 construction of the necessary conveyance structures seemed unlikely. Since the prospect of additional water supplies was dim, the district placed a moratorium on hookups and restricted its pumping to the amount it had been extracting when the safe yield had been reached. The citizens in the district's service area supported this decision by defeating an initiative which would have permitted overdraft. Furthermore, no subdivisions have been approved for the Goleta area since the moratorium was established.

In spite of community support for restricting groundwater extractions to the safe yield, two issues remain to be resolved. One is the prevention of overdraft by water users other than the district. Since the district has no power to restrict pumping by others, extractions are bound to increase unless all users participate in a program which limits extraction.

The second unresolved issue in Goleta is how the groundwater that is available should be divided among potential users. An action in the nature of declaratory relief has been filed to settle this question between the district and the landowners. Landowners claim that as overlying users they have the right to initiate a use of water at any time. The district, which as a groundwater appropriator is junior in right to overlying users, contends that the "intervention of public use" doctrine protects its right to continue to extract groundwater in the same amount as it did when total pumping reached the safe yield level. Briefly, this doctrine provides that a water user who is junior in right to other water users, but who puts the water to a public use, acquires a permanent right to the water. 30/ Damages may be available to the injured senior parties, but the potential danger to the health and welfare of the public justifies a grant of continued public use.

Whether the doctrine of the "intervention of public use" applies in the Goleta situation is a matter for determination by the court in the pending adjudication. If the doctrine does apply and damages are awarded to landowners, a new dilemma will be presented. The measure of the damage suffered is not clear, but the damages awarded might be substantial. The district will then face the problem of raising funds adequate to pay the amount awarded.

The problems of how to allocate the available water and how to distribute the financial burden of an inadequate supply obviously are not easy to resolve. As with the imposition of a program restricting groundwater extraction to the safe yield, our present system generally relies upon the laborious process of an adjudication if the parties cannot reach a settlement. A speedier, less costly alternative which encourages settlement of these difficult problems is necessary for wise groundwater use in tne coming years.

8. Technical and Legal Uncertainty Regarding Groundwater Transfers

Another problem for groundwater management is that while there is no legal restriction on groundwater transfers other than the possible claims of third parties, there are no institutional means for determining when a transfer of groundwater should be permitted. In some instances, transfers may further the reasonable and beneficial use of groundwater. Although transfers of groundwater are facilitated in several adjudicated basins, uncertainty exists in most places regarding the extent of rights to groundwater and the extent of present and future local needs for groundwater resources. Reliable data on the effect of a transfer upon these rights and needs is generally unavailable. The unsuccessful attempt by Anderson Farms Company to transfer Yolo County water to Berrenda Mesa Water District in Kern County exemplifies the problems encountered.

Anderson Farms owns or leases extensive acreage in Yolo County. It claims both riparian and pre-1914 appropriative rights to surface water from the Toe Drain, a surface source west of the Sacramento River Deep Water Ship Channel. 31/ In the past, Anderson Farms irrigated almost exclusively with surface water. Anticipating increased salinity in the Toe Drain during the drought, it installed ten large wells as an alternative source of water.

Berrenda Mesa is a 53,000-acre district which relies totally upon imported water from the State Water Project. Over half of the acreage served by Berrenda Mesa has permanent plantings. Many of these permanent crops could have been lost if the drought had continued into 1978, since insufficient State Water Project water would have been available to Berrenda Mesa.

In an attempt to avoid the loss of this $100 to $150 million investment, Berrenda Mesa initiated transfer negotiations with Anderson Farms. The two parties developed a plan under which Anderson Farms would use groundwater to some extent to reduce its surface withdrawals from the Toe Drain and, if necessary, would discharge additional groundwater into the Sacramento River. The State Water Project would credit Berrenda Mesa with water in the amount of the reduction in surface withdrawals by Anderson Farms, plus any groundwater added to the river.

Anderson Farms did not plan to reduce acreage under cultivation, but rather intended to increase groundwater extraction. The proposal was met with complaints from other groundwater users in the area. Because State Water Project facilities would be used to transport the water to Berrenda Mesa, approval of the transaction by the Department of Water Resources was required. The Department asked the State Water Resources Control Board to consider the

transfer. The Board refused to approve the transfer, citing potential overdraft, water quality and river flow problems, as well as the potential effects on nearby wells and on rights to groundwater. It noted that there was insufficient evidence to deal conclusively with many of the key issues. 32/

The fear that major groundwater transfers might be undertaken without adequate protection for local pumpers has led several counties to enact ordinances restricting groundwater export. Glenn and Butte County ordinances require any potential exporter to obtain a permit for export from the county. The county may deny a permit if it finds that the extraction would "adversely affect" the water table. Permit conditions can be imposed to protect the "health, safety, and welfare" of the people of the county. Imperial County has a somewhat similar ordinance, prompted by groundwater exports to Mexico. 33/

The Anderson Farms-Berrenda Mesa proposal draws attention to the complexity of the hydrological and legal factors involved when groundwater is included in a plan to transfer water. The costs and benefits of any transfer are difficult to assess. Some situations can be imagined in which benefits would exceed the costs. For example, a landowner using groundwater for irrigation might agree not to irrigate in order to transfer water in the amount of his normal consumptive use to another party. Institutional mechanisms should be provided to identify beneficial transfer plans as they are proposed and to facilitate these transfers, while safeguarding the interests of the area from which the water is to be exported.

E. Recommendations

1. Strong State Policy of Groundwater Resources Protection

In light of severe and extensive groundwater problems in California, the Water Rights Commission recommends that legislation be enacted to deal

with groundwater management, adjudication of groundwater rights, and conjunctive use of surface water and groundwater resources. The Commission believes that California must have a strong policy of groundwater resources protection. That policy, which recognizes the statewide interest in sound groundwater management, is stated in Section 15002 of the proposed legislation.

2. Need for Flexibility

The Commission has found that responsive legislation could take a range of forms. The first and most critical option concerns the type and degree, if any, of state involvement in groundwater management. Most other western states have integrated groundwater into state-level appropriation permit systems. California's experience with groundwater management, however, differs from that of other western states. There are a significant number of highly sophisticated, successful, local management programs already in existence in several areas of the State, carried out primarily through local water districts, and California courts have developed a very complicated framework for groundwater rights adjudication. Expert testimony at Commission workshops underscored these differences and the additional fact that groundwater basins differ greatly throughout the State. Because of the various levels and types of existing management programs and the substantial differences in groundwater basin conditions and needs in the State, the proposed legislation would allow for flexibility wherever possible. Successful implementation of the Commission's proposals will require the continued existence of strong local entities, fully capable of actively managing these valuable resources.

3. Impact on Well-Managed Areas and Areas Without Critical Problems

The basic premise of the Commission's proposed legislation is that local management, if it is properly undertaken, offers the best opportunity for

workable and effective control. Local entities are given the primary responsibility and necessary powers to develop and implement management programs. The proposed legislation provides that areas that are already well-managed will be "inactive," that is, they will not be required to have a designated groundwater management authority or a groundwater management program. The Commission also intends that proposed legislation not require any unnecessary management actions in areas without critical long-term overdraft, subsidence, or water quality problems. An area which is inactive because it is already well-managed or because it does not have critical groundwater problems may choose to have its inactive classification revoked in order, for example, to obtain the powers granted to groundwater management authorities. Section 15301 of the Commission's proposed legislation provides a petition process for groundwater management designation which has the effect of revoking an area's inactive status.

4. Local Control of Groundwater Transfers

Areas that may wish to export groundwater are likely to be classified inactive on the ground they lack critical groundwater problems. In most such areas, there is no control of groundwater export, and a groundwater appropriator could export without considering the impact on the area groundwater resources or on other groundwater users in the area. Groundwater management authorities designated or established under the legislation proposed by the Commission would automatically be granted a broad range of groundwater management powers. One important power is the power to control the export of groundwater from the groundwater management area by means of a license requirement. The groundwater management authority would control groundwater export rather than the appropriator. An export license requirement in conjunction with other groundwater management powers provides mechanisms for

spreading the benefits of export among all groundwater users in the area and for protecting the area groundwater resources.

5. Adjudication Changes

The changes in adjudication principles and procedures reflect the fact that local areas may choose the adjudication-watermaster management option, and that therefore adjudication should be procedurally facilitated and the basis for allocating rights should be conclusively defined. The courts are also the forum for testing state actions regarding local management programs and performance.

6. Synopsis of Proposed Legislation

The Commission recommends that the following legislation be enacted. In summary, the legislation provides:

a. Groundwater Resources Management Requirements

Groundwater management areas will be designated primarily on the basis of the Department of Water Resources' work pursuant to Water Code Section 12924 (S.B. 1505, Senator Nejedly, 1977). Local entities in each area without an existing, effective management operation will have the opportunity to cooperate to identify a groundwater management authority for the area, which may take any one of several forms. Alternative processes for designating a groundwater management authority for an area are provided for. The local groundwater management authority will have all necessary management powers, as included in the Groundwater Management District Act. The local authority will develop a management program for the area and perform groundwater management functions in accordance with its program. The State Water Resources Control Board will have the opportunity to evaluate and comment upon groundwater management programs, and has the authority to ask the Attorney General to seek judicial relief if management is not adequate.

b. Groundwater Management District Act

A designated groundwater management area will have the option to form a groundwater management district to act as the local groundwater management authority for the area. The powers listed in the act would also be automatically attributed to every local authority designated pursuant to Part I of the legislation.

c. Conjunctive Use of Groundwater and Surface Water

The doctrines established in case law are codified, and local groundwater management authorities have the authority to control the use of groundwater basin storage space.

d. Groundwater Rights Adjudications

The doctrine of mutual prescription is not revitalized. Instead, the basis of future groundwater adjudications is fair and equitable apportionment of rights to extract groundwater, with considerable discretion to be left in the court to avoid races-to-the-pumphouse and other problems. The rules of civil procedure, as they apply in groundwater adjudications, are improved to reduce the length and cost of adjudications.

F. Text of Proposed Legislation

The people of the State of California do enact as follows:

SECTION 1. Division 8 (commencing with Section 15000) is added to the Water Code, to read:

DIVISION 8. GROUNDWATER

PART 1. GROUNDWATER RESOURCES MANAGEMENT

CHAPTER 1. POLICY

15000. The Legislature finds and declares that the people of the State have a primary interest in the protection, management, and reasonable beneficial use of the water resources of the State, both surface water and groundwater, and that the integrated management of the state's water resources shall be attained to the extent feasible. Groundwater resources have not generally been protected and managed to the same extent as surface water resources, even though groundwater resources supply nearly half the water applied in the State in normal years, are an emergency source of supply in drought years, and are extremely important for water storage, treatment, and distribution. Groundwater resources management, coordinated with surface water resources management, is needed immediately in major portions of the State. The protection and management of the state's water resources are vital for the protection of the environment, and for the continued use and enjoyment of those resources by the people of the State.

The Legislature further finds and declares that the health, safety, and welfare of the people of the State require

that, to facilitate groundwater resources management, there be a statewide program to identify groundwater resources management areas and authorities, with due regard to surface water resources management programs; that factors of hydrology, geology, type of water use, and availability of supplemental water vary substantially from area to area within the State; that groundwater resources management can be most effectively administered by local entities within a framework of statewide policy; and that the State must be prepared to exercise its full power and jurisdiction to protect the primary interest of the people of the State in the protection, management, and reasonable beneficial use of groundwater resources if local entities do not adequately manage those resources.

15001. It is the intent of the Legislature that local groundwater management entities shall have primary responsibility for the protection and management of the groundwater resources of the State. The local groundwater management authorities in exercising any power granted in this division shall conform to the policies of this chapter.

15002. It is the policy of the Legislature that groundwater resources shall be managed to avoid any waste or unreasonable use, unreasonable method of use, or unreasonable method of extraction of groundwater; that groundwater resources shall be managed to avoid conditions of long-term overdraft, water quality and other significant environmental degradation, and subsidence except where local groundwater management authorities can justify their occurrence; that where conditions of long-term overdraft,

water quality and other significant environmental degradation, or subsidence now exist, groundwater resources shall be managed to prevent further aggravation of those conditions and programs shall be implemented to eliminate them wherever practical, except where local groundwater management authorities justify their continuance; and that groundwater resources shall be managed to use groundwater and surface water resources conjunctively wherever practical.

The Legislature, however, recognizes that in certain areas overdraft cannot presently be eliminated without causing severe economic losses and hardship. In such areas, groundwater management programs provided for in this part shall include all reasonable measures to prevent further increase in the amount of overdraft, and wherever practical shall also include any measures reasonably available to reduce overdraft.

CHAPTER 2. DEFINITIONS

15050. As used in this division:

(a) "Area" means a groundwater management area designated by the board pursuant to this part.

(b) "Authority" means a groundwater management authority designated pursuant to this part.

(c) "Available supply" means the quantity of groundwater which can be withdrawn annually from a groundwater basin without resulting in or aggravating conditions of long-term overdraft, water quality and other significant environmental degradation, or subsidence. Available supply of a groundwater basin includes the long-term average annual natural water supply,

imported water or other water which has been spread to the basin, and return flows to the basin attributable to these sources reaching the groundwater basin in the course of use.

(d) "Board" means the State Water Resources Control Board.

(e) "California Environmental Quality Act of 1970" means the California Public Resources Code, commencing with Section 21000 and as may be amended.

(f) "Conjunctive use" means the coordinated operation of a groundwater basin and groundwater and surface water supplies. "Conjunctive use" includes increased groundwater use or decreased groundwater replenishment with surface supplies in years when surface supplies are less than normal, and in years of more abundant surface supplies the increased use of surface water in lieu of groundwater, either to allow groundwater levels to recover, or to replenish artificially groundwater supplies. "Conjunctive use" also includes long-term storage of water in a groundwater basin.

(g) "Department" means the Department of Water Resources.

(h) "Extraction" means the act of obtaining groundwater, by pumping or other controlled means, but does not include the extraction of groundwater incidental to the production of oil and gas, to the production of geothermal energy, to a bona fide mining operation, or to a bona fide construction project, unless the groundwater is used or sold for a beneficial purpose.

(i) "Extraction facility" means any device or method, mechanical or otherwise, for the extraction of groundwater from within the groundwater management area.

