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Special Project: Irrigation Districts

Irrigation Districts in the Changing West—An Overview

by

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SPECIAL PROJECT: IRRIGATION DISTRICTS*

IRRIGATION DISTRICTS IN A CHANGING WEST—AN OVERVIEW

John D. Leshy**

I. INTRODUCTION AND BACKGROUND

Laws governing the development, allocation, and use of water have held great importance for the Western United States since the California gold rush helped lay the foundation for much of Western water law.¹ In the century and a third since then, federal and state laws dealing with water have repeatedly been modified to accomodate to evolving needs. One accommodation made relatively early was in response to a perceived need for local communal organizations to develop, allocate, and deliver water to rural settlers for agricultural use. The development of such organizations after the gold rush tracked the previous development of such institutions in the early Spanish domination of the Southwest,³ the Mormon settlements in Utah,³ and in various irrigation-based societies around the world.⁴

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^{1.} See, e.g., Irwin v. Phillips, 5 Cal. 140, 63 Am. Dec. 113 (1855); I S. WIEL, WATER RIGHTS IN THE WESTERN STATES § 72 (3d ed. 1911); I WATERS AND WATER RIGHTS §§ 18.1, 39.1 (R. Clark ed. 1967).

^{2.} See, e.g., 4 R. SWENSON, WATERS AND WATER RIGHTS § 340 (R. Clark ed. 1970).

^{3.} Id., § 345.1; see also W. Hutchins, The Community Acequia: Its Origin and Development, 31 S.W. HIST. Q. 261, 271 (1928).

^{4.} See generally A. MAASS & R. ANDERSON, AND THE DESERT SHALL REJOICE: CONFLICT, GROWTH AND JUSTICE IN ARID ENVIRONMENTS 1-10, 365-400 (1978). For an interesting discussion

Legally, these local organizations took somewhat different forms among the Western states, but they were generally characterized under state laws as either private (such as mutual water companies or investor-owned corporations operating as public utilities) or public (such as arms of municipal or county governments or special governmental districts).⁵ Among the public organizations, municipal and county water supply districts were common, since they had counterparts in the more humid regions of the United States. Special governmental districts were, however, a somewhat different breed, and it is these districts (embracing entities with various labels which, for simplicity's sake, we refer to generically as "irrigation districts"⁶) which provide the focus of this project.

Irrigation districts are a very early example of what has emerged in more recent years as an accelerating trend—the formation of special governmental entities outside the framework of local municipal or county governments. While special districts have proliferated in recent decades with scarcely a serious debate,⁷ a century ago the reverse was true. Yet even then, because water resource development was considered of such central importance to the development of the arid and semi-arid West, the idea that government could play a key role was readily, if not always eagerly, accepted. Thus the settlement of the Western states gave the nation not only some early models of the now usually routinely accepted special governmental district,⁸ but also some early tests of the constitu-

of whether irrigation-based societies have an inherent tendency toward despotic rule, compare K. WITTFOGEL, ORIENTAL DESPOTISM - A COMPARATIVE STUDY OF TOTAL POWER (1957) with Fuller, Irrigation and Tyranny, 17 STAN. L. REV. 1021 (1965). Professor Fuller, who grew up in the Imperial Valley in California in the early days of the Imperial Irrigation District, speaks with feeling about the sense of community engendered by the need for mutual cooperation to bring the desert soils under cultivation. Id. at 1021-22.

^{5.} See, e.g., C. CORKER, GROUNDWATER LAW AND MANAGEMENT AND ADMINISTRATION 247-55 (Background Study No. 6 for U.S. Nat'l Water Comm'n, 1971); 4 R. SWENSON, *supra* note 2, at §§ 341, 345; W. HUTCHINS, H. SELBY & S. VOELKER, IRRIGATION ENTERPRISE ORGANIZATIONS 7-11 (U.S. Dep't of Agriculture Misc. Cir. No. 934, 1953).

^{6.} Although it is impossible to fashion an exact workable definition for "irrigation districts," this study addresses primarily special governmental districts which have agricultural water supply as a basic purpose. This study does not embrace water supply functions of local governments such as city or county water agencies, but rather political subdivisions created by state law with autonomous governing boards separate from traditional local governments like city councils or county boards of supervisors.

^{7.} See, e.g., J. BOLLENS, SPECIAL DISTRICT GOVERNMENTS IN THE UNITED STATES 2-15, 246-63 (1957); Advisory Commission on Intergovernmental Relations, The Problem of Special Districts in American Government 1-3 (1964). But see infra text accompanying notes 129-31.

^{8. 4} R. SWENSON, supra note 2, at § 344; see also THE PROBLEM OF SPECIAL DISTRICTS IN AMERICAN GOVERNMENT, supra note 7, at 1 n.l. Irrigation districts were not a totally unique development; their precursors included special districts formed to build and maintain levees and to drain wetlands for agricultural use (usually called "reclamation districts"). See, e.g., Hagar v. Board of Supervisors, 47 Cal. 222 (1874); I S. WIEL, supra note 1, at §§ 1356-1357 (3d ed. 1911).

tionality of such districts.9

Although special governmental districts today fulfill a dizzying array of functions,¹⁰ water development districts remain among the most important, particularly in the West.¹¹ Such districts distribute, in fact, about one-half of all water used in the West,¹² even though the acres actually irrigated in these districts is somewhat less than a third of all the acres irrigated in the West.¹³ Table 1 shows the historical trend of growth in

10. Among them, fire protection, mosquito control, highways, railroads, bridges, tunnels, airports, parking, ports, libraries, education, cemeteries, sewers, hospitals, pollution control, soil conservation, parks and recreation, housing, industrial development, and weather control. See, e.g., Antieau, Independent Local Government Entities, 3A LOCAL GOVERNMENT LAW (1967). The Bureau of the Census conducts a survey of governmental entities every five years. The latest was completed in 1977 and shows that the number of special districts other than school districts grew by nearly 50% from 1962 to 1977 (18,323 to 25,987), while the number of counties, municipalities, and townships remained stable, and the number of school districts declined by more than 50%. IV U.S. DEP'T OF COMMERCE, 1977 CENSUS OF GOVERNMENTS, No. 2, FINANCES OF SPECIAL DISTRICTS 1 (hereinafter cited as 1977 CENSUS OF GOVERNMENTS). See also DIRECTORY OF SPECIAL DISTRICTS (Rabinowitz ed. 1964).

11. 1977 CENSUS OF GOVERNMENTS, supra note 10, at 2, 7, 20. Specifically, of the more than 900 special governmental districts engaged in irrigation and water conservation, over 95% were in the West, and about 392 or 40%, were in California, Arizona, New Mexico, Utah, and Colorado. *Id.* at 77. For the Census Bureau's description of how special districts were identified and classified, see 1977 CENSUS OF GOVERNMENTS, supra note 10, No. 1, GOVERNMENTAL ORGANIZATION, at 13-15.

12. The 1969 Census of Agriculture, the most recent for which detailed data are available, shows that in the 17 Western states (Arizona, California, Colorado, Idaho, Kansas, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Texas, Utah, Washington, and Wyoming), about 68 million acre-feet (MAF) of water was delivered in 1969 by organizations of all types to farms, ranches, residences, municipal, industrial, and recreational systems. IV U.S. DEP'T OF COMMERCE, BUREAU OF THE CENSUS, 1969 CENSUS OF AGRICULTURE, IRRIGATION, Table 15, at 74-75, and Table 18, at 82-87. Of this total, about 63 MAF, or 93%, was delivered to farms and ranches for irrigation.

About 25 MAF, or 37% of the total of 68 MAF, was delivered by irrigation districts, and about 8 MAF, or 12%, was delivered by "other" special districts. Of the remaining 35 MAF, about 28 MAF was delivered by nearly 7000 incorporated and unincorporated private organizations, including partnerships and organized and unorganized cooperatives. See explanation in *id.* at xxv-xxvi. The remainder was delivered directly to users by the Federal Bureau of Reclamation (1 MAF), the Bureau of Indian Affairs (2 MAF), state and other local governments (1.1 MAF), and private commercial enterprises (2.6 MAF). *Id.* at 82-83.

The 1969 Census of Agriculture also showed that irrigation and other special districts spent a bit more than half (\$820 million of a total of \$1.6 billion) of all the capital investment in irrigation facilities reported by all kinds of irrigation organizations during 1960-1969. *Id.* Table 29, at 175.

13. See infra text Table 1, at 348. The Census data reveal no ready explanation for this difference, but one factor is that some irrigation districts sell or distribute water to individuals or entities outside their boundaries. Another possible contributing factor is that irrigation districts are more

^{9.} Fallbrook Irr. Dist. v. Bradley, 164 U.S. 112 (1896). An earlier California law authorizing reclamation districts had been upheld by the Supreme Court a dozen years previously. Hagar v. Reclamation Dist. No. 108, 111 U.S. 701 (1884). These decisions were part of a line of cases dealing with special governmental districts in which the Supreme Court generally followed the principle that the creation of political subdivisions by states is governed solely by state law. See, e.g., Missouri v. Lewis, 101 U.S. 22 (1879); Hubbard, The Fourteenth Amendment and Special Assessments on Real Estate, 14 HARV. L. REV. 1, 98 (1900).

population, number of acres irrigated, and the number of and acres served by special districts and the Bureau of Reclamation in the seventeen Western states. It reflects, among other things, the steady growth in the number of, and acres served by, special irrigation districts.

TABLE I

Population and Acres Irrigated (by Irrigation Districts and the Bureau of Reclamation) 17 Western States,¹⁴ 1890-1970

					By Bureau
					of
		Total Acres	By Sp	ecial District ¹⁷	Reclamation ¹⁸
Year	Population ¹⁵	Irrigated ¹⁶	(#)	(Acres)	Acres)
1890	8,322,503	3,631,559	NA	NA	
1900	11,187,961	7,542,782	NA	NA	
1920	19,943,531	NA	NA	1,822,887	1,254,569
1930	24,749,633	1 4,085,96 7	363	3,452,275	1,485,028
1940	27,036,281	17,243,396	441	3,807,967	3,284,474
1950	34,009,255	24,270,566	483	4,962,413	682,413
1960	43,995,031	30,738,117	558	6,920,527	710,904
1970	52,504,548	34,785,717	687	9,689,181	363,320

concentrated in the warmer, drier regions of the West and thus use more water on fewer acres because of double cropping, planting more water-intensive crops, and evaporation and other losses.

14. See supra note 12.

15. Population figures are generally compiled from the U.S. Dep't of Commerce, Bureau of the Census Decennial Census; for the years 1900-1950, they are taken from the compilation in A. GOLZE, RECLAMATION IN THE UNITED STATES 42, Table 2-1 (1961).

16. Data on number of acres irrigated between 1890 and 1959 are taken from III U.S. DEP'T OF COMMERCE, BUREAU OF THE CENSUS, 1959 CENSUS OF AGRICULTURE, IRRIGATION OF AGRICUL-TURAL LANDS, Summary Table 6, at 28 (totals there given for 17 Western states and Louisiana; totals in this table subtract out acreage in Louisiana). Data on number of acres irrigated in 1969 are taken from IV U.S. DEP'T OF COMMERCE BUREAU OF THE CENSUS, 1969 CENSUS OF AGRICULTURE, IRRIGATION, Table 43 at 271-72 (similar subtraction performed for Louisiana). The Census indicates that the available data for 1920 are not comparable. But see infra note 108.

17. Data on number of districts and number of acres irrigated by districts and by Bureau of Reclamation for years 1920-1959 are taken from 111 U.S. DEP'T OF COMMERCE, BUREAU OF THE CENSUS, 1959 CENSUS OF AGRICULTURE, IRRIGATION OF AGRICULTURAL LANDS, Table 7, at 30-31 (totals there given for 17 Western states and Louisiana; totals in this table subtract out figures for Louisiana). Data for 1969 are taken from IV U.S. DEP'T OF COMMERCE, BUREAU OF THE CENSUS, 1969 CENSUS OF AGRICULTURE, IRRIGATION, Table 18, at 82-84 (similar subtraction performed for Louisiana).