(j) "Groundwater" means water beneath the surface of the earth within the zone below the water table in which the soil is completely saturated with water. Groundwater does not include water subject to the permit and license system administered by the State Water Resources Control Board.

> [Comment: The Board has jurisdiction over the underflow of surface streams and subterranean streams flowing through known and definite channels (Water Code Section 1200). These categories of underground water are included in the Board's appropriation permit system because extraction, especially from underflow, generally directly affects surface water flows. This definition is intended to avoid jurisdictional overlap between the Board and groundwater management authorities.]

(k) "Groundwater basin" means a geologically and hydrologically defined area which contains one or more aquifers which store and transmit water and will yield significant quantities of water to wells.

(l) "Groundwater Management District" means a groundwater management district established pursuant to Part II (commencing with Section 16000) of this division.

(m) "Groundwater rights adjudication" means the determination of substantially all rights in a groundwater basin or area subject to the adjudication.

(n) "Inactive classification" means board classification of areas for which no groundwater management authority must

be designated and no groundwater management program must be prepared.

(o) "Local entity" means: (i) any city, county, public utility, mutual water company, or general or special water district, provided any of such entities are authorized to acquire, develop, or manage water supplies; (ii) a water replenishment district and any other special district with replenishment powers and the power to levy assessments on groundwater extraction; and (iii) a watermaster appointed by a court under an adjudication covering substantially all groundwater extraction in the groundwater management area, which watermaster is vested with replenishment powers or other groundwater management functions. A district, agency, or authority, including a joint powers authority, which has member entities, and the member entities, shall each be considered to be a "local entity." "Local entity" includes a local entity with jurisdiction over an area which is within or partially within a groundwater management area or a local entity which extracts more than 10 percent of the groundwater extracted in an area.

(p) "Long-term overdraft" means the condition of a groundwater basin where the average annual amount of water extracted for a period of five years or more exceeds the long-term average annual supply of water to the basin, plus any temporary surplus.

> [Comment: "Overdraft" is defined in California case law. According to Los Angeles v. San Fernando, "overdraft occurs only if extractions from the basin exceed its safe yield plus any ... temporary

surplus." ((1975) 14 Cal.3d 199, 280.) Safe yield is calculated on the basis of a long base period, 29 years in San Fernando, for which adequate hydrological data is available and for which precipitation figures are representative. It is possible, under the case law definition, to have "overdraft" in a single year.]

(q) "Native water" means the supply of water to an area from all sources other than supplemental water and other than any return flows resulting from the use of supplemental water.

(r) "Operator" means the person who operates an extraction facility. "Operator" also means the person to whom the extraction facility is assessed by the county assessor or, if not separately assessed, the person who owns the land upon which an extraction facility is located.

(s) "Person" means federal and state agencies, local entities, private corporations, firms, partnerships, individuals, or groups of individuals whether legally organized or not.

(t) "Program" means a groundwater management program prepared for each area by a groundwater management authority pursuant to this part.

(u) "Replenishment" means spreading water over a permeable area for the purpose of allowing it to percolate to the groundwater basin, or injecting water into the groundwater basin, or otherwise adding water to the groundwater basin which without such effort would not augment the groundwater supply.

(v) "Supplemental water" means surface water or groundwater imported from outside the watershed or watersheds of basins in the groundwater management area and flood waters that are conserved and saved within the watershed or watersheds which would

otherwise have been lost or would not have reached the area groundwater basins.

(w) "Temporary surplus" means the amount of water that can be extracted from a basin, without adversely affecting the available supply of a basin, to provide storage space for natural recharge that would be lost during wet years if it could not be stored in the basin.

(x) "Water year" means October 1 of one calendar year to September 30 of the following calendar year.

CHAPTER 3. GROUNDWATER DATA

15100. The department, in cooperation with local entities, shall conduct investigations and studies to identify areas with both significant groundwater resources and significant groundwater use, to identify areas with existing groundwater or surface water management programs, to identify existing or threatened conditions of long-term overdraft, water quality or other significant environmental degradation, or subsidence in those areas, and to identify areas with significant existing and potential groundwater basin storage space.

Not later than 180 days after the effective date of this division, the department shall transmit the results of its preliminary investigations and studies to the board.

15120. The department may, in cooperation with any local entity or designated groundwater management authority, conduct investigations and studies to meet groundwater management program and performance needs of groundwater management areas.

Any such investigations or studies by the department shall be pursuant to a cooperative agreement between the department and the local entity or designated groundwater management authority. Allocation of the costs of the investigations and studies conducted pursuant to this section shall be as set forth in the cooperative agreement with substantial participation or cost sharing, or both, by the local entity or designated groundwater management authority.

[Comment: It is anticipated that although cooperative agreements may be made to carry out the requirements of Section 15400 in particular, cooperative agreements with the department may also be entered into for inactive or non-designated areas of the State.]

15130. The department shall develop and conduct a statewide program for data collection and data storage and retrieval to facilitate groundwater management planning and activities.

The department may require any local entity or designated groundwater management authority to make available to it groundwater data the entity or authority obtains, for inclusion in the statewide groundwater data storage and retrieval system.

15131. The department shall recommend minimum standards for local groundwater data programs and shall transmit its recommendations to local entities and designated groundwater management authorities from time to time.

[Comment: The department's programs and standards under Section 15130 and 15131 will apply to all areas of the State, including inactive and non-designated areas.]

CHAPTER 4. GROUNDWATER MANAGEMENT AREAS

15200. The report to the Governor and the Legislature to be submitted by the department pursuant to Water Code Section 12924, identifying groundwater basin boundaries for the State, shall establish groundwater management area boundaries for all purposes of this division unless disapproved within 100 legislative days of the effective date of this division, by a concurrent resolution of the Legislature. Further, the Legislature by statute may modify boundaries identified by the department, and the boundaries, as modified, shall be the groundwater management area boundaries for all purposes of this division.

Groundwater management areas shall be areas within which groundwater can be effectively managed and shall encompass all areas of the State with significant groundwater resources. Groundwater management area boundaries shall be based, to the extent practical, on the boundaries of local entities concerned with the management of surface water or groundwater, as well as geological and hydrological groundwater basin boundaries.

[Comment: Water Code Section 12924 provides:

> 12924. (a) The department shall, in conjunction with other public agencies, conduct an investigation of the state's groundwater basins. The department shall identify the state's groundwater basins on the basis of geological and hydrological conditions and consideration of political boundary lines whenever practical. The department shall also investigate existing general patterns of groundwater pumping and groundwater recharge within such basins to the extent necessary to identify basins which are subject to critical conditions of overdraft.

(b) The department shall report its findings to the Governor and the Legislature not later than January 1, 1980.]

15210. Not later than 180 days after the effective date of this division, the board, after notice and hearing, may recommend groundwater management area boundaries for areas encompassing basins identified by the department whose establishment as groundwater management areas was disapproved by the Legislature pursuant to Section 15200. The board's recommendations shall be consistent with concerns expressed in the concurrent resolution.

The board shall transmit its recommendations and the reasons therefore to the Legislature. Boundaries recommended pursuant to this section shall be the groundwater management area boundaries for all purposes of this division unless disapproved by statute within 100 legislative days of receipt of the Board's recommendations.

A hearing shall be held in each area considered, and the board shall fully consider the boundaries of local entities in the area concerned with the management of surface water or groundwater. The board shall by regulation establish appropriate notice requirements. Notice shall include a preliminary draft of the board's area boundary designations.

[Comment: If groundwater management area boundaries are disapproved pursuant to Sections 15200 and 15210, no groundwater management requirements will apply to the areas in question.]

15220. The board shall publish notice of designation of a groundwater management area. The board shall by regulation establish appropriate notice requirements.

15221. Any petition for a writ of mandate proceeding under Section 1094.5 of the Code of Civil Procedure to review the board's designation of a groundwater management area shall be commenced within 60 days after receipt of notice of the board action.

Failure to file the petition within 60 days shall preclude any person from challenging the board action in any administrative or judicial proceedings.

15230. Action taken by the board pursuant to this chapter does not have a significant effect on the environment and is exempt from the provisions of the California Environmental Quality Act of 1970.

15231. The provisions of the Knox-Nisbet Act, Chapter 6.6 (commencing with Section 54773) of Part I, Division 2, Title 5 of the Government Code shall not be applicable to procedures set forth in this division.

CHAPTER 5. INACTIVE CLASSIFICATION

15250. Not later than 180 days after the effective date of this division, the board, after notice and hearing, shall classify as inactive the groundwater management areas established in Section 15200 or as designated in 15210 that shall not be subject at that time to groundwater management authority designation and program requirements.

A hearing shall be held in each area considered, and the board shall by regulation establish appropriate notice requirements.

15251. The board shall classify as inactive:

(1) Groundwater management areas where, as of January 1, 1979, there is a final judgment covering substantially all groundwater extraction in the area, with reserved jurisdiction in the court.

(2) Groundwater management areas where, as of January 1, 1979, and for so long as the litigation is pending, a major portion of groundwater production in the area is the subject of litigation.

(3) Groundwater management areas where, as of January 1, 1979, area groundwater management includes a groundwater replenishment program which has eliminated or is generally progressing with the elimination of long-term overdraft, where groundwater extraction is substantially metered, and where groundwater extraction is subject to replenishment assessments.

(4) The board shall classify as inactive groundwater management areas for which the board determines groundwater management is not needed at that time.

[Comment: Inactive classification pursuant to this chapter may be made only within the time provided in Section 15250. Even though, after a period of time, it appears that an area qualifies as inactive under Section 15251 (1), (2), or (3), that area will not be classified inactive and therefore must continue to meet the program and management requirements of this division.

Inactive classification, however, can be revoked if the requirements of Section 15251 are no longer met, or if a local entity petitions and is successfully designated the groundwater management authority for an area, notwithstanding inactive classification of the area, under Section 15300.]

15260. The board shall periodically review the inactive classification of groundwater management areas. The board shall, after notice and hearing, revoke inactive classification for any groundwater management area for which the requirements of Section 15251 are no longer met.

15261. The board shall publish notice of classification of an area as inactive or revocation of inactive classification of an area. The board shall by regulation establish appropriate notice requirements.

15262. Any petition for a writ of mandate proceeding under Section 1094.5 of the Code of Civil Procedure to review the board's classification of an area as inactive, or revocation of inactive classification for an area shall be commenced within 60 days after notice of the board action.

Failure to file the petition within 60 days shall preclude any person from challenging the board action in any administrative or judicial proceedings.

15270. Action taken by the board pursuant to this chapter does not have a significant effect on the environment and is exempt from the provisions of the California Environmental Quality Act of 1970.

CHAPTER 6. GROUNDWATER MANAGEMENT AUTHORITIES

15300. If, within 180 days after a groundwater management area is established or designated or inactive classification for an area is revoked, local entities in the area cooperate to identify a responsible authority to carry out the groundwater management program and performance requirements of this act for

the area and transmit their nomination to the board, the board shall, after notice, designate the authority nominated by the local entities as the groundwater management authority for the area, unless an objection is filed by a local entity in the area with the board within 30 days after receipt of notice that the nomination has been transmitted. The board shall by regulation establish appropriate notice requirements.

Local entities in a groundwater management area may identify one of the following as the responsible groundwater management authority for the area, provided that the authority would include within its boundaries or jurisdiction all or substantially all of the groundwater management area:

(1) A local entity which is a public agency.

(2) A joint powers authority organized under Section 6502.1 of the Government Code.

[Comment: Government Code Section 6502.1 would be added to provide:

If authorized by their legislative or other governing bodies, two or more public agencies by agreement may jointly exercise the powers enumerated in Chapter 4 (commencing with Section 16200) of Part II of Division 8 of the Water Code for the purposes of carrying out the groundwater management provisions of Part I (commencing with Section 15000) of Division 8 of the Water Code.]

(3) A groundwater management district defined in Part II (commencing with Section 16000) of this division.

15301. A local entity which is a public agency having jurisdiction over all or substantially all of a groundwater management area may, within 180 days after a groundwater management area is established or designated or inactive classification

for an area is revoked, or at any time in an area classified as inactive, petition the board to designate the local entity as the groundwater management authority for the area and the board shall, after notice, designate the local entity as the groundwater management authority for the area, unless an objection is filed by a local entity in the area with the board within 30 days after receipt of notice that the petition has been transmitted.

The board shall by regulation establish appropriate notice requirements.

If a local entity successfully petitions and is designated the groundwater management authority for an area which has been classified inactive, the inactive classification for that area shall be deemed revoked.

15310. If within 180 days after a groundwater management area is established or designated or inactive classification for an area is revoked, local entities in an area do not nominate a responsible authority or a local entity does not petition to be designated to carry out the groundwater management program and performance requirements of this act, or an objection to the nomination or petition is filed with the board, the board shall determine whether one or more local entities in the area which are public agencies each covers all or substantially all of the area.

The board, after notice and hearing, shall designate one such local entity as the groundwater management authority for the area and shall certify the other such entities as alternative

designees. The board shall submit its designation and any certifications to the Legislature. The designation shall be effective unless disapproved within 100 legislative days of submission by a concurrent resolution of the Legislature. The Legislature may, by statute, identify one of the certified local entities as the groundwater management authority for the area. If no certified local entities are identified by statute within the 100 legislative day period, then, upon disapproval and failure by statute to identify a certified local entity as the groundwater management authority for the area, the provisions of Sections 15320 and 15321 shall apply.

The board shall by regulation establish appropriate notice requirements.

15320. If, pursuant to Section 15310, the board determines that no local entity in a groundwater management area which is a public agency covers all or substantially all of the area, the board shall give notice that local entities in the area shall have an additional 90 days to create a joint powers authority, to be organized under Section 6502.1 of the Government Code, which shall include within its jurisdiction all or substantially all of the groundwater management area. If such a joint powers authority is organized within the 90 days, the board shall, after notice, designate the joint powers authority as the groundwater management authority for the area.

The board shall by regulation establish appropriate notice requirements.

15321. If, pursuant to Section 15310, the board determines that no local entity in a groundwater management area which is a public agency covers all or substantially all of the area, and if no joint powers authority is organized for the area as allowed by Section 15320, then a groundwater management district, Part II (commencing with Section 16000) of this division, shall automatically be formed in the area, and shall be the designated groundwater management authority for the area.

The first board of directors for a groundwater management district formed pursuant to this section shall be appointed on a pro rata basis according to area by the Boards of Supervisors of counties whose jurisdiction is included in whole or in part within the groundwater management area within 90 days of district formation. However, each such county shall appoint at least one director.

15330. The groundwater management authority designated for an area shall have all the powers and authority of a groundwater management district provided for in Chapters 4 and 5 of Part II (commencing with Section 16200) of this division.

> [Comment: This section automatically adds the planning, management, and financing powers of the Groundwater Management District Act (Part II of this division) to any entity or joint powers authority designated the groundwater management authority for an area.]

15340. The board shall publish notice of the designation of groundwater management authorities. The board shall by regulation establish appropriate notice requirements.

15350. Any petition for a writ of mandate proceeding under Section 1094.5 of the Code of Civil Procedure to review the board's designation of a groundwater management authority shall be commenced within 60 days after notice of the designation is received.

Failure to file the petition within 60 days shall preclude any person from challenging the board's determination in any administrative or judicial proceedings.

15352. Designation of a groundwater management authority by the board pursuant to this chapter does not have a significant effect on the environment and is exempt from the provisions of the California Environmental Quality Act of 1970.

CHAPTER 7. GROUNDWATER MANAGEMENT PROGRAMS

15400. Not later than two years after a groundwater management authority is designated, the authority shall adopt a groundwater management program for the groundwater management area. Each program shall be effective upon adoption by the authority. The authority shall transmit the program to the board for evaluation and comment.

15405. The board shall formulate and adopt rules and regulations for the preparation of groundwater management programs. The rules and regulations shall conform to the policies set forth in Section 15002.

15410. A groundwater management program shall include a statement of management objectives and the factors to be considered shall include but not necessarily be limited to:

(1) The hydrological and geological characteristics of the groundwater management area.

(2) Present groundwater and surface water management programs and the status of any adjudications or contractual arrangements affecting water supply and delivery.

(3) The present and probable future availability of supplemental water supplies.

(4) Present and probable future reasonable and beneficial uses of water.

(5) The groundwater conditions that could reasonably be achieved through alternative management programs, including mitigation measures which could be taken to minimize any significant adverse environmental impact.

(6) The economic consequences of alternative management programs, including the effect of limitations on extraction.

(7) The probable future condition of groundwater resources with no additional groundwater management and the economic consequences of no additional management.

15411. A groundwater management program shall also include a plan of implementation for achieving groundwater management objectives which shall describe the actions necessary to achieve the groundwater management objectives and set a time schedule for actions to be taken.

15412. Groundwater management objectives shall conform to the policies set forth in Section 15002.

15413. Groundwater management programs shall be reviewed periodically and may be revised. Substantial revisions of programs shall be transmitted to the board for evaluation and comment, and shall be subject to all requirements and actions applicable to groundwater management programs.

15420. Upon receipt of a groundwater management program, the board shall evaluate the program to determine whether the groundwater management objectives stated in the program conform to the policies set forth in Section 15002 and whether the implementation plan will be adequate to achieve the groundwater management objectives stated in the program. The board shall notify the groundwater management authority of its conclusions and shall state the reasons for these conclusions.

At any point in its evaluation the board may give notice and hold a hearing on the program.

15430. If no groundwater management program is transmitted to the board for an area, or if a program is transmitted to the board and, after notice and hearing, is found not to conform to the policies set forth in Section 15002, or to have an inadequate implementation plan, the board may request that the Attorney General seek judicial relief. The board shall by regulation establish appropriate notice requirements.

The Attorney General, at the request of the board, shall file in the superior court an action for: (1) an adjudication to limit total groundwater extraction in the area, determine the rights to groundwater in the area, and appoint a watermaster to prepare and carry out a groundwater management program under the

continuing jurisdiction of the court, and for issuance of a preliminary injunction against increased extraction in the groundwater management area during the pendency of the adjudication; (2) imposition of an appropriate groundwater management program, and for issuance of a preliminary injunction against increased extraction in the groundwater management area until a program is prepared; or (3) other appropriate relief. An action shall be dismissed if it is shown that the groundwater management program is in conformity with the policies set forth in Section 15002.

For the purpose of venue, any action filed by the Attorney General pursuant to this section shall be deemed to be a local action.

15431. The board's request that the Attorney General file an action pursuant to Section 15430 does not have a significant effect on the environment and is exempt from the provisions of the California Environmental Quality Act of 1970.

> [Comment: It is anticipated that groundwater management authorities will comply with the requirements of the California Environmental Quality Act of 1970 in preparing groundwater management programs.
>
> The board may be able to obtain certification by the Resources Agency of its program approval and other program-related actions pursuant to Public Resources Code Section 21080.5.]

CHAPTER 8. GROUNDWATER MANAGEMENT PERFORMANCE

15500. Groundwater management authorities shall manage areas in accordance with their adopted groundwater management programs.

15510. At least every two years, each groundwater management authority shall prepare a report and transmit it to the board for evaluation and comment. The report shall detail the groundwater management authority's management actions and shall analyze and evaluate its groundwater management performance in terms of management objectives and implementation plans contained in the groundwater management program.

15520. Upon receipt of a groundwater management performance report, the board may give notice and hold a hearing on the report. The board shall by regulation establish appropriate notice requirements.

The board shall evaluate groundwater management performance by comparing performance to the management objectives and implementation plans contained in the groundwater management program for the area.

If the board determines that groundwater management performance in an area is inadequate, it shall so notify the groundwater management authority and shall state the reasons for its conclusion.

15530. If no groundwater management performance report is transmitted to the board for an area, or if a report is transmitted to the board but, after notice and hearing, performance is found to be inadequate, the board may request that the Attorney General seek judicial relief. The board shall by regulation establish appropriate notice requirements.

The Attorney General, at the request of the board, shall file in the superior court an action for: (1) an adjudication to limit total groundwater extraction in accordance with the groundwater management program for the area, determine the rights to groundwater in the area, and appoint a watermaster to manage the area in accordance with the groundwater management program, and for issuance of a preliminary injunction against increased extraction in the area during the pendency of the adjudication; (2) an order directing the groundwater management authority adequately to perform groundwater management actions according to the approved groundwater management program for the area, and for issuance of a preliminary injunction against increased extraction in the area until performance is adequate; or (3) other appropriate relief. An action shall be dismissed if it is shown that groundwater management performance is in conformity with the policies set forth in Section 15002.

For the purpose of venue, any action filed by the Attorney General pursuant to this section shall be deemed to be a local action.

15531. The board's request that the Attorney General file an action pursuant to Section 15530 does not have a significant effect on the environment and is exempt from the provisions of the California Environmental Quality Act of 1970.

PART II. GROUNDWATER MANAGEMENT DISTRICTS

[Comment: Provisions of existing water district laws were used extensively in preparing this part. The following statutes were most frequently used: Orange County Water District Act (Cal. Water Code App. Section 40-1 et seq. (West 1968, West Supp. 1978)); Water Replenishment District Act (Cal. Water Code Section 60000 et seq. (West 1966, West Supp. 1978)); County Waterworks Districts Act (Cal. Water Code Section 55000 et seq. (West 1966)). In addition, the judgment in the Upper San Gabriel Valley Municipal Water District v. City of Alhambra, Civil No. 924128, Cal. Super. Ct., Los Angeles County, January 4, 1973, was referred to.]

CHAPTER 1. INTRODUCTORY PROVISIONS

Article 1. Short Title

16000. This part shall be known and may be cited as the Groundwater Management District Act.

Article 2. General Provisions

16010. The provisions of this part apply to the management of groundwater within all groundwater management areas of the State established or designated pursuant to Chapter 4 (commencing with Section 15200) of Part I of this division.

[Comment: As provided in Section 15330 of Part I of this division, all the powers and authority provided for in Chapters 4 and 5 of this part (commencing with Section 16200) shall automatically accrue to the groundwater management authority designated pursuant to Chapter 6 (commencing with Section 15300) of Part I of this division.]

16012. The powers and duties enumerated in this part shall, except as otherwise expressly provided, be exercised and performed by the board of directors. In the event an existing local entity has facilities available and adequate to accomplish any part of the purposes of a groundwater management district, the

groundwater management district shall investigate and determine the cost of accomplishing the purpose through the existing local entity. The board of directors shall make a finding as to whether or not the purpose proposed to be accomplished by the groundwater management district can be accomplished for the best interests of the area by an existing local entity. If the board of directors finds that it would be in the best interests of the area to be benefitted, it shall so arrange for the accomplishment of the purpose by the local entity if the local entity agrees. The purpose of this section is to avoid duplication of similar operations by existing local entities and groundwater management districts.

CHAPTER 2. FORMATION

16050. A groundwater management district may be formed pursuant to the provisions of this chapter, or automatically, as provided by Section 15321 of Part I of this division.

> [Comment: Section 15321 provides for the automatic creation of a groundwater management district for an area as a final resort in the process of designating a groundwater management authority for the area. Sections 15300, 15301, 15310 and 15320 each provide an avenue for designation of an authority available before a groundwater management district is automatically formed pursuant to Section 15321.]

16055. A petition for the formation of a groundwater management district, which may consist of any number of separate instruments, shall be filed with the board of supervisors of the principal county, signed by registered voters residing within the boundaries of the area. The petition must be signed by registered voters equal in number to at least five percent of the number of

registered voters residing in the area. Where the area is situated in more than one county, the petition must be signed by at least five percent of the voters of each part of the area situated within each county. Each instrument shall designate in which county it was circulated and shall contain only the names of persons in that county.

For the purposes of this chapter only, "principal county" means the county in which the greatest portion of a groundwater management area lies.

16056. An undertaking sufficient to pay the cost of formation procedures, to be approved by the board of supervisors of the principal county, shall be filed with the petition, conditioned that the sureties shall pay the cost in case the formation of the groundwater management district is not effected.

16057. The petition shall describe the boundaries of the area and request that an election be called for the purpose of submitting to the registered voters of the area the proposition that a groundwater management district be formed and for the purpose of electing directors for the groundwater management district should it be formed.

16058. The failure of the petition to contain any of the matters required to be contained therein shall not affect the legality of the formation of the groundwater management district if it is thereafter formed.

16059. Copies of the petition shall be submitted to the clerk of each county in which the groundwater management area is situated. If the area is situated within more than one county,

the petitions submitted to the clerk of each county shall be only those petitions containing signatures of voters in that county.

16060. Within 10 days of the date of filing the copy of the petition with the county clerk of each county within which the groundwater management area is situated, each clerk shall examine the copy to determine whether the petition is signed by the required number of voters within the portion of the area which lies within the county. When each county clerk has completed the examination, each shall attach to the copy of the petition a dated certificate showing the result of the examination, and deliver the copy with the certificate to the board of supervisors of the principal county.

16061. If the board of supervisors of the principal county finds that the petition and certificates indicate the petition to be sufficient, the board of supervisors of the principal county shall fix a time for hearing thereon, not less than 60 days after the certificates have been delivered by the county clerks.

16062. The board of supervisors of the principal county shall publish one copy of said petition within each county in which a part of the groundwater management area is located, together with a notice of the time, place, and purpose of the hearing, pursuant to Section 6066 of the Government Code.

16063. At the public hearing, the board of supervisors of the principal county shall hear all evidence relevant to the advantages and disadvantages to be derived by the persons or property within the area from a groundwater management district.

16064. Within 60 days of the hearing, the board of supervisors of the principal county shall call a special election for the purpose of determining whether a groundwater management district should be formed and simultaneously for the purpose of selecting five directors for the groundwater management district if it is formed.

16065. For the purposes of the election, the board of supervisors of the principal county shall establish one or more precincts within the area, designate polling places, and appoint one inspector, one judge, and one clerk for each precinct.

16066. A notice of the election shall be published in the portion of each county which falls within the area, pursuant to Section 6061.3 of the Government Code. Publication shall be complete at least 7, but not more than 28, days prior to the date of the election. The notice of election shall describe the boundaries of the area and state that the election is for the purpose of forming a groundwater management district and for the purpose of electing five directors who will take office if the groundwater management district is formed.

16067. The provisions of the Elections Code so far as they may be applicable shall govern the election, except as otherwise provided in this part.

16068. In the election the first five directors shall be elected and the following measure shall be submitted:

"Shall a groundwater management district be formed in ... area?"

16069. The candidates shall declare their candidacy, the election shall be held and conducted, the vote canvassed, the result declared and the certificate of election issued in accordance with the provisions of the Elections Code, so far as they may be applicable, except as otherwise provided in this part. No person shall be entitled to vote at any election under the provisions of this act unless such person possesses all of the qualifications required of voters under the Elections Code.

16070. Within seven days after the election the vote shall be canvassed by the board of supervisors of the principal county. If a majority of the votes cast in the election are in favor of establishing a groundwater management district, the board of supervisors of the principal county shall declare the groundwater management district to be organized.

16071. An informality in any proceeding or informality in the conduct of the election, not substantially affecting adversely the legal rights of any citizen, shall not be held to invalidate the establishment of a groundwater management district. Any proceedings wherein the validity of the establishment is denied shall be commenced within 30 days from the date the board declares the groundwater management district to be organized. Otherwise, the organization and legal existence of the groundwater management district and all proceedings in respect thereto shall be held valid and in every respect thereto legal and incontestable.

CHAPTER 3. INTERNAL ORGANIZATION

Article 1. Board of Directors

16100. Each groundwater management district shall have a board of five directors, all of whom shall be registered electors residing within the groundwater management area and all of whom shall be elected at large.

16101. The terms of office of elective officers in all new groundwater management districts shall be determined pursuant to Section 23506 of the Elections Code.

16102. The term of office of each director subsequent to the directors elected at the formation election is four years.

16103. All vacancies on the board of directors shall be filled pursuant to Section 1780 of the Government Code. If a person elected fails to qualify, the office shall be filled as if there were a vacancy in the office. Appointed directors shall be required to run for election in the next succeeding general district election.

16104. Within 20 days after receiving a certificate of election, or being appointed, each elective officer shall take and subscribe to the official oath and file it in the office of the groundwater management district and execute the required bond.

Article 2. Board of Directors Action

16105. Within 30 days after the election of the first directors and thereafter within 30 days after each general district election the directors shall meet and organize as a board of directors and may thereupon transact any business of the groundwater management district.