18. The statistics on number of acres served by the Bureau of Reclamation are taken from the sources cited in note 17, *supra*, and show those acres served by the Bureau directly, or through water users' associations, but not those served with reclamation project water through irrigation and other special districts. IV U.S. DEP'T OF COMMERCE, BUREAU OF THE CENSUS, 1969 CENSUS OF AGRICUL-TURE, IRRIGATION, at XXV. Thus the acres irrigated in the Salt River Project (SRP) in central Arizona, a federal reclamation project, would appear in the right-hand column prior to 1937, when the

OVERVIEW

II. IRRIGATION DISTRICTS: A CURIOUS MIXTURE OF PUBLIC AND PRIVATE ATTRIBUTES

Although irrigation districts have always been legislatively classified as governmental entities—as political subdivisions of state government—this categorization has not been fully accepted by the courts. In a recent decision, for example, the United States Supreme Court acknowledged that the Salt River Project Agricultural Improvement and Power District in central Arizona (hereinafter Salt River Project or SRP), was a "governmental entity," but went on to characterize its relationship to its electric customers as one between a "business enterprise" and its consumers.¹⁹ A similar tension between these two views permeates the decisions of the Arizona courts in litigation involving irrigation districts, as indicated by the following:

[I]rrigation districts and similar public corporations, while in some senses subdivisions of the state, are in a very different class. Their function is purely business and economic, and not political and governmental.³⁰

In some respect these organizations are municipal in their nature, for they exercise the taxing power, the greatest attribute of sovereignty, and can compel the inclusion of unwilling landholders within their bounds. In other ways they resemble private corporations . . . Probably the best definition we can give then is to say that they are corporations having a public purpose, which may be vested with so much of the attributes of sovereignty as are necessary to carry out that purpose, and which are subject only to such constitutional limitations and responsibilities as are appropriate thereto.³¹

[I] rrigation districts are not entitled to tax exemption on the claim that they are municipal corporations . . . [C] learly, irrigation districts are not municipal and neither is their property.³³

project was a water users' association, but appear in the special district column after 1937, when the SRP Agricultural Improvement and Power District was formed. See infra note 47 and accompanying text.

^{19.} Ball v. James, 451 U.S. 355, 370 (1981).

^{20.} Day v. Buckeye Water Conservation & Drainage Dist., 28 Ariz. 466, 474, 237 P. 636, 638 (1925). The court held they were thus not "subdivisions of the state" within the meaning of Art. 9, § 7 of the Arizona Constitution (prohibiting such subdivisions from, among other things, making grants or issuing credit to private corporations or individuals); even though they were "subdivisions" of the state within the meaning of Art. 7, § 13 of the Arizona Constitution (enfranchising all "property taxpayers" in bond elections called by subdivisions of the state).

^{21.} Maricopa County Mun. Water Conservation Dist. v. LaPrade, 45 Ariz. 61, 76, 40 P.2d 94, 100 (1935).

^{22.} State v. Yuma Irr. Dist. 55 Ariz. 178, 183-84, 99 P.2d 704, 706 (1940). This holding was overturned a few months later by the electorate in amending Art. 13, § 7 of the state Constitution to

[1]rrigation and similar improvement districts [are] quasi-municipal corporations having a public purpose, in some respects municipal in their nature in that they exercised the taxing power.²³

Irrigation districts are [not] 'quasi-municipalities' to be compared with counties, school districts, etc. While [a previous case] classes such districts as 'quasi-municipalities,' we cannot agree that they should stand in the shoes of such bodies with regard to tortious conduct.²⁴

We experience no difficulty in determining that the [district] is in essence a business corporation and that such attributes of sovereignty as have been conferred upon it are only incidental and were conferred for the purpose of better enabling it to function and accomplish the business and economic purposes for which it was organized.³⁵

In effect plaintiff contends . . . that when municipal corporations engage in 'proprietary functions' they thereby lose their 'municipal' status and become 'public service corporations.' We reject this conten-

23. Shumway v. Fleishman, 66 Ariz. 290, 292, 187 P.2d 636, 637 (1947) (citations omitted) (holding irrigation district taxes, like other governmental taxes, are discharged by sale of property for delinquent state and county taxes).

24. Taylor v. Roosevelt Irr. Dist., 71 Ariz. 254, 258, 226 P.2d 154, 156 (1950).

25. Id., on rehearing, 72 Ariz, 160, 164, 232 P.2d 107, 110 (1951).

establish tax immunity for irrigation districts on the same basis as municipal corporations. See Taylor v. Roosevelt Irr. Dist., 71 Ariz. 254, 226 P.2d 154 (1950). But see ARIZ. REV. STAT. ANN. §§ 45-2201 to -2207 (Supp. 1981-1982), which authorize these special districts to make "voluntary" payments in lieu of taxes on district property according to statutory guidelines. This statute was adopted after Arizona Public Service Company (APS), a private investor-owned utility regulated by the State Corporation Commission, objected to SRP's tax-exempt status. See C. SMITH, THE SALT RIVER PRO-JECT: A CASE STUDY IN CULTURAL ADAPTATION TO AN URBANIZING COMMUNITY 75-79 (1972). APS and SRP "compete" in a sense to provide electrical service to the Phoenix area, even though they have agreed formally to divide the territories they serve, see Salt River Project Agricultural Improvement and Power District Official Statement on Revenue Bond Issue, C-1 (Nov. 9, 1981) (on file at Arizona State Law Journal), an agreement which may raise antitrust questions. See Community Communications Co. v. City of Boulder, 102 S.CI. 835 (1982); Comment, Voter Restrictions in Special Districts: A Case Study of The Salt River Project, 1969 LAW & THE SOC. ORDER [now ARIZ. ST. L.J.] 636, 659 n.127.

Even though the District's payments in lieu of taxes are officially "voluntary," ARIZ. REV. STAT. ANN. § 45-2202 (Supp. 1981-1982), it seems plain this characterization is merely a charade; i.e., the District has made such contributions consistently, and has even, rather than refuse to make them, challenged in court the state's valuation of its property for the purpose of calculating the amount to be donated. See Dep't of Property Valuation v. Salt River Project Ag. Imp. & Power Dist., 27 Ariz. App. 110, 551 P.2d 559, aff'd as modified, 113 Ariz. 472, 556 P.2d 1134 (1976). Neither the court of appeals nor the supreme court questioned the standing of the District to contest the valuation for purposes of "voluntary contributions," assumedly because the legislature conveniently provided a statutory (and expedited) right of appeal to the district. ARIZ. REV. STAT. ANN. § 45-2204 (Supp. 1981-1982). The United States Supreme Court found this authority to make voluntary contributions in lieu of taxes significant in upholding the District's acreage-based voting scheme. Ball v. James, 451 U.S. 355, at 368 n.14 (1981).

tion: there can be no such metamorphosis. The [district] here is either at all times a political subdivision of the state, or it never is. True, it is a municipal corporation of a peculiar type.²⁶

The nature of the District's operations and purposes are not designed to 'serve the whole people' as we commonly conceive the role of government.

. . .

It cannot be said that the District's employees are paid from the public treasury as are employees of the public. The public does not own the District. A governmental entity such as a city or town does not manage or benefit from the profits of this District. Instead the owners are private landholders. The profits from the sale of electricity are used to defray the expense in irrigating these private lands for personal profit. The public interest is merely that of consumers.³⁷

The District's exact status escapes a simple definition It is denominated a political subdivision of the state and entitled to all the immunities and benefits granted to municipalities.³⁸

The District is a municipal corporation of a peculiar type In conducting its ordinary business it is not exercising governmental or political prerogatives as it is not operated for the direct benefit of the general public but only those inhabitants of the District itself.²⁹

[The District] is vested with all the rights, privileges, and immunities of a municipality.

Unlike other municipal corporations owned by the public and managed by public officials, the District is owned and managed by private landowners and, although the District supplies services to the public such as electrical power, the profits of its operations are used to defray the expenses of irrigation of private lands of the District's

^{26.} Rubenstein Constr. Co. v. Salt River Project Ag. Imp. & Power Dist., 76 Ariz. 402, 404, 265 P.2d 455, 456 (1953) (citations omitted) (holding the District not subject to a state statute forbidding "public service corporations" from making connection charges for electricity).

^{27.} Local 266, I.B.E.W. v. Salt River Project Ag. Imp. & Power Dist., 78 Ariz. 30, 42, 44, 275 P.2d 393, 402-03 (1954) (holding District employees are not public employees prohibited from striking, and the District may legally enter into collective bargaining agreements with its employees).

^{28.} City of Mesa v. Salt River Project Ag. Imp. & Power Dist., 92 Ariz. 91, 97, 373 P.2d 722, 726 (1962) (holding that the District had no right to continue to use the streets and alleys of an area annexed by a municipality to transmit electricity, but that it had property interest in the facilities which could only be acquired by eminent domain). See also a later decision in this same controversy between the same parties, 101 Ariz. 74, 416 P.2d 187, cert. denied, 385 U.S. 1010 (1967), in which the City's attempted condemnation of certain SRP facilities was rejected on the ground that the United States as owner of the facilities was an indispensable party and could not be joined because of its sovereign immunity.

^{29.} City of Mesa v. Salt River Project Ag. Imp. & Power Dist., 92 Ariz. at 103, 373 P.2d at 731.

landowners.30

352

The conceptual murkiness betrayed by these characterizations of Arizona irrigation districts is generally shared by the courts in other states,³¹ as well as by federal courts³² and commentators.³³

Judicial attempts to characterize these districts plainly show that, regardless of the legislative classification, the courts view these districts as straddling a dim line between "public" and "private." Public for some

31. For example, compare Indian Cove Irr. Dist. v. Prideaux, 25 Idaho 112, 136 P. 618 (1913), with Gem. Irr. Dist. v. Van Densen, 31 Idaho 779, 176 P. 887 (1918).

32. See, e.g., Salt River Project Ag. Imp. & Power Dist. v. Fed. Power Comm'n, 391 F.2d 470 (D.C. Cir. 1978), holding that SRP and its business associate, a non-profit rural electric cooperative wholesaling electric power, are not "public utilities" under the Federal Power Act, 16 U.S.C. § 824(e) (1976), and thus need not file rate schedules with the Commission for the transmission and sale of electricity for resale in interstate commerce. Suit to classify those entities as public utilities was, as the court noted, *id.* at 471, a "friendly" one brought by their "member-owners" in order to preempt Colorado state public utilities under the Act, the court did not intend these entities to be classified as public utilities under the Act, the court did not reach the Federal Power Commission's alternative argument that even if they were public utilities, they were exempt as a "political subdivision . . . or instrumentality" of a state under 16 U.S.C. § 824(f) (1976). *Id.* at 473-74.

More recently a question has arisen whether the Salt River Project is subject to that part of the Public Utility Regulatory Policies Act (PURPA), 16 U.S.C. §§ 2601-2645 (Supp. 1980), which establishes as a federal standard that no electric utility (defined broadly by 16 U.S.C. § 2602(4) & (16) (Supp. 1980) to include any political subdivision of a state which sells electric energy) shall recover from anyone other than the "shareholders (or other owners) of such utility" any promotional or political advertising expenditure. 16 U.S.C. § 2623(b)(5) (Supp. 1980). Departures from this standard are permitted only with a publicly disclosed explanation. 16 U.S.C. § 2623(c) (Supp. 1980). According to a recent report, the Federal Department of Energy, which administers this law, decided the standard did not apply to SRP because "SRP is owned by its customers." Ariz. Republic, November 4, 1981, at A-13, col. 2.