16106. At its first meeting the board of directors shall provide for the time and place of its regular meetings and for the manner of calling special meetings.

16107. A majority of the board of directors shall constitute a quorum for the transaction of business.

16108. No ordinance, motion, or resolution shall be passed or become effective without the affirmative vote of a majority of the members of the board of directors.

16109. Except where action is taken by the unanimous vote of all directors present and voting, the ayes and noes shall be taken upon the passage of all ordinances, resolutions, or motions and entered upon the minutes of the board of directors.

Article 3. Officers and Employees

16112. At its first meeting the board of directors shall elect a president and a vice-president from its members. Thereafter, a president and a vice-president shall be selected at the first meeting in January of each odd-numbered year.

16113. When the president of the board of directors is absent or unable to act at any meeting of the board of directors, the vice-president shall have the power to perform all the duties of the president of the board of directors until the president of the board of directors returns to the performance of his duties.

16114. At its first meeting, or as soon thereafter as practicable, the board of directors shall appoint a secretary, treasurer, attorney, general manager, auditor, and engineer, define their duties and fix their compensation. Each shall serve

at the pleasure of the board of directors, and may employ such additional assistants and employees as they may deem necessary efficiently to maintain and operate the groundwater management district.

16115. The treasurer shall draw checks or warrants to pay demands when such demands shall have been audited and approved in the manner prescribed by the board of directors.

16116. The board of directors may consolidate any two or more of the offices of general manager, secretary, and treasurer.

16117. A director shall not be eligible for any position appointed by the board of directors.

16118. The general manager, secretary, and treasurer, and all other employees or assistants of said groundwater management district who may be required to do so by the board of directors, shall give such bonds to the groundwater management district conditioned for the faithful performance of their duties as the board of directors from time to time may provide. All bonds shall be in the form prescribed for the official bonds of county officers. The premiums on such bonds shall be paid by the groundwater management district.

Article 4. Compensation

16120. Each of the members of the board of directors shall receive for each attendance at the meetings of the board of directors fifty dollars ($50). No director should receive pay for more than six meetings in any month.

16121. The board of directors may authorize a director to receive traveling and other reasonable expenses actually incurred when performing duties for the groundwater management district other than attending board of directors meetings.

16122. The board of directors shall fix the compensation to be paid to all officers and employees.

Article 5. Conduct of Elections

16135. The provisions of the Uniform District Election Law, commencing with Section 23500 of Part 3 of Division 14 of the Elections Code, so far as they may be applicable, shall govern all general and all special groundwater management district elections, except as otherwise provided in this part.

16136. No person shall vote at any groundwater management district election held under the provisions of this act who is not a voter within the meaning of the Elections Code, residing in the groundwater management district area. If the area has been divided into divisions pursuant to Section 16152, a voter must also reside in the division of the area in which he casts his vote. For the purpose of registering voters who shall be entitled to vote at groundwater management district elections, the county clerk or registrar of voters is authorized, in any county in which part of a groundwater management district is situated, to indicate upon the affidavit of registration whether the voter is a voter of the area.

16137. In case the boundary line of a groundwater management district area crosses the boundary line of a county election

precinct, only those voters within the area and within the precinct who are registered as being voters within the area shall be permitted to vote. For that purpose the county clerk or registrar of voters is hereby empowered to provide two sets of ballots within the precincts, one containing the names of candidates for office in groundwater management districts and the other not containing the names.

Article 6. Changes in Organization

16150. The number of directors on the board of directors of a groundwater management district shall be increased upon approval by a majority of the voters of a proposition therefor submitted to them at a general or special groundwater management district election; provided, however, that there shall always be an odd number of directors on the board of directors and never less than five. If a change is made when the method of voting is by division, the number of divisions will be changed correspondingly, so that each director is elected from one division.

16151. A proposition to change the number of directors of a groundwater management district may be submitted to the voters by resolution of the board of directors or upon initiative petition signed by 20 percent of the electors in the groundwater management district and submitted at least 120 days prior to any general election.

16152. The method of election of directors on the board of directors of a groundwater management district shall be changed to election by divisions or by the groundwater management district

at large upon approval by a majority of the voters of a proposition therefor submitted to them at a general or special groundwater management district election.

16153. A proposition to change the method of election of directors on a board of directors may be submitted to the voters by resolution of the board of directors or upon initiative petition signed by 20 percent of the electors in the groundwater management district and submitted at least 120 days prior to any general election.

16154. The board of directors shall divide the groundwater management district into divisions as nearly equal in population as may be practicable whenever the method of voting is changed to voting by division or when a change in divisions is necessitated by a change in the number of directors.

16160. Positions on the board of directors created by an increase in the number of directors shall be treated as vacancies.

CHAPTER 4. POWERS

Article 1. General Powers

[Comment: The powers established in Section 16200 exceed the powers now available to any local entity, including watermasters under court jurisdiction.]

16200. The groundwater management district is hereby declared to be a corporate and political body and as such shall have the following powers:

(1) To have perpetual succession.

(2) To sue and be sued in all actions and proceedings in all courts and tribunals of competent jurisdiction.

(3) To adopt a seal and alter it at pleasure.

(4) To take by grant, purchase, gift, devise, or lease, to hold, use and enjoy, and to lease, convey or dispose of, real and personal property of every kind, within or without the groundwater management area, necessary or convenient to the full exercise of its power.

(5) Within or outside of the groundwater management area to construct, purchase, lease, or otherwise acquire and dispose of and to operate and maintain necessary waterworks and other works, treatment works, machinery, facilities, canals, conduits, wells, waters, water rights, spreading grounds, injection facilities, lands, rights and privileges useful or necessary to conserve, replenish, and manage the groundwater supplies within the area or to augment and protect the quality of the common water supplies of the area and purposes incidental thereto.

(6) To carry out the purposes of this part to commence, maintain, intervene in, defend and compromise, in the name of the groundwater management district authority or otherwise, and to assume the costs and expenses incurred by the groundwater management district in actions and proceedings now or hereafter begun to adjudicate any groundwater basin within the groundwater management area, to prevent (a) interference with water or water rights used or useful to lands within the area, (b) diminution of the quantity or deterioration of quality of the water supply of the area, (c) pollution or contamination of the water supply of

the area, (d) unlawful exportation of water from the area, or (e) interference with the water or water rights used or useful in the area that may endanger or damage the inhabitants, lands, or use of water in the area.

(7) To exercise the right of eminent domain to take any property necessary to the exercise of any of the powers of this part, except that the groundwater management district shall not have the right of eminent domain as to water, water rights, reservoirs, pipelines, water distributing systems, waterworks, or powerplants, all or any of which are already devoted to beneficial or public use.

(8) To provide for the protection and enhancement of the environment within and without the groundwater management area, and to provide, on its own or by agreement with any local entity or person, for the recreational use of the lands, facilities, and works of the groundwater management district which shall not interfere or be inconsistent with the primary use and purpose of the lands, facilities, and works by the groundwater management district.

(9) To act jointly with or cooperate with the United States or any agency thereof, the State of California or any agency thereof, any county of the State of California, districts of any kinds, public and private corporations, and any person, to carry out the provisions and purposes of this part; in such joint or cooperative activities, the groundwater management district may act within or outside of the groundwater management area.

(10) To cause charges or assessments to be levied, as provided in Chapter 5 (commencing with Section 16400) to accomplish the purposes of this part.

(11) To incur indebtedness, and to issue bonds in the manner provided in Chapter 5 (commencing with Section 16460) of this part.

(12) To make contracts for services, construction, and other purposes, employ professional and technical personnel, employ labor, and to do all acts necessary for the full exercise of all powers vested in the groundwater management district or any of the officers thereof, by this part.

(13) To do any act necessary for the common benefit of the groundwater management area and for the purpose of managing groundwater in the groundwater management area. Without being limited to the following enumerations, a groundwater management district may, for the purposes of groundwater management within the groundwater management area:

(a) Provide for the conjunctive use of groundwater and surface water resources within the groundwater management area;

(b) Store water in and recapture water from surface reservoirs or groundwater basins within or outside of the groundwater management area;

(c) Regulate the storage of water and the use of groundwater basin storage space in groundwater basins within the groundwater management area, as provided in Article 5 (commencing with Section 16300) of this chapter;

(d) Acquire water and water rights within or outside of the groundwater management area;

(e) Purchase and import water into the groundwater management area;

(f) Conserve and reclaim water within or outside of the groundwater management area and require conservation practices and measures within the area;

(g) Buy and sell water and water rights at such rates as shall be determined by the board of directors;

(h) Exchange water and water rights;

(i) Export water and control the export of water from the groundwater management area, as provided in Article 4 (commencing with Section 16260) of this chapter;

(j) Treat, inject, extract, or otherwise control water to improve and protect the quality of the groundwater supplies within the groundwater management area, including control of drainage problems;

(k) Limit extraction to respond to conditions of long-term overdraft, subsidence, water quality and other significant environmental degradation, well interference, or the threat of any of the above, as provided in Article 4 (commencing with Section 16260) of this chapter;

(l) Impose license requirements on the construction of new extraction facilities, deepening of existing extraction facilities, or reactivation of abandoned extraction facilities where license requirements do not duplicate any existing county or other license requirements;

(m) Carry on technical and other necessary investigations of all kinds and collect data necessary to carry out the provisions of this part, including, but not limited to, the requirements of Article 2 (commencing with Section 16220) of this chapter, and for this purpose the groundwater management district shall have the right of access through its authorized representative to all properties within the area;

(n) Require the registration of extraction facilities and the filing of groundwater extraction statements, as provided in Article 3 (commencing with Section 16240) of this chapter; and

(o) Fix the terms and conditions of any contract under which operators of groundwater extraction facilities within the area may agree to use water from an alternative supplemental water supply in lieu of groundwater, and to such end the groundwater management district may pay from district funds such portion of the cost of the supplemental water as will encourage the purchase and use of the supplemental water in lieu of extracting groundwater, so long as persons or property within the area are directly or indirectly benefitted by the resulting replenishment.

Article 2. Investigations and Reports; Groundwater Management Programs and Reports

16220. The groundwater management district may from time to time investigate and prepare a report on groundwater conditions and supplies in the groundwater management area. The investigation and report shall include all information and data required to implement the powers contained in this part.

16221. The groundwater management district's data collection program shall conform to the minimum standards recommended by the department pursuant to Section 15131 of Part I of this division. The groundwater management district shall transmit to the department for inclusion in a statewide groundwater data storage and retrieval system a copy of any investigations, reports, or other data the department requests.

16225. The groundwater management district shall prepare a report on groundwater supplies and conditions in the groundwater management area, including groundwater management objectives and a plan of implementation to achieve those objectives, to be transmitted to the board as a groundwater management program as required by Chapter 7 (commencing with Section 15400) of Part I of this division.

16226. At least every two years, the groundwater management district shall prepare and transmit a report to the board detailing its groundwater management actions for the preceding two years and analyzing and evaluating groundwater management performance in terms of the program management objectives and implementation plan, as required by Section 15510 of Part I of this division.

Article 3. Registration of Extraction Facilities; Groundwater Extraction Statements

16240. The groundwater management district may require extraction facilities located within the groundwater management area to be registered with the groundwater management district and, if required by the board of directors, measured with a

water-measuring device installed by the groundwater management district or at its option by the extraction facility operator. The groundwater management district may also require any new extraction facility which is constructed, existing extraction facility which is deepened, or abandoned extraction facility which is reactivated to be registered with the groundwater management district within 30 days of completion, deepening, or reactivation and, if required by the board of directors, measured with a water-measuring device.

The board of directors may exclude operators who extract a minimum of groundwater from the requirements of this section. The board of directors shall set the minimum amount. The board of directors may also exclude from the requirements of this section operators who report under Section 4999-5008 of this code, or under any duplicative reporting requirements of any local entity within the groundwater management area.

In addition to other information which the groundwater management district may require, the district shall require for each registered extraction facility information as to the operator of each extraction facility, the owner of the land upon which each extraction facility is located, and a general description and location of each water extraction facility.

It shall be unlawful to extract groundwater from any extraction facility required to be registered unless the extraction facility has been registered with the groundwater management district and, if required, has a water-measuring device affixed. Failure to register any extraction facility, as required, shall be

subject to a civil penalty not to exceed one thousand dollars ($1,000).

16245. The groundwater management district may, after notice and a hearing and based upon the findings and determinations from the hearing, require the operator of each extraction facility in the groundwater management area, until the extraction facility has been permanently abandoned, to file with the groundwater management district, by January 31 and by July 31 of each year, a statement setting forth total extraction in acre-feet of water for the preceding six-month period (excluding the month in which the statement is due), a general description or number locating each extraction facility, and the method of measuring or computing groundwater extraction. The statement shall be verified by a written declaration that it is made under the penalties of perjury. The operator of an extraction facility which has been permanently abandoned shall give written notice of the abandonment to the groundwater management district.

The board of directors may exclude operators who extract a minimum amount of groundwater from the requirements of this section. The board of directors shall set the minimum amount. The board of directors may also exclude from the requirements of this section operators who report under Section 4999-5008 of this code, or under duplicative reporting requirements of any local entity within the groundwater management area.

When a water-measuring device is permanently attached to an extraction facility, the record of extraction as disclosed by the water-measuring device shall be presumed to be accurate and

shall be used as the basis for computing the water extraction of the extraction facility in completing the groundwater extraction statement unless, after investigation by the groundwater management district, it is determined that the water-measuring device is not measuring accurately. If the groundwater management district has probable cause to believe that the extraction of groundwater from any extraction facility is in excess of the amount reported in groundwater extraction statements, or if no statements are filed covering an extraction facility, the groundwater management district may investigate the extraction of water from each such extraction facility.

When a water-measuring device is not permanently attached to an extraction facility, the board of directors may establish reasonable methods to be used in computing the amount of water extracted by extraction facilities.

16246. Any person who fails to file a groundwater extraction statement, if required, or any person who injures, alters, removes, resets, adjusts, manipulates, obstructs or in any manner interferes or tampers with, or procures, or causes, or directs any person to injure, alter, remove, reset, adjust, manipulate, obstruct or in any manner interfere or tamper with any water-measuring device affixed to any facility as required by this part so as to cause the water-measuring device improperly or inaccurately to measure and record water extraction, or any person who with intent to evade any provision or requirement of this part files with the groundwater management district any false or

fraudulent groundwater extraction statement shall be subject to a civil penalty not to exceed one thousand dollars ($1,000).