33. Early water law treatise authors likewise found the characterization of these districts somewhat slippery. Thus Professor Long wrote in 1916:

Irrigation districts have been called municipal or quasi-municipal corporations. But it has been held that an irrigation district is not a municipal corporation [for certain purposes] . . . But it is well settled that an irrigation district is a public corporation. . . However, there are limits to the notion of the public character of an irrigation district . . . In other words, an irrigation district is wholly neither a public nor a private corporation, but is a public corporation with regard to its public functions and a private corporation with regard to the private rights of individual landowners within the district.

J. LONG, LAW OF IRRIGATION § 299 (2d ed. 1916); cf. C. KINNEY, LAW OF IRRIGATION § 1404 (2d ed. 1912). But see Craine & Zarkoohi, A Test of the Property Rights Theory of the Firm: Water Utilities in the United States, 21 J. LAW & ECON. 395, 399 (1978), which asserts that water supply entitics "can be categorized neatly into two alternative ownership forms, private versus public"

^{30.} Neidner v. Salt River Project Ag. Imp. & Power Dist., 121 Ariz. 331, 332, 590 P.2d 447, 448 (1979) (holding no "state action" when a District discharges an employee without notice or opportunity for a hearing). For a criticism, see Note, State Action and Employment in the Agricultural Improvement District, 22 ARIZ. L. REV. 157 (1980).

purposes, private for others, they occupy an almost unique place among legal entities. The appellation "phantom governments," applied by one commentator to all special districts,³⁴ seems particularly apt as a description of irrigation districts.

III. REASONS FOR FORMING IRRIGATION DISTRICTS: A BRIEF HISTORY

A partial explanation for this ambiguity can be found in the reasons offered over the years for creating irrigation districts. In the early irrigation district laws, the principal objective was to establish a mechanism to require all landowners in an area to join in the common enterprise of developing and delivering water for irrigation.⁸⁵ Certainly this was the motivation for California's pioneering Wright Act,³⁶ which was quickly adopted as the model legislation by other states.³⁷ And it was challenges to the constitutionality of such forced participation that led to early court decisions sustaining such districts, on the rationale that state legislatures, at least in the arid West, could consider promoting irrigation a public purpose.³⁶ While the motivation for forced inclusion was at least partly financial, it seemed to be mostly related to internal financing-raising the funds necessary to operate the enterprise from within, from all those benefited, whether participating voluntarily or not.³⁹ It seemed to have had much less to do with external financing, such as creating tax-exempt status.40

36. The Wright Act, ch. 34, 1887 Cal. Stat. 29. See A. GOLZE, supra note 15, at 99-100. Interestingly, the Wright Act extended the franchise to all residents of an irrigation district who could vote in general elections. Id. § 7. This aspect was criticized by a noted observer of early irrigation practices. See E. MEAD, IRRIGATION INSTITUTIONS (1903). Mead reported with satisfaction that this "mistake" had been "rectified" in irrigation district acts enacted elsewhere. In Mead's view: "Only property owners should have had a voice in the formation of districts and in the issuance of bonds, and voting should have been proportional to the property represented." Id. at 213. Later on in the same work, Mead observed that the "growing belief in the public ownership of public utilities applies especially to water, that most essential of all utilities," id. at 365, and endorsed irrigation districts as the wave of the future in irrigation development, id. at 381-82. See also THE PRESIDENT'S WATER RESOURCES POLICY COMM'N REPORT, A WATER POLICY FOR THE AMERICAN PEOPLE 184 (1950), which advocated the formation of special districts for water supply activities.

37. See W. HUTCHINS, supra note 35, at 2-4.

38. See Fallbrook Irr. Dist. v. Bradley, 164 U.S. 1125 (1896), discussed in more detail in Comment, supra note 35, at 389-91.

39. Comment, supra note 35, at 389.

40. Federal taxation during this early irrigation district era was negligible anyway, and it is interesting to note that some early irrigation district statutes did not provide explicitly for exemption from state taxes. See, e.g., supra note 22 and accompanying text.

^{34.} J. BOLLENS, supra note 7, at 30.

^{35.} See W. HUTCHINS, IRRIGATION DISTRICTS, THEIR ORGANIZATION, OPERATION AND FINANC-ING 13 (U.S. Dep't Agricultural Tech. Bull. 254, 1931); see also Comment, Desert Survival: The Evolving Western Irrigation District, 1982 Ariz. St. L.J. 377, 383.

Many irrigation enterprises, however, were developed in the West in this same era without the protective cloak of government.⁴¹ And it is significant, for purposes of this study, that in more recent years a number of these established private entities have converted themselves into special districts, when the need for a mechanism for forced inclusion would seem no longer to exist.⁴² One study of irrigation districts observed that most such districts "were formed in areas in which some irrigation development had already occurred. Thus ordinarily they involved reorganization from some form of private enterprise."48 While the reasons for converting to governmental status varied somewhat.44 this study concluded that the district's "substantial advantage over private irrigation organizations" in financing irrigation activities "is so pronounced that the chief object in forming many irrigation districts has been to issue bonds."46 Thus, a principal latter-day impetus for creation of these districts has typically not been to promote financing from within; rather, it has been partly, perhaps largely, to promote financing from without. The creation of such districts under state law qualifies district property and bonds for exemption from not only state but federal taxation as well.46 Thus a chronicler of the Salt

43. W. HUTCHINS, H. SELBY & S. VOEKLER, supra note 5, at 13.

44. Id. Among the reasons listed are financing, consolidation of neighboring systems, reconstruction or extension of existing systems, and encouragement by the federal government for those entities receiving federal reclamation project water. See also infra note 52.

45. Id. at 77.

46. See 26 U.S.C. § 103(a)(1) (1976), exempting from gross income interest on obligations of any "political subdivision" of a state. For a recent decision addressing what a "political subdivision" is in the context of this section, see Philadelphia Nat'l Bank v. United States, 666 F.2d 834 (3d Cir. 1981). As the Department of the Treasury has recently observed, until 1968 "virtually any private enterprise investment, at the discretion of a state or local government authority, could be financed by the issuance of tax-exempt bonds." OFFICE OF TAX ANALYSIS, U.S. DEP'T OF THE TREASURY, THE USE OF TAX SUBSIDIES FOR THE COST OF COMPLIANCE WITH SAFETY AND HEALTH REGULATONS 8 n. 3 (1981). While Congress in 1968 excluded from this general exemption certain kinds of industrial development bonds issued by political subdivisions of states, see 26 U.S.C. § 103(b) (1976), it has retained the tax exemption for those bonds used to finance the furnishing of water to members of the general public, and for "qualified" hydroelectric generating facilities. 26 U.S.C. 103(b)(4)(G) & (H) (1976). See generally on these amendments Kirkpatrick v. United States, 605 F.2d 1160 (10th Cir. 1979), cert. denied, 444 U.S. 1075 (1980); 1968 U.S. CODE CONG. & AD. NEWS 2379-81. See also infra note 130; Note, Constitutionality of the Tax-Exempt Status of Municipal Bonds, 18 S.D.L. Rev. 221 (1973).

^{41.} In fact, as shown on Table 1, *supra* notes 14-18 and accompanying text, special districts have always irrigated only a fraction of the total acres irrigated in the West, although that share has steadily increased.

^{42.} As shown on Table I, the number of districts nearly doubled between 1930 and 1970, and the number of acres irrigated by such districts nearly tripled in the same period. A recent study of districts in California observed that most water districts there were of "recent vintage," with well over half being created after 1950. M. GOODALL, V. SULLIVAN & T. DEYOUNG, CALIFORNIA WATER: A NEW POLITICAL ECONOMY 8-9 (1978) [hereinafter cited as M. GOODALL].

River Project has explained the reason that the Project converted itself from a private entity to a public one in 1937 as follows: "The major reason for creating the . . . district in 1937 was to refinance debts incurred for construction of facilities built during the 1920's with tax-exempt municipal bonds bearing a lower rate of interest and a longer period to maturity."⁴⁷ SRP later made other changes in its institutional structure to ensure that its revenues from the sale of power remained tax-exempt.⁴⁸

Thus it seems fair to conclude that the basic rationale behind the governmental status accorded these districts has almost silently shifted from an internal institutional need for enforced participation and cooperation by affected landowners to a desire for the financial benefits of tax-exempt status. This accounts in part for the difficulty the courts and commentators have had in characterizing these districts. Because they are essentially private entities which are accorded governmental character for only a limited and basically financial purpose, judicial determination of the implications of their governmental status in a wide variety of factual and legal contexts has, as shown in the above review of Arizona decisions, created conceptual difficulties for courts.

Another reason for creation of such districts might be suggested as well—the desire to retain decisionmaking power in the hands of those perceived to be most affected by district activities; or, expressed somewhat differently, the desire to insulate district policies and decisions from direct legislative or regulatory control. This seems to have formed the rationale for the organization of one of the nation's largest special governmental districts, in New York City.⁴⁹ The underpinning of this district, brought to a pinnacle of power and influence by Robert Moses, is dissected by Robert Caro in his biography of Moses as follows:

A public authority, [Moses] had learned, possessed not only the powers of a large private corporation but some of the powers of a sovereign state: [including] the power to establish and enforce rules and

^{47.} C. SMITH, supra note 22, at 17. Indeed, the Supreme Court in Ball v. James emphasized that the parties had stipulated that the "sole legislative reason for making water projects public entities was to enable them to raise revenue through interest-free bonds." 451 U.S. at 369. The Department of the Treasury has estimated that the general spread between tax-exempt and taxable interest rates is on the order of 30-35%, and points out that tax-exempt financing is more expensive to the federal government than a direct interest subsidy because part of the revenue loss from tax-exempt bonds accrues to the benefit of high-income lenders rather than to borrowers. See THE USE OF TAX SUBSIDIES FOR THE COST OF COMPLIANCE WITH HEALTH AND SAFETY REGULATIONS, supra note 46, at 27.

^{48.} C. SMITH, supra note 22, at 17.

^{49.} The Port Authority of New York and New Jersey, according to 4 U.S. DEP'T OF COMMERCE, 1977 CENSUS OF GOVERNMENTS 5, NO. 2: FINANCES OF SPECIAL DISTRICTS, five had the largest debt (\$2.1 billion) and the second largest revenues and expenditures of all special districts in the United States in 1976-77.

regulations for the use of its facilities that was in reality nothing less than the power to govern its own domain by its own laws.⁵⁰

And further:

In proposing to give the [special district] substantial governmental powers and a life-span at least of decades, . . . Moses was in effect . . . proposing to create, within a democratic society based on a division of powers among three branches of government, a new, fourth branch, a branch that would, moreover, in significant respects, be independent of the other three.⁸¹

While it might be an exaggeration to describe this as always an important reason for creating irrigation districts,⁵² it is not an exaggeration of the result of creating such districts. These entities are, by and large, exercising monopoly power over water, and sometimes electricity production and sale, within their borders. Yet their governmental status accords them a freedom from regulation by state regulatory agencies to which ordinary business entities exercising similar monopoly power have traditionally been subject.⁵³

51. R. CARO, supra note 50, at 624. Later Caro comments on Moses' use of the favorable taxexempt status of special district bonds. *Id.* at 730-34. *Cf. supra* text accompanying notes 41-47. The two leading decisions construing the "political subdivision" language of § 103 of the Internal Revenue Code, see supra note 46, concerned districts created by Robert Moses' efforts. Comm'r v. Shamberg's Estate, 144 F.2d 998 (2d Cir. 1944), cert. denied, 323 U.S. 792 (1945) (Port of New York Authority): Comm'r v. White's Estate, 144 F.2d 1019 (2d Cir. 1944), cert. denied, 323 U.S. 792 (1945) (Triborough Bridge Authority).

52. Cf. M. GOODALL, supra note 42, at 10-12, 95-100. Their study of California water districts shows that the tendency in more recent years has been to form districts under those enabling acts which require, among other things, property qualification for participating in elections of the governing body of the district. This recent experience leads the authors to conclude that these "property weighted" districts have fostered a new political economy for California water emphasizing large scale, intensive agriculture and non-resident ownership. *Id.; see also id.* Tables 1-5, 1-6, at 12-13.

53. Thus SRP competes in some sense with Arizona Public Service Company (APS) as a major supplier of electricity in the Phoenix metropolitan area. See supra note 22. But while APS's service and rates are regulated by the state Corporation Commission, SRP's are not, because it is exempt as a "municipal corporation." See, e.g., Rubenstein v. Salt River Project Ag. Imp. & Power District, 76 Ariz. 402, 265 P.2d 455 (1953). APS's power rates for residential customers are slightly above SRP's; e.g., for a consumer of 500 kilowatt-hours in the summer of 1980, an APS customer was charged \$106.80; an SRP customer, \$99.81. Ariz. Republic, Dec. 25, 1980, at C-1, col. 2. SRP's monthly newsletter for customers recently stated that while the average SRP customer cost is 6.73 cents per kilowatt hour for 1982, APS's is 7.69 cents. Contact (February 1982) (on file at Arizona State Law Journal). It explained that "[u]tilities are regulated in different ways," and one reason SRP's rates are usually lower is because it is a nonprofit organization that "doesn't have to pay dividends to

^{50.} R. CARO, THE POWER BROKER: ROBERT MOSES AND THE FALL OF NEW YORK 623 (1974). See also id. at 13, 15; see generally id. at 614-36. For an analogous warning about the dangers of using special districts in the context of land development, see Willoughby, *The Quiet Alliance*, 38 S. CAL. L. REV. 72 (1965) (criticizing the evolution of special districts toward privately controlled districts for immediate, specific private benefit).

Another part of the conceptual difficulty in understanding such special districts—aptly called elsewhere the "new Dark Continent of American government"⁷⁵⁴—springs from the length and complexity of statutes creating such districts.⁵⁶ With respect to irrigation districts in particular, not only are state statutes authorizing particular districts long and complex, but most states have seen fit to authorize the creation of several different kinds of such districts, each with their own separate, detailed statutory framework. Thus in Arizona, for example, there are four different kinds of special governmental districts with authority over water (other than flood control or soil conservation) and the statutory provisions governing them occupy well over half of the pages of the Arizona water code.⁵⁶ California dwarfs its neighbor here, since it has 38 general water district acts

A related issue which has commanded some attention is the extent to which municipalities can discriminate in prices charged residents and non-residents for water. See, e.g., ADVISORY COMM'N ON INTERGOVERNMENTAL RELATIONS, INTERGOVERNMENTAL RESPONSIBILITIES FOR WATER SUPPLY AND SEWAGE DISPOSAL IN THE METROPOLITAN AREAS 35-36 (1962); Kneier, State Supervision over Municipally Owned Utilities, 49 COLUM. L. REV. 180 (1949); Sax, Municipal Water Supply for Non-residents: Recent Developments and a Suggestion For the Future, 5 NAT. RES. J. 54 (1965).

The Advisory Commission on Intergovernmental Relations recommended in 1964 that pricing policies of all special districts be reviewed and approved by an appropriate state agency if they are not otherwise reviewed and approved by the governing body of a unit of general government. THE PROB-LEM OF SPECIAL DISTRICTS IN AMERICAN GOVERNMENT, *supra* note 7, at 81.

54. J. BOLLENS, *supra* note 7, at 1; *see also* The PROBLEM OF SPECIAL DISTRICTS IN AMERICAN GOVERNMENT, *supra* note 7, at 1-2.

55. See, e.g., R. CARO, supra note 50, at 625. There Caro describes Moses' successful efforts to expand the power of the Triborough Bridge Authority without careful consideration by the legislature through insertion of a seemingly innocuous sentence in an obscure section of the extremely detailed, "legalistic" act authorizing creation of the authority. See also id. at 360-62, 626-36, for other examples.

56. ARIZ. REV. STAT. ANN. §§ 45-901 to -1075 (1956 & Supp. 1981-1982) (agricultural improvement districts); §§ 45-1201 to -1396 (1956 & Supp. 1981-1982) (drainage districts); §§ 45-1501 to -1866 (1956 & Supp. 1981-1982) (irrigation districts); §§ 45-1901 to -1956 (1956 & Supp. 1981-1982) (irrigation water delivery districts); see also §§ 45-2101 to -2207 (1956 & Supp. 1981-1982) (provisions applicable to more than one district).

stockholders." *Id.* For a fuller discussion of the relationship between APS and SRP, see note 22 *supra* and C. SMITH, *supra* note 22, at 55-56. Similar exemption from statewide rate regulation is accorded irrigation districts in other states; *see, e.g.*, Matthews v. Tri-County Water Conservancy Dist., 42 Colo. App. 80, 594 P.2d 586 (1979) (rate setting by water conservancy districts is not under public utilities commission or county commissioners' jurisdiction); Wores v. Imperial Irr. Dist., 193 Cal. 609, 632-33, 227 P. 181, 189-90 (1924) (sole remedy of landowner allegedly charged an unfair rate is through electoral process in selecting management of district). Thus one survey flatly concluded in 1953: "The obtaining of revenue and rendering of service by irrigation districts are not subject to public regulation." W. HUTCHINS, H. SELBY AND S. VOELKER, *supra* note 5, at 66. Whether such natural monopolies should always be subject to state administrative agency regulation is an issue beyond the scope of the present inquiry, but for a view contrary to the generally accepted thesis that they should be so regulated, see Posner, *Natural Monopoly and Its Regulation*, 21 STAN. L. Rev. 548 (1969). The Texas legislature has recently subjected special districts, including those dealing with water, to statewide regulatory agency jurisdiction. Tex. CODE ANN. § 1446c (1980).

and 100 special acts currently in force.57

This brief review shows that courts have substantial justification for characterizing these districts as fundamentally schizophrenic. Their governmental character gives them tax-exempt status and freedom from regulatory agency scrutiny. Yet, as the Supreme Court has recently decided, their private business character allows them to avoid the equal protection limitations on restrictions of the franchise; i.e., they can constitutionally be controlled by large landowners through acreage-based voting schemes.⁵⁶ This tension between their public and private attributes is explored further elsewhere in this project.⁵⁹

IV. IRRIGATION DISTRICTS UNDER STRESS

It is not difficult to find other tensions in many modern irrigation districts. As the generic label suggests, these districts were organized to promote agricultural irrigation, and that remains not only the core function of many of them, but also a policy deeply imprinted in the social fabric of much of the West.⁶⁰ But in some districts, demographic and associated cultural changes are occurring which create structural stresses within them. An objective of this project is to explore some of these stresses, and to set the stage, some of those stress-creating changes will be briefly examined here.

A. The Federal Connection

Although the creation and operation of irrigating districts were initially (and today largely remain) controlled by state law, it was not long before

^{57.} CALIFORNIA DEP'T OF WATER RESOURCES, GENERAL COMPARISON OF WATER DISTRICT ACTS, BULLETIN NO. 155-77 (May 1978). The pattern in other states is similar, see, e.g., Comment, The Water Control and Improvement District: Concept, Creation and Critique, 8 Hous. L. REV. 712, 715-16 (1971), although California has carried it to an extreme. For a summary compilation of the various state special districts dealing with water supply, see U.S. DEP'T OF COMMERCE, BUREAU OF THE CENSUS, 1977 CENSUS OF GOVERNMENTS, state reports at 342-511.

^{58.} Ball v. James, 451 U.S. 355 (1981).

^{59.} Comment, supra note 35, at 415-17.

^{60.} See. e.g., A. KNEESE & F. BROWN, THE SOUTHWEST UNDER STRESS 68 (1981) (noting the "strong... desire to preserve water for agricultural uses" in the Southwest). Id. at 73. The policy of promoting agriculture finds expression in many legal rules. A particularly interesting example in some Western states is the immunity accorded all irrigation enterprises, public and private, from tort liability for maintaining unfenced irrigation canals in which particularly children sometimes drown. Although liability for maintaining similar "attractive nuisances" has been imposed on such enterprises as mining companics, it has not been imposed on irrigation enterprises in Arizona. See Robertson, Tort Immunity of Irrigation Districts: An Unattractive Nuisance, 15 ARIZ. L. REV. 172 (1973); cf. CAL. GOV'T CODE § 831.8 (West 1980), which seems to confer more limited immunity on irrigation districts. Such drownings are, of course, more likely to occur as a district becomes more urban. For other examples, see infra note 93 and notes 133-34 and accompanying text.

OVERVIEW

the federal government began playing a significant role in Western water development. After early federal attempts to promote Western irrigation through offers of free or low cost federal land proved largely unsuccesful,⁶¹ the Reclamation Act of 1902⁶² committed the nation's taxpayers to a program of direct federal development of Western water resources. Conceived as a social program, with antecedents in Jefferson's vision of an agrarian democracy, it was designed to make available a limited federal subsidy for the purpose of settling the West in small family farms. The means chosen was federal construction of projects beyond the immediate financial reach of settlers, local or state governments, with the beneficiaries repaying the federal cost within ten years, without interest.⁶³

Although several Western states had authorized the creation of irrigation districts prior to passage of the federal Reclamation Act,⁶⁴ in that Act Congress did not formally envision any role for such districts in the federal reclamation program. Instead, the Bureau of Reclamation was expected to deal with individual water users or private water users' associations.⁶⁵ In amending reclamation law after 1902, however, Congress came to recognize that irrigation districts could play a useful role in distributing reclamation project water and collecting money from individual users to repay the federal treasury the cost of the project.⁶⁶ In 1922, Congress generically authorized the Secretary of Interior to contract directly with irrigation districts for the repayment of project costs.⁶⁷ The House de-

61. See. e.g., the Carey Act of 1894, 43 U.S.C. § 641 (1976); I WATERS AND WATER RIGHTS § 20.2 (R. Clark ed. 1967); 4 R. SWENSON, supra note 3, at § 342.7.

65. See, e.g., 43 U.S.C. § 431 (1976); W. HUTCHINS, H. SELBY AND S. VOELKER, supra note 5, at 13 n.11.

66. The Warren Act of 1911 was the first reclamation law to allow an irrigation district to contract for reclamation project water. Act of Feb. 21, 1911, ch. 141, 36 Stat. 925-26, 43 U.S.C. §§ 523-525 (1976). Interestingly, this Act is the only generic reclamation law where Congress has placed a ceiling on the amount an irrigation district could charge the actual user of water; nainely, only the cost to the district. 43 U.S.C. § 523 (1976). Three years later, Congress recognized irrigation districts as appropriate entities for the care, operation, and maintenance of reclamation projects, by authorizing the Secretary to transfer project operation to local districts or water users' associations. Act of Aug. 13, 1914, Pub. L. No. 63-170, 38 Stat. 686. The Secretary was also authorized to appoint such a district as fiscal agent for the United States, to collect the charges and transmit them to the United States. 43 U.S.C. § 477 (1976).

67. Act of May 15, 1922, 42 Stat. 541, 43 U.S.C. § 511 (1976). The legislative history shows that Congress had several purposes, among them to solve difficulties that had arisen in collecting charges due from individuals, to meet water users' requests for greater responsibility in project management, and to allow beneficiaries to become eligible for federal farm loans, which had not previously been

^{62.} Act of June 17, 1902, 32 Stat. 388, 43 U.S.C. §§ 372-383 (1976).

^{63.} See generally P. GATES, HISTORY OF PUBLIC LAND LAW DEVELOPMENT 634-98 (1968); 2 J. Sax, WATERS AND WATER RIGHTS § 110.1-2 (R. Clark ed. 1967).