Article 4. Groundwater Extraction Ordinances

16260. A groundwater management district may, by ordinance adopted by the board of directors after notice and hearing, adopt and enforce a program to regulate groundwater extraction to respond to conditions of long-term overdraft, subsidence, water quality and other significant environmental degradation, well interference, or the threat of any of the above.

16261. Upon the conclusion of the hearing and upon the basis of the hearing record, the board of directors may adopt a groundwater extraction program by ordinance if there is substantial evidence tending to show that regulation in the form, manner, and degree and for the period proposed is necessary to respond to conditions of long-term overdraft, subsidence, water quality and other significant environmental degradation, well interference, or the threat of any of the above.

A groundwater extraction ordinance may, for example: Require a license to use all existing groundwater extraction facilities; require a license to use all new groundwater extraction facilities; impose spacing requirements on new or reactivated extraction facilities; control or suspend groundwater extraction at designated points; or require a license to export groundwater from the groundwater management area.

16262. Any ordinance adopted pursuant to this article is effective upon adoption. Within ten days after its adoption,

the ordinance shall be published pursuant to Section 6061 of the Government Code. From and after the publication, violation of a requirement of a program of regulation adopted pursuant to this article shall be subject to a civil penalty of not to exceed one thousand dollars ($1,000).

Article 5. Groundwater Storage Agreements

16300. The groundwater management district has the authority to control groundwater storage rights within the groundwater management area, and to enter into groundwater storage agreements, subject to the provisions and limitations of Part III (commencing with Section 16500) of this division.

CHAPTER 5. FINANCES

Article 1. Groundwater Extraction Charges

16400. Groundwater extraction charges levied pursuant to this article are declared to be in furtherance of groundwater management district activities to manage groundwater resources in the groundwater management area which are necessary for the public health, welfare, and safety of the people of the State. Groundwater extraction charges are authorized to be levied for the benefit of all who rely directly or indirectly upon the groundwater resources of the area. Groundwater extraction charges are authorized to be levied upon the extraction of groundwater from all groundwater extraction facilities within the groundwater management area, except the extraction of water stored pursuant to a groundwater storage agreement or other storage commenced before the designation of a groundwater management authority for the

area, and except upon the use of supplemental water as an alternate source in lieu of groundwater, pursuant to Section 16200(13)(o).

16401. Groundwater extraction charges may be levied for the purpose of purchasing water to replenish the groundwater supply in the groundwater management area. Groundwater extraction charges may also be levied for the purpose of paying the costs of initiating, carrying on, and completing any of the powers, projects, and purposes for which the groundwater management district is organized.

Groundwater extraction charges levied for the purpose of purchasing water to replenish the groundwater supply in the groundwater management area shall be levied only within a zone or zones of the groundwater management district which will benefit from the recharge of groundwater basin supplies or the distribution of imported water in such zone or zones. Such zones shall be known as zones of benefit.

16402. Before the levy of groundwater extraction charges, the board of directors shall, after notice and hearing, find and determine on the basis of the hearing record and any investigations or reports prepared pursuant to Article 2 (commencing with Section 16220) of this chapter, the amount of water which is required and can be purchased for the replenishment of groundwater supplies in the area for the ensuing water year and the sum of money necessary for that purpose, and the activities required to prepare or implement the groundwater management program for the area and to initiate, carry on, or complete any of

the other powers, projects, and purposes for which the groundwater management district is organized and the sum of money necessary for those activities.

The board of directors shall determine the need and desirability of levying a groundwater extraction charge for the purpose of purchasing water to replenish the groundwater supply in any zone or zones of benefit, or for the purpose of paying the costs of initiating, carrying on, and completing any of the powers, projects, and purposes for which the groundwater management district is organized.

16403. The board of directors of a groundwater management district may establish zones of benefit within the groundwater management district. Resolutions shall describe the boundaries of the zones of benefit.

The board of directors may amend zone of benefit boundaries by annexing property to or by withdrawing property from a zone, or may divide a zone into two or more zones. Resolutions shall describe the boundaries of the amended or divided zones.

16404. The groundwater extraction charge rate shall be uniform for groundwater extraction within each zone of benefit in the groundwater management area.

16405. Groundwater extraction charges shall be calculated on the basis of groundwater extraction statements required to be filed pursuant to Article 3 (commencing with Section 16240) of Chapter 4 of this part.

16406. The board of directors may exclude operators who extract a minimum amount of groundwater from the requirements of

this article. The board of directors shall set the minimum amount.

16407. Where rights have been finally determined in an action brought to adjudicate substantially all of the rights in a groundwater basin or area and such rights have been limited to the available supply thereof, or where pursuant to any such judgment an agency other than the groundwater management district has the responsibility for providing replenishment for such groundwater extractions, whether the rights have been determined individually or in the aggregate, extraction of groundwater pursuant to such rights shall be exempt from any extraction charges or portion thereof levied or used for the purpose of purchasing or otherwise providing replenishment water, or for the acquisition, construction, operation or maintenance of property or facilities to provide groundwater replenishment.

16408. The total of the groundwater extraction charges levied in any year shall not exceed an amount of money found to be necessary to purchase water to replenish the groundwater supply in the groundwater management area, plus an amount of money found to be necessary to pay the costs of initiating, carrying on, and completing any of the powers, projects, and purposes for which the groundwater management district is organized.

16409. If any operator of an extraction facility fails to pay the groundwater extraction charge when due, the groundwater management district shall charge interest at the rate of one percent each month on the delinquent amount of the groundwater extraction charge.

16410. The superior court of a county in which the groundwater management district lies may issue a temporary restraining order prohibiting the operator from operating any extraction facility upon the filing by the groundwater management district with the court of a petition setting forth that the extraction facility has not been registered with the groundwater management district, if required, or that the operator is delinquent in the payment of a groundwater extraction charge. The temporary restraining order shall be returnable to the court on or before ten days after its issuance.

The court may issue and grant an injunction restraining and prohibiting the operator from operating any extraction facility when it is established at the hearing that the operator has failed to register the extraction facility with the groundwater management district, if required, or that the operator is delinquent in payment of groundwater extraction charges.

The right to proceed for injunctive relief is an additional right to those which may be provided elsewhere in this part or otherwise allowed by law. The groundwater management district shall not be required to provide an undertaking or bond as a condition to granting injunctive relief.

Article 2. Basin Equity Assessments

[Comment: The powers contained in this part, including the financing provisions, are available for use but are not required to be used. For example, basin equity assessments have only been used where:

1. Demand for water from the basin is greater than the available groundwater supply under balanced conditions for the year, so that extraction must be limited to equal the supply of groundwater available in a given year; and

2. Supplemental sources are available and cost more than groundwater; and

3. Greater groundwater production is allowable from some parts of the basin than from other parts.]

16420. Basin equity assessments and extraction requirements and limitations levied upon and applied to operators within the groundwater management area are declared to be in furtherance of groundwater management district activities to manage surface water and groundwater resources within the groundwater management area which are necessary for the public health, welfare and safety of the people of the State. Basin equity assessments and extraction requirements and limitations are authorized to be levied for the benefit of all who rely directly or indirectly upon the groundwater resources of the area. Basin equity assessments and extraction requirements and limitations are authorized to be levied upon and applied to all extraction with the groundwater management area, except the extraction of water stored pursuant to a groundwater storage agreement or other storage commenced before the designation of a groundwater management authority for the area, and except the use of supplemental water as an alternate source in lieu of groundwater, pursuant to Section 16200(13)(o).

The proceeds of the basin equity assessments levied and collected shall be used to equalize the cost of water to all operators within the groundwater management area not excluded from

the levy of the basin equity assessment, exclusive of any other charges levied by the groundwater management district, and to acquire water to replenish the groundwater supplies of the groundwater management district.

16425. The board of directors shall give notice and hold a public hearing each year to determine the need to levy a basin equity assessment and to establish extraction requirements and limitations within the groundwater management area for the ensuing water year.

16426. Subsequent to the hearing, the board of directors may find and determine for the ensuing water year:

a. The basin extraction percentage, which is the ratio that all groundwater extracted within the groundwater management area bears to all water to be obtained by operators within the groundwater management area from supplemental water as well as from groundwater within the area for the ensuing water year;

b. The basin equity assessment to be levied against all operators in an amount per acre-foot of groundwater extracted for all purposes;

c. Extraction requirements or limitations to be applied to operators within the groundwater management area during the ensuing water year. Such requirements and limitations shall be on the amount of groundwater extracted, expressed as a percentage of the total of groundwater extracted within the groundwater management area and water obtained from supplemental water sources.

During the ensuing water year, upon notice and hearing, the basin extraction percentage, the basin equity assessment, or any extraction requirement or limitation may be modified by the groundwater management district. Any modifications shall be effective on the date established by the board of directors and the groundwater management district shall give notice of the modification 10 days prior to the effective date thereof.

16427. The board of directors may exclude operators who extract a minimum amount of groundwater from the requirements of this section. The board of directors shall set the minimum amount.

16428. The groundwater management district shall, prior to the beginning of each water year, give notice to each operator within the groundwater management area which shall state:

a. The amount of the basin equity assessment per acre-foot of water extracted;

b. The basin extraction percentage; and

c. The extraction requirement or limitation upon the operator.

16429. Each operator within the groundwater management area not excluded from the levy of the basin equity assessment and the extraction requirements and limitations shall file with the groundwater management district on or before the end of each water year, a basin equity assessment report in the form prescribed by the groundwater management district setting forth the total amounts of groundwater extracted within the groundwater management

area and water obtained from supplemental sources during the preceding water year by the operator. The statement shall be verified by a written declaration under penalty of perjury.

16430. In the event that the operator has been required by the groundwater management district to extract or has in fact extracted more groundwater from within the groundwater management area than the equivalent of the basin extraction percentage, the operator shall pay to the groundwater management district, on or before the end of the water year, an amount determined by the number of acre-feet of groundwater which the operator extracted from within the groundwater management area in excess of the acre-foot equivalent of the basin extraction percentage multiplied by the basin equity assessment rate.

In the event that the operator has been required by the groundwater management district to extract or has in fact extracted less groundwater from within the groundwater management area than the equivalent of the basin extraction percentage, the operator, on or before the end of the calendar year, shall be paid by the groundwater management district an amount determined by the number of acre-feet by which the groundwater extraction of the operator is less than the acre-foot equivalent of the basin extraction percentage multiplied by the applicable basin equity assessment rate.

16431. If any operator shall fail to pay the basin equity assessment when due, the groundwater management district shall charge interest at the rate of one percent each month on the delinquent amount. If any operator within the groundwater manage-

ment area fails to file a basin equity assessment report on or before the end of the water year, the groundwater management district shall, in addition to charging interest, assess a penalty charge against the operator in the amount of 10 percent of the amount found by the groundwater management district to be due.

16432. The groundwater management district may, from time to time, require other necessary reports from operators in the application of the basin equity assessment procedures provided in this article.

Upon good cause shown an amendment to any report required under this article may be filed or a correction of any report may be made within six months after the report is filed with the groundwater management district.

Article 3. Taxes

[Comment: Although the effect of the Jarvis-Gann Initiative on water district taxing powers has not been finally determined, this article has been included to ensure the groundwater management districts have a full range of financing possibilities.]

16440. To the extent that the revenues resulting from water charges authorized by Article 1 (commencing with Section 16400) of this chapter and from management charges authorized by Article 5 (commencing with Section 16470) of this chapter are inadequate to meet the obligations and expenses therein set out, the board of directors may cause a tax to be levied, as herein provided, sufficient to pay the expenses and charges of the groundwater management district.

16441. The board of directors shall determine the amounts necessary to be raised by taxation during the water year and shall fix the rate or rates of tax to be levied which will raise the amounts of money required by the groundwater management district and within a reasonable time previous to the time when the board of supervisors is required by law to fix its tax rate, the board shall certify to the board of supervisors a statement in writing containing an estimate of the minimum amount of money required to be raised by taxation during the water year for all purposes of the groundwater management district.

16442. Where the groundwater management district includes land within more than one county, the groundwater management distict may direct the board of supervisors of each county to levy the necessary tax on landowners within those counties.

16443. The board of directors shall direct that at the time and in the manner required by law for the levying of taxes for county purposes, such board of supervisors shall levy, in addition to such other tax as may be levied by such board of supervisors, at the rate or rates so fixed and determined by the board of directors, a tax upon the real property and improvements thereon, but not on personal property within the groundwater management district, and it is made the duty of the officer or body having authority to levy tax within each county to levy the tax so required.

16444. It shall be the duty of all county officials charged with the duty of collecting taxes to collect the tax

provided for herein in time, form and manner as county taxes are collected, and when collected pay the same to the groundwater management district.

16445. All taxes provided for herein shall be a lien on the real property and improvements upon which the tax is levied, and their collection may be enforced by the same means as provided for in the enforcement of liens for state and county taxes.

Article 4. Revenue Bonds

16460. Subject to the limitations of this article, revenue bonds, including refunding revenue bonds, may be issued by a groundwater management district under the Revenue Bond Law of 1941, Chapter 6 (commencing with Section 54300), Part 1, Division 1, Title 5 of the Government Code.

16461. For the purpose of this chapter, the term "enterprise", as used in the Revenue Bond Law of 1941, shall be limited to and shall include only those works or property authorized to be acquired, constructed, improved, or financed by a groundwater management district pursuant to this division or any other applicable provision of law.

16462. All revenue bonds issued by a groundwater management district under this chapter may be certified as legal investments pursuant to Division 10 (commencing with Section 20000) of this code in the manner and to the extent provided in Sections 54433 and 54434 of the Government Code.

Article 5. Management Charges

16470. Management charges may be imposed on landowners within the groundwater management district for benefits received

by landowners from improved groundwater management and planning, for the purpose of paying the costs of initiating, carrying on, and completing any of the powers, projects, and purposes for which the groundwater management district is organized.

16471. Before the levy of management charges, the board of directors shall, after notice and hearing, find and determine the portions of the groundwater management area to be benefitted by management and planning activities, the need for management charges for the purpose of paying the costs of these activities, and the amount of the charges to be levied.