^{64.} These were California (1887), Washington (1890), Kansas (1891), Nevada (1891), Idaho (1895), Nebraska (1895), Oregon (1895), and Colorado (1901). See W. HUTCHINS, supra note 35, at 2.

bates on this provision reveal substantial concern by some about the effect of this change on the recovery of project costs by the United States,⁶⁸ but the proponents argued that collection of debts remained as "certain as death,"⁶⁹ and asserted several advantages to relying on irrigation districts, including the following:

1. The organization, financing, and operation of irrigation districts are fully under popular control.

5. Complete control over the lands of the dissenting minority is secured so that all of the lands benefited are bound.

10. The status of a public corporation gives the irrigation district a much better standing in financial markets.⁷⁰

Four years later Congress went even further to recognize irrigation districts as the exclusive form of local entity to contract with the government for repayment of new reclamation projects.⁷¹ Even though Congress later retreated from the view that such districts were the exclusive local organizational means for participation in federal projects,⁷² the encouragement by Congress, and promotion in the West by the Bureau of Reclamation, fostered the creation of irrigation districts wherever federal reclamation projects were found.⁷⁸ In the last few decades, in fact, congressional statutes authorizing particular reclamation projects have often required the formation or use of special governmental districts in contracting for reclamation project water.⁷⁴ That this federal effort met with substantial suc-

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70. Id. at 3588 (remarks of Rep. Raker).

71. Act of May 25, 1926, ch. 383, § 46, 44 Stat. 649, codified at 43 U.S.C. § 423e (1976).

72. In 1939, Congress again allowed contracting with entities other than irrigation districts, such as water users' associations. Act of Aug. 4, 1939, ch. 418, 53 Stat. 1194, *codified at* 43 U.S.C. §§ 485a(g), 485h (1976).

73. One commentator has pointed out that the Bureau of Reclamation "locally advocated the substitution of irrigation districts for existing or contemplated water users' associations," and concluded that it "has been directly influential in the creation and growth of irrigation districts on reclamation projects." J. BOLLENS, *supra* note 7, at 152. Current Departmental policy favors using governmental districts as local contracting agencies wherever possible, including where project water is supplied for municipal and industrial uses. See U.S. DEP'T OF THE INTERIOR, BUREAU OF RECLAMATION, MUNICIPAL AND INDUSTRIAL WATER MARKETING POLICY, Ch. 7.2.1(D)(1981) (on file at Arizona State Law Journal).

74. See, e.g., 43 U.S.C. § 616dd (1976) (no construction of authorized Dixie Project in Utah until a "conservancy district or similar organization" with the power to tax real and personal property

possible because the reclamation project charges had been liens on individual landowners' lands. The substitution of the irrigation district replaced the individual landowner's lien with a tax or assessment liability which did not disqualify the beneficiaries from these other federal loans. 62 CONG. REC. 3575 (1922).

^{68.} Id. at 3573-79.

^{69.} Id. at 3577 (remarks of Rep. Kinkaid).

OVERVIEW

cess is shown by Table 1 supra, which shows a sharp decline in the number of irrigated acres served with federal project water other than through special districts, and a steady increase in the number of, and acres served by, special districts.⁷⁸

Federal encouragement of the formation of special districts under state law to carry out federal programs was not limited to reclamation in the West. The same philosophy was espoused in the federal soil conservation⁷⁶ and housing⁷⁷ programs of the New Deal era. Today the function of special irrigation districts in the West is still often closely tied to federal reclamation projects, and like the districts themselves, the federal projects today supply a substantial proportion of all the water used in the Western states.⁷⁸

B. Power Generation

Two aspects of this intimate connection between federal projects and state irrigation districts deserve particular mention here. The first has to do with electricity generation. Although the early federal reclamation

tricts of the West." *Id. See also* J. BOLLENS, *supra* note 7, at 157-67. Despite this origin, for present purposes of this project soil conservation districts should be sharply distinguished from irrigation districts. The former usually have no taxing authority, no independent sources of revenue, no eminent domain authority, and generally no power to deliver goods and services or otherwise act outside the agricultural sector. R. HELD & M. CLAWSON, *supra* this note, at 47-49, 141, 329. Although most state acts provide for their management through a one-landowner one-vote system; *see, e.g.*, ARIZ, REV. STAT. ANN. § 45-2002 (1956), their limited authority and subject matter provide little guidance on problems facing many irrigation districts today.

77. The Federal Housing Act of Feb. 19, 1937, ch. 12, 50 Stat. 20, was described by one commentator as serving as a "catalytic agent" for the formation of local housing districts (commonly called "authorities") under state law; as a result, in the single year 1938, the number of local housing districts in the country quadrupled. J. BOLLENS, *supra* note 7, at 116-19.

78. The 1969 CENSUS OF AGRICULTURE, *supra* note 12, shows that of 68 MAF delivered by organizations of all types for irrigation, municipal, industrial and recreational use, about 21.5 MAF, or 31% was delivered by the Bureau of Reclamation, almost all of it through special governmental districts. *Id.* at 82-83; *see also supra* Table 1, and text accompanying note 18.

within the district and to contract with the United States to repay reimbursable project costs is created). Cf. 43 U.S.C. § 1524(b)(1) (1976) (Central Arizona Project water deliveries "may" be pursuant to master contracts with organizations with power to assess against taxable real property, if the Secretary determines it is "necessary to effect repayment."). See also infra note 91.

^{75.} See supra text accompanying notes 14-18 and explanation of data categories in notes 17-18. 76. There are today about as many soil conservation districts as there are counties in the lower 48 states. R. HELD & M. CLAWSON, SOIL CONSERVATION IN PERSPECTIVE 202-03 (1965). The stimulation to form these districts came from congressional creation of federal soil conservation programs in reaction to massive dust storms in the 1930's. See, e.g., 16 U.S.C. §§ 590a-q (1976). Implementing this program led the Department of Agriculture to publish a "standard act" for soil conservation districts in 1936, and thereafter the President and Secretary of Agriculture strongly urged state legislatures to adopt it, and local agricultural interests to form such districts for this effort seemed to be the idea of Assistant Secretary of Agriculture Wilson, who was "familiar with the irrigation dis-

projects were exclusively for irrigation, it was not long before the idea caught hold that the same dams which captured and stored water for farmers could also be used to generate electricity. Congress recognized this logic only four years after the federal reclamation program was initiated,⁷⁹ and so now have most Western states, whose laws authorize irrigation districts to generate, distribute, and sell electrical energy.⁸⁰ Over the ensuing years, a few of these districts have in fact moved far beyond the original contemplation of associated hydropower operations as merely incidental to the basic agricultural water supply purpose, to become major suppliers of electricity from a panoply of generating facilities. The Salt River Project, operating in metropolitan Phoenix, is the preeminent example.⁸¹ While SRP's water operations have remained relatively static for several decades, its power operations now supply about half of Arizona's population, and its revenues from the sale of electricity comprise over ninety-eight percent of its total revenues.⁸²

C. Non-Agricultural Water Supply

The second federal development was the shift away from agricultural irrigation as the exclusive water supply function of federal reclamation projects. At the same time it included power generation as an authorized purpose of reclamation projects, Congress also recognized that municipal water supply was an appropriate function of reclamation projects,⁸³ and the authority to deliver water for non-irrigation purposes was elaborated on in subsequent acts.⁸⁴ Full recognition that reclamation projects were multipurpose in nature came with the Boulder Canyon Project Act of

83. Act of April 16, 1906, 34 Stat. 116, 43 U.S.C. § 567 (1976).

84. Act of Feb. 25, 1920, 41 Stat. 451, 43 U.S.C. § 521 (1976).

^{79.} Act of April 16, 1906, 34 Stat. 117, codified at 43 U.S.C. § 522 (1976).

^{80.} See, e.g., W. HUTCHINS, SUMMARY OF IRRIGATION DISTRICT STATUTES OF WESTERN STATES 121-22 (U.S. Dep't of Agricultural Misc. Publ. No. 103, 1931).

^{81.} In 1981, SRP produced about 13.3 million kilowatt hours of electricity, about 11.4% of which came from hydropower, with most of the remainder from coal-fired facilities located in Colorado and New Mexico as well as Arizona. Furthermore, SRP is participating in a multi-unit nuclear generating station now under construction west of Phoenix. Salt River Project Agricultural Improvement and Power District Official Statement on Revenue Bond Issue, supra note 22, at 7-8, 15-16. See also Uhlmann v. Wren, 97 Ariz. 366, 401 P.2d 113 (1965).

^{82.} Salt River Project Agricultural Improvement and Power District Official Statement on Revenue Bond Issue, supra note 22, at 4-6, 27. See generally Ball v. James, $451 \cup S$. 355, 370 n.19 (1981). According to the stipulation of facts in Ball v. James, in 1974 the average residential power customer in the district contributed \$12.06 to subsidize agricultural water, and \$7.39 to subsidize residential water. The average subsidy per acre-foot of water was \$14.03, the average cost of five acre-feet of water was \$22.50, and the full cost of five acre-feet "without any assistance" would have been \$101.15. Stipulated Statement of Facts, \$\$ 80, 84 (on file at Arizona State Law Journal).

1928⁸⁵ and the Reclamation Project Act of 1939,⁸⁶ and today the provision of reclamation project water for purposes other than agriculture is firmly established.⁸⁷

Here, too, a similar development has occurred in state laws governing irrigation districts,⁸⁸ so that irrigation districts now deliver substantial amounts of water for non-irrigation uses.⁸⁹ Of particular interest is the creation by some states of an umbrella layer of special governmental water districts.⁹⁰ Serving a larger region, these districts considerably expand the boundaries of the "community" served, and often exist at least in part to distribute water from large multipurpose federal projects to smaller local districts or municipalities, who in turn distribute it to individual beneficiaries.⁹¹

The addition of these two purposes—electrical generation and sale and multipurpose water supply—to the original narrowly-based irrigation function has irrevocably altered the character of irrigation districts, often in dramatic ways. It has given these districts new sources of revenue and capital for expansion. Yet at the same time it has undermined, if not de-

88. See, e.g., W. HUTCHINS, supra note 80, at 59-60, 94-97, 120-21.

89. In 1969, the most recent year for which Census of Agriculture data are available, irrigation and other special districts delivered over 2.8 MAF of water to residences and municipal, industrial and recreational systems. U.S. DEP'T OF COMMERCE, BUREAU OF THE CENSUS, 1969 CENSUS OF AG-RICULTURE, *supra* note 12, at 83.

90. See, e.g., 4 R. SWENSON, supra note 2, at § 346; Kelly, Water Conservancy Districts, 22 ROCKY MT. L. REV. 432 (1950). For example, the Middle Rio Grande Conservancy District in New Mexico was created after the New Mexico legislature adopted, in 1923, a Conservancy Act modeled on an Ohio law. The district was organized to drain waterlogged lands, and control river flows to help prevent floods and promote irrigation and economic development in the Rio Grande Valley in central New Mexico. See B. MCDONALD, CASE STUDIES IN THE DEVELOPMENT OF NEW MEXICO WATER RESOURCES INSTITUTIONS: THE MIDDLE RIO GRANDE CONSERVANCY DISTRICT AND URBAN WATER PRICING 9-85 (New Mexico Water Resources Research Institute, 1981)[hereinafter cited as B. MC-DONALD]. Significantly, for purposes of our project, the authors conclude that the demographic changes in the District's area since the 1920's have not been accompanied by substantive changes in the District's policies and purposes, and that a legislative restatement of its purposes is needed. *Id.* at 77-80.

91. See, e.g., ARIZ. REV. STAT. ANN. §§ 45-2601 to -2634, authorizing formation of the Central Arizona Water Conservation District to contract with the Secretary of the Interior for Central Arizona Project Water. See supra note 74; and Egbert, Water Resource Management Problems, Central Arizona Project, 14 ARIZ. L. REV. 158 (1972).

^{85.} Act of Dec. 21, 1928, 45 Stat. 1057, 43 U.S.C. §§ 617-618p (1976).

^{86.} Act of Aug. 4, 1939, 53 Stat. 1194, 43 U.S.C. § 485h(c) (1976).

^{87.} The 1939 Act provides generally that water may be delivered to municipal or miscellaneous purposes only where the Secretary of the Interior finds that it will not "impair the efficiency of the project for irrigation purposes." 43 U.S.C. § 485h(c) (1976). Congress has, however, waived this limitation for several more recent projects. See, e.g., 43 U.S.C. § 620c (1976) (Colorado River Storage Project); 43 U.S.C. § 1504(b)(3) (1976) (Central Arizona Project). For a fuller discussion of the evolution of municipal and industrial water supply under federal reclamation law, see Comment, Reclamation Subsidies and Their Present-Day Impact, 1982 ARIZ. ST. L.J. 499.

stroyed, the simplicity of their original mission, and sowed the seeds for conflict. At the most basic level, producing power and supplying water for non-agricultural purposes may conflict with agricultural irrigation.⁹² Add to this the possibility of demand for flood control, recreational water use, and fish and wildlife protection, and the complexity of the potential conflicts plainly emerges.⁹³

D. Demographic Changes and Increased Emphasis on Water Management

Such conflicts are exacerbated by the demographic and associated cultural changes which are proceeding apace in many parts of the West. Today water use in the region still substantially reflects the historical preference for agriculture which originally spurred the formation of irrigation districts. In almost all Western states irrigated agriculture constitutes about ninety percent of all water withdrawals.⁹⁴ This pattern is, however, changing, and changing rather rapidly in some areas. The migration of people westward, which was the original goal of the federal reclamation subsidy, continues at an ever-increasing pace. But Congress's original intent is no longer being fulfilled because the migration is mostly to urban areas rather than to small family farms across the countryside.⁹⁵

^{92.} See A. GOLZE, supra note 15, at 166-67.

^{93.} Id. The extent to which irrigation districts have a duty to operate their facilities to prevent or minimize flood damage has vexed Arizona courts a number of times in recent years. See, e.g., Salt River Valley Water Users' Ass'n v. Giglio, 113 Ariz. 190, 549 P.2d 162 (1976); Ramada Inns v. Salt River Valley Water Users' Ass'n, 111 Ariz. 65, 523 P.2d 496 (1974); Markiewicz v. Salt River Valley Water Users' Ass'n, 118 Ariz. 329, 576 P.2d 517 (Ct. App. 1978); cf. Ball v. James, 451 U.S. 355 at 367, n.12 (1981) (SRP has no express authority to control floods). The rule that seems to have emerged from the Arizona cases is that a district must exercise reasonable control over floodwaters that enter its facilities, and is thus not immune from liability for negligent disposal of floodwaters from these facilities. Interestingly, one of these decisions rejected the District's argument that it is immune from liability on the theory that it is cloaked with the federal government's sovereign immunity because it is operating the facilities merely as an agent of the United States, which constructed the reclamation project allowing storage and delivery of the waters. See Salt River Valley Water Users' Ass'n v. Giglio, 113 Ariz, 190, 196-97, 549 P.2d 162, 168-69 (1976). Litigation raising similar issues growing out of recent floods in Phoenix is pending. Vittori v. Maricopa County Mun. Water Conservation Dist. No. 1, Nos. C-390135, C-392311 (Sup. Ct. Maricopa County), and it is reasonable to expect such conflicts to increase as urbanization proceeds within or below many districts, exacerbating flood problems.

^{94.} See supra note 12; see also Pring & Tombs, License to Waste; Legal Barriers to Conservation and Efficient Use of Water in the West, 25 ROCKY MT. MIN. L. INST. 25-1, 25-4 (1979), and authorities cited therein at n.11.

^{95.} Between 1950 and 1979, the population of the Western states grew significantly more rapidly than the nation as a whole. See U.S. DEP'T OF COMMERCE, BUREAU OF THE CENSUS, STATISTICAL ABSTRACT OF THE UNITED STATES, Table 10, at 12 (1980). Most of this growth was in urban areas, so that today the percentage of the population of most Western states in urban areas is higher than in the nation as a whole. *1d.* Table 26, at 20. The Census data also reveal that eight of the 15 fastest-

One rather ironic result is that substantial amounts of farmland are being converted to urban uses.⁹⁶

Another result is that these growing urban populations demand goods, services, and amenities—such as electricity, industrial developments, employment, and recreational opportunities—which can require substantial amounts of water. This in turn places further stress on the supplies of water available for irrigated agriculture. This trend is exacerbated by the

96. A recent inter-agency federal report estimated that between 1967 and 1977, about 7.3 million acres of farmland in the 17 Western states were converted to urban and other non-agricultural uses. NATIONAL AGRICULTURAL LAND STUDY, EXECUTIVE SUMMARY, AGRICULTURAL LAND DATA SHEET (1980) hereinafter NATIONAL AGRICULTURAL LANDS STUDY. In the 11 far Western states, the report concluded that, because of expected population growth, "the conversion pressure on existing cropland here is probably the strongest in the nation," and that increase in agricultural production there is "unlikely because of limited water supplies . . . for irrigation, and high energy costs for pumping" and competition for limited water from new urban growth and energy development projects. Id. at 5. See also A. KNEESE & F. BROWN, supra note 60, at 67-70; D. SHERIDAN, DESERTIFICATION IN THE UNITED STATES 47-49 (1981) (projecting a loss of over 400,000 acres of irrigable farmland in the San Joaquin Valley to urbanization by the year 2000). Further dramatic evidence of this trend can be found by focusing on individual areas. For example, between 1937 and 1974 the relative land uses in the Salt River Project in metropolitan Phoenix changed from 5.6% urban and 94.4% agricultural to 47% urban and 53% agricultural. Stipulated Statement of Facts 36, 45, Ball v. James, 451 U.S. 355 (1981) (on file at Arizona State Law Journal). See also C. SMITH, supra note 22, at 96-99. By 1980 the urban area had expanded over more than 70% of the District, Official Statement, supra note 22, at 6, and SRP predicts that large agriculture operations will dwindle to 25,000 acres by the turn of the century, and disappear sometime after that. Ariz. Republic, Feb. 25, 1982, at D-10, col. 1. See also Ball v. James, 451 U.S. 355, 381-82 (1981) (White, J. dissenting).

All across the West, non-agricultural uses are consuming an ever-increasing share of Bureau of Reclamation project water. In 1965, 12.4 million persons were served with 1.67 million acre-feet of water for non-agricultural purposes from the Bureau of Reclamation, whereas in 1979 18.9 million persons were served with 2.36 million acre-feet. Dep't of the Interior, Press Release, (Dec. 31, 1980). The short-lived change in the name of the Bureau of Reclamation, to the Water and Power Resources Service, was an attempt to reflect this shift away from the traditional, more narrow focus on reclaiming agricultural land. Secretary of the Interior Watt, however, restored the name Bureau of Reclamation after Secretary Andrus had changed it in November 1979. Dep't of the Interior, Press Release, (May 20, 1981); 46 Fed. Reg. 34345 (1981).

See also M. GOODALL, supra note 42, at 9, who reported that a "steadily decreasing share [of California water districts] relates primarily to the agricultural function" because of urbanization, and thus, "not surprisingly, Irrigation Districts are increasingly delivering water for domestic and industrial purposes." See also id. Tables 1-3, 1-4, at 10-11, which displays the results of the study on this point. For more discussion of urban-rural transfers in the context of water law and water institutions, see L. HARTMAN & D. SEASTONE, WATER TRANSFERS: ECONOMIC EFFICIENCY AND ALTERNATIVE INSTITUTIONS (1970); Smith, The Rural-Urban Transfer of Water in California, 1 NAT. Res. J. 64 (1961).

growing metropolitan areas in the United States from 1970 to 1980 are in the 11 Western states: Las Vegas, Nevada (2); Fort Collins, Colorado (4); Reno, Nevada (7); Provo-Orem, Utah (9); Phoenix, Arizona (10); Boise, Idaho (12); Richland-Kennewick-Pasco, Washington (13); and Tucson, Arizona (15). Nat'l J., Nov. 14, 1981, at 2029 (based on Bureau of the Census information). Interestingly, nearly all of these Western areas are or will be served by federal reclamation projects in existence or under construction. See U.S. DEP'T OF THE INTERIOR, BUREAU OF RECLAMATION, 1978 WATER AND LAND RESOURCE ACCOMPLISHMENTS, Statistical Appendix III (1978).

fact that these urban dwellers can, generally speaking, afford to pay more for water than their rural counterparts; i.e., agriculture is economically vulnerable to overt competition for water supplies.⁹⁷ Add to this the demand for water in connection with exploitation of Western energy resources,⁹⁸ federal defense projects such as the MX missile system, water rights claims of Indian tribes, and federal lands,⁹⁹ and the conclusion is

^{97.} A detailed comparison of the elasticity of demand for water in the agricultural sector as compared to other sectors has been done for the Albuquerque, New Mexico area. See G. BONEM, M. GISSER, J. MYERS, & M. RESTA, WATER DEMAND AND SUPPLY IN THE ALBUQUERQUE GREATER URBAN AREA (AGUA) 1975-2030, at 24-27 (Univ. of New Mexico, Bureau of Business & Economic Research, 1977). There it is reported that the demand elasticity, the percent change in water demand that results from a one percent increase in price, is as follows for various sectors:

Agriculture	37
Domestic	40
Electric Utilities	70
Manufacturing	80
Mining	-0.00

Thus, every increase in the price of water drops agricultural demand by the greatest amount. See also Howe & Linaweaver, The Impact of Price on Residential Water Demand and Its Relation to System Design and Price Structure, 3 WATER RESOURCES RESEARCH 13-32 (1967). The AGUA study concludes that irrigated agriculture holds the best possibility of reducing demand to bring the long term projected water supply and demand in the Albuquerque region into balance. Id. at 94-96. This is consistent with the broader conclusion of a study done for the National Water Commission, that "increasing the price of water for irrigation in the 17 Western states would create the potential for release of substantial quantities of water for uses in other sectors and locations without putting pressure on the Nation's food supplies or export potentialities or having other than minimal effects on the cost of food to the Nation's consumers." U.S. NAT'L WATER COMM'N, WATER POLICIES FOR THE FUTURE 16 (1973) [hereinafter cited as U.S. NAT'L WATER COMM'N]. See also id. at 247-59.

In many other areas of the West as well, the sheer bulk of agricultural water use makes that sector the most obvious place to look for conserving water as a substitute for developing new supplies. Because agriculture in most Western states uses about 90% of the water, improving its efficiency of water use by 10% would double the amount of water available for other uses. See generally Glenn, Water Conservation Opportunities on Federal Irrigation Projects, 65 RECLAMATION ERA 12 (1979). In recent instances where agriculture has come head to head with urban and industrial users in the political arena, it is agriculture which has yielded the most. For example, when agriculture squared off against the cities and mines in the Arizona legislature over the issue of groundwater management, agriculture came away the substantial loser. See, e.g., Connall, A History of the Arizona Groundwater Management Act, 1982 ARIZ, ST. L. J. 313. See generally A. KNEESE & F. BROWN, supra note 60, at 64-98. Congress's Office of Technology Assessment recently inaugurated a two year study to assess technologies for sustaining agriculture in the arid and semi-arid lands of the West. The work plan includes an assessment of the magnitude of water supply and availability problems, and would make recommendations for legislative and policy approaches to deal with these problems. See WORK PLAN, OFFICE OF TECHNOLOGY Assessment (May 21, 1981) (on file at Arizona State Law Journal).

98. See, e.g., U.S. DEP'T OF THE INTERIOR, REPORT ON WATER FOR ÉNERGY IN THE UPPER COLORADO RIVER BASIN (1974); Abbey, Energy Production and Water Resources in The Colorado River Basin, 19 NAT. Resources J. 275 (1979); Weatherford and Jacoby, Impact of Energy Development on the Law of the Colorado River, 15 NAT. RESOURCES J. 171 (1975).

99. See, e.g., Arizona v. California, 373 U.S. 546, 600-01 (1963); United States V. Truckee-Carson Irr. Dist. 649 F.2d 1286 (9th Cir. 1981).