16472. Management charges shall not exceed $10 per acre per year for each acre of land, or $10 per year for each parcel of land less than an acre within the groundwater management area. The board of directors may exclude parts of the groundwater management area or may establish schedules varying the management charge according to the likelihood that the land shall benefit from improved groundwater management.

16473. A seven percent penalty on any management charge shall accrue where any such charge remains unpaid on the first day of the month before the month in which the board of supervisors of the county in which the groundwater management district or any part thereof is located is required by law to levy the amount of taxes required for county purposes.

16474. The amount of the unpaid management charge plus the penalty shall be added to the tax levied annually upon the land subject to the management charge. The amount of the unpaid

management charge plus the penalty shall constitute a lien on that land as of the same time and in the same manner as does the tax lien securing such annual taxes.

16475. At least 15 days before the first day of the month in which the board of supervisors of each affected county is required by law to levy the amount of taxes required for county purposes, the board of directors shall furnish in writing to the board of supervisors and the county auditor of each affected county a description of each parcel of land within the groundwater management district upon which a management charge remains unpaid, together with the amount of the unpaid management charge plus penalty on each parcel of land.

Article 6. Short-Term Borrowing Power

16480. A groundwater management district may borrow money and incur indebtedness as provided in this article by action of the board of directors and without the necessity of calling and holding an election in the groundwater management district.

16481. Indebtedness may be incurred pursuant to this article for any purpose for which the groundwater management district is authorized to expend funds.

16482. Indebtedness incurred under this article shall be evidenced by short-term notes payable at stated times fixed by the groundwater management district. The maturity of short-term notes shall be not later than five years from the date of issuance. Short-term notes shall bear interest at a rate not exceeding eight percent per annum payable annually or semi-annually. Short-term notes shall be general obligations of the groundwater management

district payable from revenues and taxes levied for purposes of the groundwater management district other than the payment of principal and interest on any bonded debt of the groundwater management district.

16483. Short-term notes shall not be issued pursuant to this article in any fiscal year in an amount which, when added to the interest thereon, exceeds 85 percent of the estimated amount of the uncollected revenues and taxes of the groundwater management district which will be available in the fiscal year for payment of short-term notes and the interest thereon.

PART III. CONJUNCTIVE USE OF GROUNDWATER AND SURFACE WATER

CHAPTER 1. POLICY

16500. It is the policy of the Legislature to encourage the conjunctive use of groundwater and surface water resources, including the storage of water in groundwater basins for later extraction for beneficial use and the spreading of water to replenish groundwater supplies as part of management of the water supplies of groundwater management areas.

CHAPTER 2. IMPLEMENTATION OF CONJUNCTIVE USE

Article 1. Right to Use Groundwater Basin Storage Space

16501. The groundwater management authority has the authority to control all groundwater storage rights within the groundwater management area as provided by this part. The authority shall have the power to determine the amount of groundwater basin storage space available and to allocate groundwater basin storage space within the area as provided by this part.

16502. The groundwater management authority or other persons pursuant to an agreement with the groundwater management authority shall have the right to store water in a groundwater basin of the groundwater management area as provided in this part.

16503. In addition to spreading or injecting water into an underground basin or delivering water to extractors in lieu of extracting groundwater for the purpope of replenishing the groundwater supplies, water may be stored in a groundwater basin:

(a) Directly by artificial means, such as by spreading water in stream channels or other spreading areas or injecting water through the use of injection wells.

(b) By delivering water to extractors in lieu of their extracting groundwater.

[Comment: Storage of water in a groundwater basin can occur in a number of ways:

1. By spreading or otherwise using supplemental water for direct replenishment of a basin.

2. By spreading or otherwise using native water for direct replenishment of a basin.

3. By return flow to a groundwater basin attributable to supplemental water reaching the ground in the course of use, as a result of over-irrigation, for example.

4. By return flow to a groundwater basin attributable to native water reaching the ground in the course of use.

5. By delivery of supplemental water to extractors in lieu of their extracting groundwater.

6. By delivery of native water to extractors in lieu of their extracting groundwater.

The first and second are included in Section 16501 (a), and the fifth and sixth are included in Section 16501 (b), as storage for which a groundwater storage agreement must be made. If, in the second and sixth storage situations, some or all of the water that replenishes a basin would have replenished the basin naturally, questions on the right to extract that water may be raised by groundwater extractors or diverters in the area which may or may not be accounted for in a groundwater storage agreement.

The third method, but not the fourth, is recognized in Los Angeles v. San Fernando ((1975) 14 Cal.3d 199, 261). The importer of supplemental water has a priority right to recapture return flows from that water since those return flows add to the groundwater supply. This third type of recapture right would be recognized in an adjudication of rights in a groundwater basin.

Two issues are left to separate agreement. One is the issue of how replenishment with treated wastewater will be dealt with. The second is which agency in a chain of agencies involved in importing supplemental water used for replenishment would be the importer for purposes of this part.]

16504. No compensation shall be paid for use of groundwater basin storage space.

[Comment: Notwithstanding this section, Section 16513 provides that a groundwater storage agreement may provide for the reasonable sharing of administrative expenses of the groundwater management authority attributable to administration of the storage operations under the agreement.]

Article 2. Groundwater Storage Agreements

16510. All groundwater basin storage by a person, other than the groundwater management authority in the area, shall be conducted pursuant to a groundwater storage agreement between that person and the groundwater management authority as provided in Section 16512. Nothing in this part shall impair any groundwater basin storage program which commenced before the effective date of this Act.

16511. In allocating the use of groundwater basin storage space, the groundwater management authority shall give priority to the reasonable water supply needs of the area overlying the basin and the area historically supplied by the basin's water supply and to replenishment of the basin pursuant to a management program. Any remaining groundwater basin storage space shall be available for the use and benefit of other users outside of the groundwater management area.

16512. Groundwater storage agreements shall include, but not be limited to:

(1) The quantities and term of groundwater storage right.

(2) A statement of the relation of the right to other groundwater storage rights.

(3) Delivery rates, schedules, and procedures for storing and extracting water.

(4) Terms and conditions as may be reasonably necessary to protect the water supply of the groundwater management area and to prevent injury to persons extracting water from the area, such as limitations on the quality of the stored water so as not to degrade unreasonably the quality of the groundwater in the area.

(5) The procedures for calculating losses in stored water and any other losses or special costs, damages, or burdens to the extent caused by the groundwater storage, to the extent they are compensable.

16513. A groundwater storage agreement may provide for the reasonable sharing of administrative expenses of the groundwater management authority in connection with groundwater storage operations in the groundwater management area conducted pursuant to the agreement.

16514. If, upon application by any person to enter into a groundwater storage agreement for the benefit of users inside or outside of the groundwater management area, the groundwater management authority fails to enter into a groundwater storage agreement within six months of receipt of the application, the groundwater management authority's inaction shall be subject to judicial review pursuant to Section 1094.5 of the Code of Civil

Procedure. The court shall have the power to order the groundwater management authority to enter into a fair and equitable groundwater storage agreement, subject to appropriate terms and conditions, in accordance with the provisions of this part, unless it finds that the authority's inaction is based on substantial evidence that inadequate storage space is available to meet the reasonable water needs given priority pursuant to Section 16511, or that the agreement would unreasonably impair water supplies of the groundwater management area.

Article 3. Extraction of Stored Water

16530. The amount of water stored in a groundwater basin shall be subject to recapture by the person who stored the water or pursuant to an agreement with the person who stored the water. It shall be presumed that the person who stores water in a groundwater basin intends to recapture that water from the basin.

16531. Losses of native water caused by storage shall be allocated to the stored water to the extent the water causes the loss, unless otherwise provided in an applicable groundwater storage agreement. The determination of native water losses caused by storage shall be subject to judicial review pursuant to Section 1094.5 of the Code of Civil Procedure.

16532. The right to recapture stored water shall be exercised so as to avoid unreasonable injury to other groundwater extractors.

Article 4. Right to Replenish and Manage Local Groundwater Supplies

16540. Use of a groundwater basin for the purpose of replenishing and managing local groundwater supplies shall have priority over the use of a basin for storage of water. The person placing the replenishment water in the basin shall have the authority to manage the use of that water.

PART IV. GROUNDWATER RIGHTS ADJUDICATION

CHAPTER 1. DETERMINATION OF RIGHTS TO GROUNDWATER

Article 1. Basin or Area With Long-Term Overdraft

16700. (a) In a groundwater rights adjudication, where there is a long-term overdraft, rights to the use of the available supply of groundwater shall be allocated primarily on the basis of recent use. Extraction of groundwater based on a pueblo right and extraction to recapture imported water stored in a groundwater basin directly or indirectly shall have priority over all other rights. No right shall be reserved for any prospective overlying use unless the prospective overlying user has, prior to the filing of the complaint in the adjudication, obtained a declaratory judgment that establishes that right.

(b) The court shall determine the period of recent use to be used.

(c) The court may consider factors in addition to recent use to avoid placing inequitable or undue burdens on any party, including but not necessarily limited to:

(1) Cessation of or reduction in groundwater extraction for which filings are made with the board pursuant to Sections 1005.1 through 1005.4 of this code.

(2) Cessation of or reduction in groundwater extraction required by a groundwater management authority pursuant to this division.

(3) Extreme hardship or other equitable factors.

16701. (a) The court may enjoin all extractions in excess of the available supply, may require all extractions in excess of the available supply to be reduced over a period of time to the available supply, or may allow the groundwater to be mined for a period of time with eventual reduction to available supply.

(b) All groundwater right holders, except holders of a pueblo right or a right to recapture imported water stored in a groundwater basin directly or indirectly, shall share proportionately in any aggregate reduction in extractions, subject to Section 16700(c). Where a public use of groundwater has intervened, the public use shall share proportionately in the burdens of any such aggregate reduction, and the public user may provide for continuing its rate of use only by purchase or condemnation.

16702. The court may impose a physical solution on groundwater right holders in order to:

(1) Avoid waste of water or damage to the supply without unreasonably or adversely affecting the rights of any party; or

(2) Avoid loss of substantial investment or the necessity of substantial expenditure, without imposing a significant burden on any party, provided that any use of supplemental water must comply with the service area integrity requirements that attach to those supplies.

Article 2. Basin or Area Without Long-Term Overdraft

16750. (a) In the determination of rights to groundwater in a groundwater rights adjudication of a basin or area which is not in a condition of long-term overdraft, rights to groundwater shall be allocated first for extraction of groundwater based on a pueblo right and for extraction to recapture imported water stored in a groundwater basin directly or indirectly, then for extraction for overlying uses on a correlative basis, and then for extraction for appropriative uses on a first in time, first in right basis, subject to any prescription which may have occurred.

(b) A declaratory judgment may be obtained to establish prospective overlying use.

(c) Determination of the priorities in time among appropriative uses shall be made by comparing the total amounts of groundwater each appropriator extracts for appropriative uses for each calendar year.

CHAPTER 2. GROUNDWATER RIGHTS ADJUDICATION RELATED TO GROUNDWATER PROGRAM AND PERFORMANCE ENFORCEMENT

16800. In a groundwater rights adjudication initiated pursuant to Section 15430 or 15530 of Part I of this division, the area encompassed by the groundwater rights adjudication shall be the designated groundwater management area. The parties included in the groundwater rights adjudication shall be the persons and local entities within the groundwater management

area who extract or claim a right to extract groundwater, except, at the discretion of the plaintiff, extractors taking only minimal amounts of water.

CHAPTER 3. RULES OF PROCEDURE FOR GROUNDWATER ADJUDICATIONS

Article 1. In General

16900. Except as provided in this chapter, all proceedings in a groundwater adjudication shall be in accordance with the rules contained in the Code of Civil Procedure.

Article 2. Selection of Judge

16905. In a groundwater adjudication, a judge of any superior court of a county within which a portion of the groundwater adjudication area lies shall be disqualified to sit or act. The chairperson of the Judicial Council shall assign a judge to hear the action. The judge assigned shall preside in all proceedings, including all pre-trial matters related to the adjudication.

16906. Section 170.6 of the Code of Civil Procedure shall not apply in groundwater adjudications.

[Comment: Section 170.6 of the Code of Civil Procedure establishes the procedure for peremptory challenge of a judge.]

Article 3. Change of Venue

16910. Section 394 of the Code of Civil Procedure shall not apply in groundwater adjudications.

[Comment: Section 394 of the Code of Civil Procedure provides mandatory change of venue in cases involving a county, city, or local agency.]

Article 4. Reference to Board

16915. A petition to the court to refer a groundwater adjudication to the board for investigation and report of physical facts, pursuant to Section 2001 of this code, shall not be submitted later than six months after the date of the notice issued pursuant to Section 16922.

Article 5. Service of Complaint and Proof of Claim

16920. (a) The plaintiff in a groundwater adjudication may request that any investor-owned or municipal utility providing electrical power in the adjudication area supply the names and addresses of all customers within the area who are supplied power to operate well pumps as reflected in the utility records.

(b) A utility which receives a request as set forth above shall be obligated to furnish the information specified. The plaintiff shall be liable for the reasonable cost incurred by the utility in complying with the request. The utility shall incur no civil liability by reason of its compliance with this section.

16921. Subject to the provisions of Section 16938, the plaintiff shall include as named parties in the action all persons or entities known, or who with reasonable diligence can be determined, to own or operate a well within the adjudication area. Such an action shall not be subject to dismissal for failure to join indispensible parties. All named parties shall be served with summons and complaint in accordance with the Code of Civil Procedure.

16922. The plaintiff shall, simultaneously with serving the complaint upon known pumpers, prepare and issue a notice setting forth the following:

(a) The fact that a complaint has been filed and a description of the groundwater adjudication area contained therein;

(b) That all claimants of present or future rights to use groundwater are required to file a proof of claim with the court and with the plaintiff within six months from the date of the notice unless they have been served with a complaint in the pending adjudication, in which case they shall be required to appear as required by law;

(c) The date prior to which the claims must be made;

(d) The means by which access to materials relating to groundwater hydrology may be obtained, pursuant to Section 16924;

(e) The fact that filing a claim shall be deemed to be an answer to the complaint;

(f) The means by which a copy of the complaint may be obtained, pursuant to Section 16925;

(g) If the plaintiff has elected pursuant to Section 16938 that pumpers extracting five acre-feet per year or less shall not be deemed indispensable parties, a statement that only those pumpers who wish to protect a right to extract more than five acre-feet annually shall be required to file a claim.

16923. The notice shall be published at least once a week for 12 consecutive weeks, commencing with the date of notice, in all newspapers of general circulation published in each county in which any part of the groundwater adjudication area is situated. The notice shall be printed in each newspaper in the same size type as used by that paper for feature articles.

16924. The plaintiff shall make available to persons or entities intending to file a claim all materials developed or obtained by plaintiff relating to the groundwater geohydrology of the adjudication area stated in the complaint. The plaintiff may choose whether to send copies of these materials to interested persons or entities or to make the material available for inspection and copying during regular business hours at the business address of the plaintiff or at the office of the plaintiff's attorney.

16925. The plaintiff shall, upon request, send to persons or entities intending to file a claim a copy of the complaint. In such case, the claimant may elect, in lieu of filing a proof of claim, to appear in the action in the same manner as any named party.

16926. The proof of claim filed by each claimant to groundwater within the adjudication area shall include the following information to the extent known:

(a) The name and post office address of the claimant and of the claimant's attorney, if the claimant is represented by counsel.

(b) The quantity of groundwater extracted and the method of measurement used by the claimant and of the claimant's predecessor in interest in each preceding year; provided, that if the period of such taking exceeds five years, the claimant is not required to state such quantities for any period greater than the preceding five years. These quantities shall not be determinative of the award of rights in the final judgment of the adjudication.

(c) The location (sufficient for identification) of each source through which groundwater has been extracted, and if any person or entity other than the claimant filing the proof claims any interest in one of these sources or the right to extract water therefrom, the name or names, so far as known, of such other person or entity.

(d) A general description of the purpose to which the water is put and the area in which the water is used.

(e) Any claims for increased or future use of water.

(f) Any other facts which tend to prove the claimant's right to water.

16927. Any person or entity within the groundwater adjudication area who has not appeared if served with a complaint in a groundwater adjudication or who does not submit a proof of claim to the court and to the plaintiff by the required date shall be foreclosed from further assertion of rights to groundwater in that area. Exceptions shall be made only upon a showing of lack of actual notice or extreme hardship, accompanied by a proof of claim, not more than six months after the original

deadline. If the plaintiff has elected, pursuant to Section 16938, that pumpers who extract five acre-feet per year or less be deemed not to be indispensable parties, pumpers who do not file may continue to extract up to five acre-feet per year.

Article 6. Small Users

16938. Upon plaintiff's election, persons or entities who extract not more than five acre-feet of water annually shall not be considered indispensable parties. Pumpers who are not indispensable who wish to protect a right to extract more than five acre-feet annually may intervene in the groundwater adjudication.

Article 7. Preliminary Injunction

16940. Upon a showing of long-term overdraft, the court in a groundwater adjudication may issue a preliminary injunction prohibiting increased pumping. Bulletins or other reports of department studies indicating that a long-term overdraft exists shall be admissible and shall constitute prima facie evidence of the overdraft. All other relevant evidence shall also be admissible. The court shall determine the terms of the preliminary injunction. Where appropriate, the court may permit each pumper annually to extract groundwater in an amount equivalent to the maximum extraction by that pumper during any one year in the previous five year period. The terms of the preliminary injunction shall not be determinative of the award of rights in the final judgment of the adjudication. No bonds shall be required for the issuance of a preliminary injunction. Nothing herein contained shall impair or limit the broad equitable powers of the court.

Article 8. Lis Pendens

16945. The court shall order a lis pendens, giving notice of the initiation of groundwater adjudication proceedings, to be recorded in the office of the recorder of the county or counties in which the groundwater basin, groundwater management area, or other area is situated. The lis pendens may describe the area included within the action by means of a perimeter description or by reference to sections, townships and ranges. The lis pendens shall include the names of all parties in the action. It shall also state that all landowners claiming present or future rights to extract groundwater, and their successors in interest, will be bound by the adjudication. If small users have been exempted pursuant to Section 16938, this fact shall be noted. Where appropriate, the notice shall be recorded after a preliminary injunction on groundwater extraction as defined in Section 16940 has been imposed, and the notice shall include the terms of the injunction. If, during the course of the litigation, the boundaries of the adjudication area are changed, the lis pendens shall be recorded at that time for the property in the area included, and expunged for the area excluded. Additional parties named in the action shall also be included. Except as provided above, a lis pendens giving notice of a groundwater adjudication shall not be expunged until final judgment in the adjudication is rendered.

Article 9. Stipulation to Judgment

16950. In recognition of the complexity of the issues to be litigated in a groundwater adjudication and the costs of

litigation to all parties, every effort shall be made to encourage a settlement by the parties.

16951. Defendants who have joined in a stipulation to judgment with the plaintiff shall not be required to file an answer to the complaint in order to protect their right to water as set forth in the proposed stipulated judgment. A withdrawal from the stipulation after service of the complaint, if not accompanied by an answer to the complaint, shall constitute a default. The rights of parties who have not joined in the stipulation shall be determined as they would be in the absence of any such stipulation, unless the court imposes a physical solution upon all parties.

16952. Each stipulation to judgment shall clearly set forth the conditions which shall be met before the stipulation is filed with the court. Parties who have joined the plaintiff in a stipulation which has been filed may not withdraw from that stipulation, except when the court finds there is good cause for withdrawal. A stipulation may be made and filed by a corporation or public agency without the necessity of appearing through counsel.

16953. Discovery materials, motions, and all other pleadings filed in the action which do not relate directly to the status of the stipulation need not be served upon stipulating parties. All such documents upon request shall be made available to stipulating parties for inspection and copying. Parties who wish to inspect or copy these materials may do so at

the business address of the plaintiff, or office of the plaintiff's designee or attorney, as specified by plaintiff.

Article 10. Discretionary Dismissal

16965. Section 583 of the Code of Civil Procedure shall apply in groundwater adjudications, except that all dismissals pursuant to 583 (b) shall be discretionary with the court. The court shall dismiss the action at the time specified or at any later time only when the court finds that delay is the result of willful failure to prosecute the action.

[Comment: Section 583(b) of the Code of Civil Procedure requires mandatory dismissal of an action which has not been brought to trial within five years of the date of filing.]

Article 11. Physical Solution

16970. The court shall have the power to impose a physical solution upon the parties in a groundwater adjudication.

Article 12. Judgment Binding on Successors

16975. The judgment in a groundwater adjudication shall be binding upon the parties to the action and all their successors in interest, including but not limited to heirs, executors, administrators, assigns, lessees and licensees and upon the agents and employees of all these persons, and upon all landowners or other persons claiming rights to extract groundwater from within the area of adjudication.

Article 13. Continuing Jurisdiction

16980. The court shall have continuing jurisdiction to modify or amend a final judgment in a groundwater adjudication to meet the demands of changed circumstances. Whenever

appropriate, the judge who heard the original action shall preside over subsequent actions or motions to modify or amend.

Article 14. Designees for the Receipt of Process

16985. (a) Every party to a groundwater adjudication shall, within 30 days after the time limit for an appeal from a final judgment has expired, nominate a designee for service of all pleadings under the continuing jurisdiction of the court. Such designee may be counsel for the party, or an officer or employee of a public agency designated by title only, or the party to the action, or other corporate or private person. The nomination must be filed with the court within this time, accompanied by the information as set forth in (b), (c), and (d) below.

(b) If a natural person is designated, such person must reside within the State. The designee's complete business or residence address shall be filed, as well as a statement by the designee of willingness to serve.

(c) If an entity other than a natural person is designated, it must have an office or offices within the State. The complete address of its office or offices where it is willing to be served with process, and the name of each person at each such office whom it authorizes to receive process, shall be provided. A statement by the designee of willingness to serve must also be filed.

(d) If a party nominates itself as designee, the information required in (b) and (c) above, as applicable, must

be provided to the court. No statement of willingness to serve is necessary.

16986. A party may change the identity of its designee at any time by submitting to the court a new nomination complete with the information required in Section 16985.

16987. A designee may file with the court a signed and acknowledged written statement of resignation. The authority of the designee to receive process for the party to the adjudication shall thereupon cease. The court shall notify the designating party of the resignation.

16988. If a natural person who is a designee dies, resigns, or no longer resides in the State, or if a corporate designee resigns, ceases to do business within the State, or no longer has offices within the State, the party to the adjudication shall nominate a successor forthwith. Section 286 of the Code of Civil Procedure shall not apply after a designee for service has been nominated pursuant to Section 16985 (a).

> [Comment: Section 286 of the Code of Civil Procedure provides that when an attorney dies, is suspended, or ceases to act, further proceedings will not be permitted until the adverse party requests by written notice that the party represented appoint a new attorney.]

16989. All motions or other pleadings may be served by mail upon the designees on file with the court, and such service shall fulfill all notice requirements.

FOOTNOTES TO CHAPTER V

1. Assembly Interim Committee on Water, California Legislature, Groundwater Problems in California 48 (Vol. 26, Assembly Interim Commmittee Reports No. 4, December 1962).

2. California Department of Water Resources, Bulletin No. 118, California's Ground Water 115, 121 (1975).

3. The State Water Project's California Aqueduct into the San Joaquin Valley is now complete. As future area of origin and Southern California service area demands increase, additional supplies will be needed to provide continuing contract supplies to the San Joaquin Valley. The Department of Water Resources proposes to meet these new water needs with new surface and groundwater storage facilities and a Delta transfer facility.

4. United States National Water Commission, Water Policies for the Future 243 (1973).

5. Cal. Water Code Sections 104, 105 (West 1971).

6. Cal. Water Code Sections 12922, 12922.1 (West 1971).

7. Unless otherwise indicated, all data summarized in the following material is taken from the following sources or from Department of Water Resources background computations for those sources: California Department of Water Resources, Bulletin No. 118, California's Ground Water (1975); Bulletin No. 160-74, The California Water Plan Outlook in 1974 (1974); and The 1976-1977 California Drought, A Review (1978).

8. The 24 percent for groundwater users covers only the naturally occurring groundwater which consists of average annual natural recharge of 5.2 million acre-feet and average annual overdraft of groundwater in storage of 2.2 million acre-feet. Actual groundwater use also includes 7.6 million acre-feet of deep percolation of applied water (mostly surface water) which is then pumped from the groundwater basin. This is considered as a reuse of applied water and is not included in net supply. Total groundwater extraction is thus (5.2 + 2.2 + 7.6) = 15.0 maf per year. The estimated average annual applied water demand at the 1972 level was 37.44 maf, and 15 maf is 40 percent of that figure.

9. California Department of Water Resources, Bulletin No. 3, The California Water Plan 206 (1957).

10. Pasadena v. Alhambra, 33 Cal. 2d 908, 207 P.2d 17 (1949).

11. Los Angeles v. San Fernando, 14 Cal.3d 199, 537 P.2d 1250, 123 Cal. Rptr. 1 (1975).

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

13. Hardin, "The Tragedy of the Commons", Science, Vol. 162, No. 3859 (1968).

14. Id. at 1244.

15. The University of California Agricultural Issues Task Force, Agricultural Policy Challenges for California in the 1980's 9, 10, 16 (1978).

16. Cal. Water Code Section 40-1 et seq. (West 1968).

17. Upper San Gabriel Valley Municipal Water District v. City of Alhambra, Civil No. 924128, Cal. Super. Ct., Los Angeles County, January 4, 1973.

18. Relevant portions of the California Coastal Act are as follows: Cal. Pub. Res. Code Sections 30103, 30222, 30231, 30250, 30255, 30300, 30600 et seq. (West 1977).

19. Cal. Pub. Res. Code Sec. 30106 (West 1977).

20. California Coastal Commission Appeal Nos. 104-77, 114-77, 124-77, 125-77, 197-77, 375-77, 388-77, 399-77, 406-77 through 428-77, 481-77.

21. The information on well interference was obtained from the following sources: Interview with David Barber, Water Resources Control Board, June 13, 1978; interviews with Edwin Ritchie, Department of Water Resources, June 13 and 15, 1978; interview with Lyle Rose, Office of the County Counsel, Placer County, June 13, 1978; Water Resources Control Board Decision 1470; Ordinance No. 220 N.S., City of Grass Valley; Letter, undated, from the Town of Fairfax to the Department of Water Resources and response by the Department of Water Resources, dated June 3, 1977.

22. Material on Southern California was drawn from these sources: Krieger and Banks, "Groundwater Basin Management", 50 Cal. L. Rev. 56 (1960); L. Schelhouse, P. Zimmerman, J. Milliman, D. Shapiro and L. Weschler, The Market Structure of the Southern California Water Industry, prepared for Office of Water Resources Research, U.S. Department of the Interior, (1974); Cal. Water Code App. Sec. 35-1 et seq. (West 1968).

23. Material on Kern County was derived from these sources: S. Pyle and G. Ribble, Groundwater Recharge in Kern County, Kern County Water Agency, (1977); S. Pyle, "Groundwater Management in Kern County", in Eleventh Biennial Groundwater Conference 13 (1977); 2 Department of Water Resources, "Standard Provisions for Water Supply Contract", Bulletin 141, The California State Water Project Water Supply Contracts (1965); Cal. Water Code App. Sections 99-1 et seq. (West 1968 and West Supp. 1978).

24. Information regarding the Bakersfield-Tenneco West negotiations and the development of Tenneco property was obtained from the following sources: telephone interviews with Stuart Pyle, November 6, 1978; Edward Tiedemann, November 6, 1978; Paul Enns, November 7, 1978; William Balch, November 13, 1978, and December 18, 1978; Thomas Stetson, November 15, 1978 and December 18, 1978; Leeds, Hill, Jewett, Inc., Report on Establishment of Zones of Benefit, prepared for the Kern County Water Agency (September, 1977); Bookman-Edmonston Engineering Inc., Report on Feasibility of a Project for Acquisition and Operation of an Irrigation Distribution System for James-Pioneer Improvement District of North Kern Water Storage District (September, 1978).