366

inevitable: Western agriculture is, in many areas, under siege.¹⁰⁰

In the past such conflicts over how to slice the pie were largely avoided by expanding the pie. New water supplies were developed, often relying on evolving technology¹⁰¹ and underwritten by federal funds.¹⁰⁸ These new supplies have not totally "expunge[d] from our vocabulary the legend 'Great American Desert,' "¹⁰⁸ but they have resulted in vast new acreages being farmed and ample water supplies for burgeoning metropolitan populations throughout the West.¹⁰⁴ In short, they might be said to have effected a postponement in the closing of the water "frontier" in the West.¹⁰⁵ Yet it is now not much of an exaggeration to say that the water

Also in this connection, some have noted a related trend, that the character of Western agriculture itself has changed as "the corporate farm operator succeeds the farm settler." M. GOOALL, supra note 42, at 97. See also Will the Family Farm Survive in America, Hearings of the Sen. Select Comm. on Small Business and the Sen. Comm. on Interior and Insular Affairs, 94th Cong., 1st Sess (1975).

101. For example, the technology of the high dams. See A. GOLZE, supra note 15, at 172-73, 180-81; M. ROBINSON, WATER FOR THE WEST: THE BUREAU OF RECLAMATION 1902-1977, at 51-52, 71-72 (1979).

102. For example, the Reclamation Act of 1902, 43 U.S.C. 372 [codified in various sections throughout 43 U.S.C.]. See Sax, Selling Reclamation Water Rights: A Case Study in Federal Subsidy Policy, 64 MICH. L. REV. 13 (1965). Because developing and transporting new water supplies often involves substantial pumping requirements (for both groundwater and surface water), it is sensitive to the cost of electricity. The availability of low-cost hydroelectric power from federal dams has provided significant aid to such development, and under various "preference clauses" in federal power marketing laws, see, e.g., 16 U.S.C. § 796(7); 43 U.S.C. §§ 522, 617d(c) (1976), irrigation districts as governmental entities are eligible for preference over other, non-governmental utilities in receiving this low cost power. See Fereday, The Meaning of the Preference Clause in Hydroelectric Power Allocation under the Federal Reclamation Statutes, 9 ENV. L. 601 (1979). See also Arizona Power, Pooling Ass'n v. Morton, 527 F.2d 721 (9th Cir. 1975).

103. The description is Justice Sutherland's in California-Oregon Power Co. v. Beaver Portland Cement Co., 295 U.S. 142, 157-58 (1935).

104. See Table 1, supra and text accompanying notes 14-18. Per capita use of water in cities like Albuquerque, Las Vegas, Phoenix, and Salt Lake City ranges from 25-100% above the national average of 167 gallons per capita per day. See American Water Works Ass'n., 1981 Water Utility Operating Data, at 3-47.

105. The concept is borrowed from Frederick Jackson Turner's celebrated essay, *The Significance of the Frontier in American History*, which first appeared in 1893, and was published in book form in F. TURNER, THE FRONTIER IN AMERICAN HISTORY 1-38 (1921). Turner was, of course, talking about

^{100.} See, e.g., A. KNEESE & F. BROWN, supra note 60, at 74; D. SHERIDAN, supra note 96; NATIONAL AGRICULTURAL LAND STUDY, supra note 95. Recent examples abound. In Albuquerque, efforts by the local irrigation district to resist encroaching urban uses have ended up in court, as yet unresolved. See B. MCDONALD, supra note 90, at 9-85. In Colorado, it was recently reported that an irrigation district had denied the request by a farmer to irrigate 30 new acres, on the ground that it would adversely impact nearby residential users. High Country News, Oct. 30, 1981, at 4, col. 4. This, too, seems likely to end up in court. For a summary description of those irrigation districts in Arizona currently experiencing urbanization or demands by nearby urban areas to purchase their water supplies, see U.S. DEP'T OF THE INTERIOR, BUREAU OF RECLAMATION, FINAL ENVIRONMENTAL IMPACT STATEMENT, WATER ALLOCATIONS & WATER SERVICE CONTRACTING, CENTRAL ARIZONA PROJECT, Table 9, at 98-99 (FES 8-27, Mar. 19, 1982).

frontier is being inexorably closed in much of the West, and the implications for Western institutions like irrigation districts are likely to be significant.¹⁰⁶

From the beginnings of westward expansion, there was strenuous resistance to the idea that the West's natural aridity placed limits on what man can do there. Early boosters promoted the idea that the "rain follows the plow,"—that settlement and cultivation of the plains east of the Rockies would inevitably change the climate and bring forth more rainfall.¹⁰⁷ Once this myth had been buried by droughts in the latter part of the 19th century, other developments helped overcome the lack of substantial precipitation in the region. As a broad generalization, these developments might be divided into three categories, and three historical eras.

First, it took a few decades for most ordinary surface supplies to be appropriated under state law. In most Western states, this process was complete by about 1920.¹⁰⁸ During this period irrigation districts, once recognized by the laws of all Western states, often played a key role.¹⁰⁹

This condition of full or nearly full appropriation did not mark an end to new supplies of water, however. At about the time full appropriation of ordinary supplies was being reached, the federal government embarked on a major program to develop new supplies by constructing large storage and delivery systems under the reclamation laws,¹¹⁰ which also came to rely heavily on local irrigation districts for distribution and repayment. This program is now winding down, as the best reservoir sites have been taken, rivers have been fully "controlled," competition for federal subsidies has increased, the wisdom of subsidizing new agricultural development in the West has been questioned, and opposition by environmental-

106. Although the parallel to institutions dealing specifically with water development and use is obviously not exact, Turner's thesis seems to hold meaning in considering the adaptation of these institutions to the declining availability of new supplies of water.

107. See, e.g., W. STEGNER, BEYOND THE HUNDREDTH MERIDIAN 3, 371 n.2 (1954).

the frontier as a land-related idea, and his essay explored the implications of the end of the era of free land and the completion of the advance of non-Indian settlement westward across the continent.

The end of this era, he argued, marked the close of a significant period in American history, because American institutions had been shaped in fundamental ways by the constant adaptation required to develop "the primitive economic and political conditions of the frontier into the complexity of city life." *Id.* at 2.

^{108.} The number of irrigated acres in the 17 Western states grew from 3.6 million acres in 1889 to 18.6 million acres in 1919, and then increased only slightly, to 20.4 million acres, by 1939. A. GOLZE, *supra* note 15, at 42, Table 2-2. Golze's figures do not exactly correspond with the Bureau of the Census data during this period, as shown on Table 1, *supra* at 348, but he does not explain the discrepancy.

^{109.} See W. HUTCHINS, supra note 80, at 2.

^{110.} A. GOLZE, supra note 15, at 168-97; M. ROBINSON, supra note 101, at 19-48.

ists and potential exporting areas has become more vociferous.111

As the reclamation program moved into its heyday in the two decades following the Great Depression,¹¹³ another source of "new" water groundwater—became available, with enormous impact in areas where it was accessible. Large underground aquifers were tapped, aided by development of the high-speed centrifugal pump, federally assisted rural electrification, and the availability of cheap hydropower from federal reclamation projects.¹¹³ Here, too, irrigation districts often played a key role in overseeing this development,¹¹⁴ but groundwater is likewise diminishing in attractiveness. Aquifers are being depleted in many areas much faster than the rate of recharge, and declining water levels, increasing pump lifts, and inflating electricity costs have combined to make pumping much more expensive.¹¹⁸

There are, to be sure, other possible new "sources" of water which could once again expand available supplies and thus postpone indefinitely the closure of the water frontier. Weather modification, large-scale importation schemes such as towing icebergs from polar regions, desalinization, and developments in plant genetics and irrigation techniques which reduce agricultural water consumption are some that come to mind, but most seem fraught with uncertainty, particularly concerning technological and economic feasibility.¹¹⁶ Barring dramatic breakthroughs in these areas, it seems that some practical limit to new supplies of water, derived ultimately from the natural aridity documented by John Wesley Powell,¹¹⁷ is being or has been reached in much of the arid West.¹¹⁸

The consequence is likely to be enormous, for it signals a shift in em-

^{111.} See, e.g., U.S. NAT'L WATER COMM'N, supra note 97, at 1-17, 485-525. See also remarks by Senator Moynihan of New York and several colleagues in support of their unsuccessful proposals to reduce the Bureau of Reclamation's budget in fiscal year 1982. 127 CONG. REC. 54,626-30 (daily ed., May 8, 1981); 54681-96 (daily ed., May 11, 1981); the debate about the extent to which local beneficiaries should contribute more to federal dam safety expenditures, 128 CONG. REC. H1662-76 (daily ed., Apr. 29, 1982); and A. KNEESE & F. BROWN, supra note 60, at 76.

^{112.} M. ROBINSON, supra note 101, at 49-78.

^{113.} See, e.g., U.S. NAT'L WATER COMM'N, supra note 97, at 230-47.

^{114.} Some states also authorized the creation of separate special districts specifically to supply electrical energy to drive pumps for tapping groundwater for irrigation. See, e.g., ARIZ. REV. STAT. ANN. §§ 30-501 to -600 (1976). First enacted in 1923, this Chapter limits the franchise for electing directors to owners of real property but does not authorize acreage-based voting. Id. at § 30-542.

^{115.} See, e.g., GOVERNOR'S COMMISSION TO REVIEW CALIFORNIA WATER RIGHTS LAW, FINAL REPORT 135-69 (1978); U.S. NAT'L WATER COMM'N, supra note 97, at 230-47.

^{116.} See, e.g., U.S. NAT'L WATER COMM'N, supra note 97, at 335-63.

^{117.} J. POWELL, REPORT ON THE LANDS OF THE ARID REGION (Gov't Printing Office, 1879); W. STEGNER, supra note 107, chs. 3-5.

^{118.} See, e.g., A. KNEESE & F. BROWN, supra note 60, at 72 (the Southwest "is approaching a condition in which renewable supplies of water are fully utilized and the untapped stocks of ground-water have become very expensive to obtain").

phasis from developing new supplies to better management of existing supplies, including reallocation of those supplies by transfers from uses with lower economic value to those with higher value.¹¹⁹ "Management" has, of course, many layers of meaning—all developed water is in some sense managed, but the actual use of water, like most other natural resources, has usually been managed and reallocated by the private sector, and at least partially in response to economic forces.¹²⁰

But the tradition of governmental involvement in Western water policy runs strong and deep. State laws authorizing the creation of irrigation districts as public, governmental entities¹²¹ are an early but by no means isolated example. At about the same time Western states were authorizing such districts, these states were also creating administrative systems of water rights which, officially at least, placed the allocation and control of water uses largely in the hands of state governmental administrators.¹²² And the significant role of the federal government in making new supplies of water available has already been mentioned.¹²³

The new emphasis on management of apparently limited water supplies has thus brought forth calls for increased direct governmental management—command-and-control bureaucracies created to dictate how water will be used, from what sources, for what purposes, and in what amounts. Some states have heeded these calls suddenly and comprehensively. Arizona, for example, has recently shifted from an official policy of very limited management to one of very aggressive management of its largely non-recharging groundwater supplies.¹²⁴ The extremely detailed new

120. See, e.g., L. HARTMAN & D. SEASTONE, supra note 96, at 119-24.

121. See W. HUTCHINS, supra note 80, at 2.

123. See supra text accompanying notes 62-63 & 110-11.

124. ARIZ. REV. STAT. ANN. §§ 45-401 to -637 (Supp. 1981-1982); Higdon & Thompson, The 1980 Arizona Groundwater Management Code, 1980 ARIZ. ST. L.J. 621.

^{119.} See Ingram, Laney & McCain, Managing a Limited Resource: The Political Constraints on Water Policy in the Four-Corners States, 1979 UTAH L. REV. 719, 744 ("{A]llocating water today [in the four corners states] so that no one loses is difficult, if not impossible, because the physical limits of ground and surface water have nearly been reached."). Based on opinion polls of voters and state senators, these authors conclude that "despite all pressures for change," those surveyed "want to treat water as Christ's disciples treated the loaves and fishes, apportioning to all comers as if, by some miracle, the little water that is available will go around." *Id.* at 719. For a series of case studies of water rights transfers in Wyoming, several involving irrigation districts, see Trelease & Lee, *Priority and Progress—Case Studies in the Transfer of Water Rights*, 1 LAND AND WATER L. REV. 1 (1966).