25. Ford, R. "Ground Water Use in California", 31 California Geology 247 (1978).

26. Material on the Arvin-Edison Water Storage District conjunctive use program was obtained from an unpublished memo entitled "The Arvin-Edison Water Storage District Project" provided by the Arvin-Edison Water Storage District. For examples of other recharge programs in the San Joaquin Valley, see Martin, L. "Consolidated Irrigation District" and Pyle, S. "Groundwater Recharge in Kern County" in Groundwater Symposium: Recharge and Regulation (University of California Cooperative Extension and Fresno Agribusiness Steering Committee, eds., 1978).

27. Information regarding attempts to develop conjunctive use programs for State Water Project water and the Mojave-San Bernardino program in particular were derived from the following sources: An interview with Verne Cline of the Department of Water Resources on June 5, 1978, an interview with Marci Steinberg of the Department of Water Resources to the Mojave Water Agency dated May 3, 1978; letters from the Department of Water Resources to the San Bernardino Valley Municipal Water District dated May 15, 1978, and June 2, 1978; and Department of Water Resources, Bulletin No. 118, California's Ground Water (1975).

28. The material on the attempted Mojave adjudication was obtained from the following sources: Pleadings submitted in Mojave Water Agency v. Abbey, et al., No. 130759, San Bernardino County Superior Court; Marable, "M.W.A.: Lots of Planning, Little Produced", The Sun Telegram, Jan. 26, 1976 at Section B; Cal. Civ. Proc. Code Sections 581, 583 (West 1976).

29. The information on the Goleta groundwater situation was obtained from the following sources: Robert Goodwin, counsel for the Goleta County Water District, in two telephone interviews, April 27, 1978, and May 25, 1978; Robert Jones, in a telephone interview, November 29, 1978.

30. The doctrine of intervention of public use is discussed in the following cases: Peabody v. City of Vallejo 2 Cal.2d 351, 377-80, 40 P.2d 486 (1935); City of Lodi v. East Bay Mun. Utility Dist. 7 Cal.2d 316, 345, 60 P.2d 439 (1936); Hillside Water Co. v. Los Angeles 10 Cal.2d 677, 688-89, 76 P.2d 681 (1938); City of Pasadena v. City of Alhambra 33 Cal.2d 908, 920, 207 P.2d 17 (1949).

31. Information regarding the Anderson Farms Company-Berrenda Mesa Water District proposed transfer was derived from the following sources: Cal. State Water Resources Control Board Decision No. 1474 (September 22, 1977); Staff Summary for Hearing, In the Matter of Alleged Waste, Unreasonable Method of Use or Unreasonable Method of Diversion of Water by Anderson Farms Company (August 25, 1977); Engineering Staff Analysis of Record Export of Groundwater from Yolo County to Kern County (September 21, 1977).

32. Cal. State Water Resources Control Board Decision No. 1474 at 14-15 (September 22, 1977).

33. Glenn County Ordinance No. 672 (1977); Butte County Ordinance No. 1859 (1977); Imperial County Code Sec. 56200 et seq.

DECEMBER 19, 1978

COMMENTS ON THE FINAL REPORT

OF

THE GOVERNOR'S COMMISSION TO REVIEW
CALIFORNIA WATER RIGHTS LAW

IRA J. CHRISMAN, MEMBER

The above titled report is the product of intensive study, indepth research and time consuming effort on the part of both the members and the staff of the "Governor's Commission To Review California Water Rights Law." Given the differences of philosophical views, areas of interest together with areas of concern inherent within the Commission membership, it became apparent at an early date that unanimity of opinion would be impossible to achieve. With this in mind and with no acrimony whatsoever, the Commission members themselves agreed that the completed report would represent the majority point of view but not necessarily the opinion of each member as to each recommendation.

With the work of the Commission completed and the report moving to publication, I desire to add some comments and express a few personal concerns.

Despite statements to the contrary it is important to bear in mind that the Commission has not expressed opposition nor does it oppose further orderly water resource development in California.

While the Commission's assignment was to review water rights and not necessarily the water resources and water requirements of the State, failure to do so is regarded by many as a weakness in the report not to address itself to the practicalities of providing adequate quantities of water to meet the State's ever increasing needs.

A significant number of witnesses appearing before the Commission and in prepared statements called for the implementation of the "California Water Plan" as detailed in Bulletin No. 3 of the Department of Water

Resources and adopted by the legislature in 1959. The State Water Project, a part of the California Water Plan, approved by the voters in a State-wide election in 1960, has only its initial phases completed. This project, with contractual commitments of 4,230,000 acre feet, is presently delivering approximately one-half of that amount. A strong plea is made for the completion of the State Water Project in order that water deliveries will be available to meet all of the contractual commitments which were solemny executed between the State of California and thirty-one contracting agencies who are paying the full cost of their share of the physical facilities even though a number have yet to receive water. I would also note that based upon the accepted sanctity of such contracts land was brought into production and an economy developed in anticipation that supplemental water would be available.

Along with other important needs for water in California, the value of an adequate supply for agriculture, the State's largest industry, should not be underestimated. Agriculture contributes in excess of nine billion dollars annually to the economic well being of California and its contribution to the National balance of trade accounts for about 12 to 14 percent of the total. Certainly the good health of agriculture impacts significantly upon the financial sector as well as upon the financial integrity of California.

Much has been said about the value and importance of the conjunctive use of water. However, it is a truism that without a supplemental supply of water a conjunctive program would be impossible to implement.

An early decision of the Commission in the area of groundwater was to stress management as opposed to adjudication. The recommendations place the primary responsibility for management and control at the local level. Studies are presently under way to detail boundaries of proposed groundwater management areas. These studies are under the direction of the Department of Water Resources. Ultimate designation of such areas will be a function of the State Water Resources Control Board. At the moment there is significant concern expressed as to a precise definition of "local control." Many have indicated that given the role of the State in this area, approval of the concept of local management and control is viewed

as actually being State control.

Though it was explained on a number of occasions that the Department of Water Resources was in the process of doing a study on the costs of implementing the proposed program, the question of costs in this area surfaced frequently and is a matter of substantial concern.

A considerable degree of apprehension was noted among those who expressed fear that an effort would be made to change the established schedule of priorities.

In closing these comments and observations I would suggest that I have spent a good part of my life in assisting others, throughout the State, meet their needs in areas of water resource development, flood control, water conservation and the many other related fields involving water.

I sincerely believe however, with due consideration given the respect I have for the members of the Commission with whom I have served, that were these recommendations actually implemented such action will further complicate the already complex existing water laws of California and could well be a deterrent to those who are or will be responsible for meeting the future water needs of California.

Respectfully submitted,

Ira J. Chrisman, Member,
Governor's Commission To Review
California Water Rights Law

MINORITY REPORT ON THE SUBJECT OF RIPARIAN RIGHTS

The Commission's recommendations do not, as some have urged, lay waste to the doctrine of riparian rights long recognized in California. However, two of the recommendations affecting riparian rights would appear to lead to undesirable ends.

The Commissions' Recommendations.

In the chapter on Certainty, the Commission recommends the addition of Section 2769.5 to the Water Code to authorize the court in a statutory adjudication to "quantify riparian rights in the decree" and then to "accord unexercised riparian rights priorities lower than those it accords to active uses of water if necessary to secure the reasonable beneficial use of water within the meaning of California Constitution, Article 10, Section 2."

Then in the chapter on Efficiency, the Commission recommends adding Section 1746 to the Water Code making it possible to transfer any water right determined under a court decree in a statutory adjudication, which would include those rights originally derived from riparian status.

Nature of Riparian Rights.

Riparian rights to the use of water pertain only to those parcels of land abutting the watercourse. A riparian user does not have a right to any specific amount of water, but has a correlative share in the natural flow of the stream in common with the other riparians on the stream. The riparian right is limited to use upon the riparian parcel (and only to that portion of the

parcel within the watershed of the stream), is subject to the "reasonable, beneficial use" limitation of Article 10, Section 2, of the California Constitution, and is subject to being diminished as portions of the riparian parcel are "severed" from the stream by transfers without reservation of rights.

Thus, although the extent of the riparian right is not "quantified" in the sense of being fixed absolutely to a certain number of acre feet or cubic feet per second, the exercise of the right is limited to a correlative share of natural flow, to use upon the riparian parcel, and to reasonable, beneficial uses.

Since the riparian rights are, generally speaking, entitled to the first priority on the stream, they can be seen as preserving to the lands through which the stream naturally flows the first right to make beneficial use of the natural flow of that stream.

To the extent that potential riparian uses are not exercised, the flow of the stream is available to preserve instream values and, potentially, the appropriations from the stream, in the order of their priorities.

Criticism of Commission Recommendations

A. Assigning Unexercised Riparian Rights Priorities Lower Than Other Active Uses of Water in a Statutory Adjudication.

This recommendation embodies four basic flaws.

First, it attributes a certain wisdom to the current degree of exercise of the riparian right and "freezes" the riparian right at its current useage. Suppose, however, that sometime after the decree in the stream adjudication has been entered cropping patterns

change favoring irrigation, or increased irrigation, of the riparian lands; or that seasonal flooding of the riparian land becomes necessary to provide habitat for important waterfowl populations; or that a fish hatchery becomes necessary to preserve fish population; or that riparian land is converted to an urban or industrial useage critical to the economy requiring increased water useage. Are we so wise now that we should preclude later exercise of riparian rights for such socially and economically valuable purposes?

One might argue that, if socially or economically valuable, the uses will be supported elsewhere. But is this the best policy? Allocations of water to lands removed from the stream, especially if remote, require a substantial investment of other resources which are becoming increasingly overburdened. Energy is in great demand. Canals and power lines criss-cross the countryside, creating special burdens on farmers, transportation interests, natural values, urban planners, and perhaps others. There is wisdom in providing the first opportunity for changing or emerging uses of water to the lands contiguous to the supply.

Secondly, establishing lower priorities for unexercised riparian uses will surely create a "race to the pumphouse" to enlarge the exercise of riparian uses whenever a stream adjudication is imminent. The history of water rights law in California and elsewhere enforces this conclusion.

Thirdly, the goal sought to be achieved by this recommendation is greater <u>certainty</u> on the assumption that lack of certainty is somehow inhibiting either the riparian owner, other junior users, or the administration of water rights. There was competent testimony before the Commission, however, that there is considerable knowledge as to

the extent of riparian claims on the streams most important to current water useage and development in California, brought about through contractual arrangements with the riparians, previous stream adjudications, and by competent investigations (See, e.g., testimony of Gleason L. Renoud, December 8, 1977, Stockton, California).

Finally, in the three California appellate court decisions dealing with the subject, the courts have concluded that the attempts to assign lower priorities to unexercised riparian rights in statutory adjudications was improper. (See In Re Waters of Soquel Creek Stream System (1978) 79 Cal. App. 3d 682, In Re Waters of Long Valley Stream System (1978) 84 Cal. App. 3d 140 [hearing granted by the California Supreme Court on October 18, 1978], both of which rely heavily upon the earlier California Supreme Court decision in Tulare Irrigation District v. Lindsay Strathmore Irrigation District (1935) 3 Ca. 2d 489). Since the California Supreme Court has granted a hearing in the Long Valley case, some new law on this subject may be made in the near future. However, for the reasons stated above, the Commission's recommendation should not be pursued; rather, legislation specifically precluding the assignment of lower priority to unexercised riparian rights in statutory adjudications would be preferable.

B. Transferability of "Adjudicated" Riparian Rights.

There are additional reasons why riparian rights, once adjudicated, should not be transferable from the riparian lands or, at least, why such transfers should be limited geographically.

In the first place, as noted previously, encouraging expansion of riparian useage (to avoid loss of priority) will adversely impact upon the yield of water development projects and upon existing and

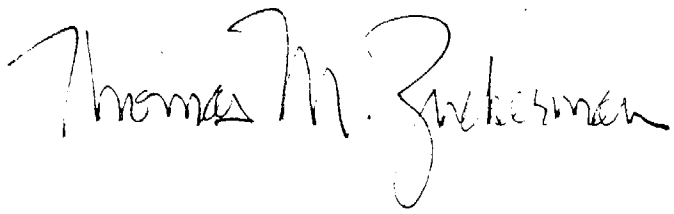
future appropriations from the stream. Allowing transferability from the riparian parcel will create additional economic incentives to such expansion in useage.

Secondly, allowing riparian rights to be severed from the riparian land and sold to other, perhaps remote, users may encourage premature or unwise conversions in useage of riparian lands. It is not inconceivable that the value of the transferable water rights may greatly exceed the combined value of the land and the otherwise non-transferable riparian rights. This could encourage, for instance, a sale of the riparian-derived rights and a conversion to ground water (thereby increasing the demands on limited ground water supplies), otherwise undesirable conversions of farm land to urban uses served from another water source, or abandonment of agricultural or other uses important to the local economy (with attendant social disruptions). Although it is certainly not totally avoidable, it is best to avoid where possible allowing the economic and social health of any area to be dictated by the self interest of the individual, especially where such a basic natural resource as water is concerned. Although in economic terms there may be an overall balance when the local farmers sell their water rights to remote users creating new economies, perhaps using the proceeds to retire in a grand manner to a resort community, society has to deal with the potential disruptions created, for instance, by the closing down of the cannery which relied upon the vegetables formerly grown on the land from which the water rights were transferred.

Thirdly, the Commission's recommendation may not be consistent with the so-called "area of origin" statutes which create a preference for useage within the area in which water originates.

Since the Commission elected not to consider any changes in the "area of origin" statutes it is doubly important that the Commission's recommendations not be susceptible of interpretation as being intended to modify the important policies of those statutes.

These objections to the transferability of adjudicated water rights which originated as riparian rights (and which would be as applicable to other types of water rights) could be largely obivated by including in the recommended statute (proposed Water Code Section 1746) a further restriction upon transfers of adjudicated rights to other users within the "area of origin", or requiring a finding that significant adverse impacts upon local economic or social values would not result from the transfer.



APPENDIX

List of Staff Background and Issues Papers

1. M. Archibald, "Appropriative Water Rights in California" (May 1977).
2. A. Schneider, "Groundwater Rights in California" (July 1977).
3. C. Lee, "Legal Aspects of Water Conservation in California" (August 1977).
4. D. Anderson, "Riparian Water Rights in California" (November 1977).
5. C. Lee, "The Transfer of Water Rights in California" (December 1977).
6. A. Schneider, "Legal Aspects of Instream Water Uses in California" (January 1978).

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