^{122.} See, e.g., Lasky, From Prior Appropriation to Economic Distribution of Water, (in three parts) 1 ROCKY MT. L. REV. 161, 1 ROCKY MT. L. REV. 248, & 2 ROCKY MT. L. REV. 35 (1929). After reviewing state water law doctrines, one commentator has concluded: "Throughout state water law there seems to be a pervasive distrust of the use of the market mechanism for the allocation of water resources." Milliman, Water Law and Private Decisionmaking: A Critique, 2 J. L. & ECON. 41, 63 (1959).

OVERVIEW

groundwater code is bottomed on a single premise: that the state government should, through exercise of the police power, directly control nearly every aspect of the development, allocation, and use of water in the major water using areas of the state. This evolution is mirrored, although without quite so much drama, by recent experiences of several other Western states.¹²⁵

V. IRRIGATION DISTRICTS AND FUTURE NEEDS

It is beyond the scope of this paper to debate the broad issue whether government should play this more aggressive role; whether the private sector, guided solely by economic forces, should do so; or whether some mix of the two is appropriate. It does seem safe to assume, however, that the tradition of heavy governmental involvement in Western water will continue, and it is worth noting that several states have acted in recent years to create special districts to deal specifically with groundwater overdraft problems, apparently on the theory that management of groundwater is best achieved by special units of government, operating at the local or regional rather than the state level.¹²⁶

Of immediate concern here is the role the irrigation district should play in that process. The polar positions, simply stated, are as follows. One approach would abolish such districts, remove their governmental cloak, and treat them as private business entities subject only to the same kinds of state regulation as other private water users in the state. Another approach would emphasize and build upon the governmental character of these districts, to give them a central role in the management process, at the local or regional level.

The first option is worth more serious consideration today than it might have been even a couple of years ago because of one of the tenets of what might be described as the "Reagan revolution"—a questioning of the propriety of governmental involvement in many areas. This has been manifested in such areas as federal land ownership,¹²⁷ elimination of various

^{125.} See, e.g., Aiken & Supulla, Ground Water Mining and Western Water Rights Law: The Nebraska Experience, 24 S.D. L. REV. 607 (1979).

^{126.} See, e.g., GOVERNOR'S COMMISSION TO REVIEW CALIFORNIA WATER RIGHTS LAW, FINAL REPORT, 166-67 (1978); Bagley, Water Rights Law and Public Policies Relating to Ground Water "Mining" in the Southwestern States, 4 J. L. & ECON. 144, 163-65 (1961); Krieger & Banks, Groundwater Basin Management, 50 CAL. L. REV. 56 (1962); Peck, Kansas Groundwater Management Districts, 29 KAN. L. REV. 51 (1980).

^{127.} See Leshy, Unraveling the Sagebrush Rebellion: Law, Politics and Federal Lands, 14 U. CAL. DAVIS L. REV. 317, 354 n.116 (1980); see also Public Lands News, Oct. 19, 1981, at 2-3, recounting a speech by Steven Hanke, advisor to the President's Council on Economic Advisors, to the Public Lands Council advocating transfer of federal lands to private interests; *id.* Jan. 21, 1982,

federal programs and a cutback in funds for others, and shifting responsibility from the federal government to state and local governments and the private sector.¹⁹⁸

While much of the new Administration's attention has focused on the federal government, the social philosophy it represents raises similar questions about all government. Thus the same presidential advisor who has floated a proposal to divest the federal government of most of its landholdings has also proposed the transfer of all public water systems into the private sector.¹⁹⁹ Further, the Administration has proposed to cut sharply back on the authority of some special governmental districts to issue certain kinds of tax exempt bonds¹⁸⁰ which is, as we have seen, one of the main reasons for creating irrigation districts¹⁸¹ in recent decades.

One early water law scholar described irrigation districts as "a direct application of the principle of public ownership of public utilities."¹⁸² The spirit of these times makes timely a re-evaluation of the wisdom of continuing to apply that principle, particularly considering that irrigation districts have always coexisted with (and often were preceded by) parallel private systems for developing and distributing water.

Focusing for the moment on Arizona's approach, over the years the state legislature has sometimes regarded irrigation districts as regulatory instrumentalities of the state and at other times, conversely, has subjected these districts' activities to some forms of state agency regulation. An example of the former is the decision of the legislature in 1962 to give what appears to be an absolute veto to "any irrigation district, agricultural improvement district or water users' association" over the severance or transfer of any water rights "from any watershed or drainage area which supplies or contributes water for the irrigation of lands within" such an

at 1-2; id. Feb. 4, 1982, at 3-4.

^{128.} See, e.g., Nat'l J., Nos. 1-52, passim (1981).

^{129.} Hanke, Crisis-Ridden Water Systems Should Go Private, Wall St. J., Sept. 3, 1981, at 24, Col. 4.

^{130.} Specifically, the use of tax-exempt industrial development bonds to finance installation of pollution control equipment or hazardous waste facilities. See Effort Launched to Reverse Cuts Set for Tax-exempt Pollution Control Financing, ENV'T REP (BNA) 1291-92 (Feb. 5, 1982). Other Presidents and Presidential candidates in recent years have proposed to eliminate the federal tax exemption for certain kinds of special district or municipal bonds. See, e.g., Goldberg, A Call to Action: State Sovereignty, Deregulation and the World of Municipal Bonds, 13 URB, LAW, 253, 260-61 (1981); Note, Constitutionality of the Tax Exempt Status of Municipal Bonds, 18 S.D. L. REV. 221 (1973). See also supra note 46; Bergan, Industry's Bondage Fetish, WASHINGTON MONTHLY 18 (Jan. 1981); Note, Industrial Development Bonds: A Proposal for Reform, 65 MINN, L. REV. 961 (1981).

^{131.} See supra text accompanying notes 41-48.

^{132.} I S. WIEL, supra note 1, at § 1371.

entity.¹³³ Because apparently no harm need be shown by the district or its landowners,¹⁸⁴ the district is given regulatory control over all water transfers throughout all watersheds which contribute water to the district.

Examples of both are found in the 1980 Groundwater Code.¹³⁵ While that Code contains various special provisions and exemptions applicable only to irrigation districts,¹³⁶ it also subjects these districts to the key water conservation and management provisions generally applicable to all developers and users of water in specified areas of the state.¹³⁷

Moreover, while many of these districts in Arizona as elsewhere employ acreage-based voting in electing their management, and enjoy plenary or near-plenary authority to set water and power rates, the Arizona legislature has recently made what might be regarded as cosmetic changes in both areas. Thus landowners owning less than an acre in agricultural improvement and power districts in Arizona (of which there is only one-the Salt River Project) have been allowed, since 1976, to cast a fraction of a vote equal to the fraction of an acre owned,¹⁸⁸ and in that same year the legislature enlarged the district board from ten to fourteen, with the four new directors to be resident landowners elected at large on the basis of one vote per landowner.¹⁸⁹ In a third bill enacted that same session, the legislature provided that the district board shall afford landowners and other electrical customers notice and the opportunity to file written comments or make oral presentations on proposed rate changes.¹⁴⁰ Although the board is required to review such comments, the decisionmaking power on rates remains solely with the board.141

These modifications in state laws governing irrigation districts appear to have been made in response to the evolving functions of these districts

134. See Salt River Water Users' Ass'n v. Kovacovich, 3 Ariz. App. 28, 411 P.2d 201 (1966).

135. ARIZ. REV. STAT. ANN. §§ 45-401 to -637 (Supp. 1981-1982).

136. Id. §§ 45-494 to -497.

^{133.} ARIZ. REV. STAT. ANN. § 45-172(5) (Supp. 1981-1982). For a review of the power of conservancy districts in New Mexico to affect transfers of water rights, see Comment, *Legal Impediments to Transfers of Water Rights*, 7 NAT. RES. J. 433, 439-41 (1967); B. MCDONALD, *supra* note 90, at 55-65. See also COLO. REV. STAT. § 36-7-102 (1974), which forbids cutting trees "needed to conserve the snows, ice or water of any irrigation district" on any part of "the public domain" except as provided therein.

^{137.} Id. §§ 45-496, 45-541 to -545, 45-561 to -575. On the other hand, the legislature recently proposed, and the electorate approved, a spending and property tax constitutional limitation which expressly excluded special districts from its ambit. ARIZ. CONST., art. IX, § 19(2)(b) (Supp. 1982). This provision did, however, authorize the legislature to "provide for expenditure limitations for such special districts as it deems necessary." ARIZ. CONST., art. IX, § 20(7) (Supp. 1982).

^{138.} ARIZ. REV. STAT. ANN. § 45-983(c) (Supp. 1981-1982).

^{139.} Id. § 45-965(D).

^{140.} Id. § 45-933.01.

^{141.} Id. § 45-933.01(E).

in the face of the demographic and other changes described earlier. This process of adaptaton raises fundamental questions concerning the future function of such districts, and the control which has been or might be exercised by states over such districts. They are, after all, creatures of state law and remain subject, within constitutional limits, to state legislative control.¹⁴² While legislatures have almost from the beginning delegated rather broad powers to these districts, it was perhaps inevitable that the narrowness of their original rural irrigation purpose would raise questions about whether these laws provide sufficient flexibility to enable these districts to adapt to demographic shifts and other emerging concerns. Moreover, the ongoing shift in water use from agricultural to municipal and industrial purposes in those districts undergoing urbanization also implicates generic state water laws which govern such transfers. One article which follows addresses some of these questions.¹⁴³

Another generic issue concerns the limits imposed by the federal and state constitutions on the selection of management of these districts. The recent Supreme Court decision in *Ball v. James*¹⁴⁴ addressed directly the issue whether urban dwellers served with water and power by an irrigation district should have a more significant say in district policies, through application of the one-person/one-vote constitutional test to elections for the district board of directors. Another article which follows analyzes the Court's decision and discusses its implications for other such districts.¹⁴⁵ A related article employs tools of economic analysis in assessing the impact of management selection techniques on economic policies of such districts.¹⁴⁶

For many of these districts, there is still another legal element of which account must be taken—the role of the federal Bureau of Reclamation. Where Bureau projects exist, federal law overlaps state law to provide additional legal constraints on the operations of public irrigation districts receiving the benefits of the federal projects.¹⁴⁷ Such constraints are em-

^{142.} See Ball v. James, 451 U.S. 355, 372-74 (1981) (Powell, J., concurring); compare United States Trust Co. v. New Jersey, 431 U.S. 1 (1977) (state impaired the obligation of its contract in violation of Art. 1, § 10 of the Constitution when it repeated its statutory covenant not to use Port Authority revenues pledged as security for Authority bonds for certain purposes) with El Paso v. Simmons, 379 U.S. 497 (1965) (no constitutional violation for state to shorten the time for reinstating a defaulted land claim).

^{143.} Comment, supra note 35, at 412-14.

^{144. 451} U.S. 355 (1981).

^{145.} DeYoung, Governing Special Districts: The Conflict Between Voting Rights and Property, 1982 ARIZ. ST. L.J. 419.

^{146.} McDowell & Ugone, The Effect of Institutional Setting on Behavior in Public Enterprises: Irrigation Districts in the Western States, 1982 ARIZ, ST. L.J. 453.

^{147.} See, e.g., California v. United States, 438 U.S. 645 (1978); 43 U.S.C. §§ 372, 383 (1976).

OVERVIEW

bodied in both federal legislation and Bureau contracts with districts, yet are extraordinarily murky,¹⁴⁸ and have rarely been the subject of scrutiny.¹⁴⁹ Great potential exists for conflict between state and federal laws and policies,¹⁸⁰ and some recent cases display actual conflicts.¹⁸¹ Furthermore, the federal reclamation subsidy for agricultural irrigation is directly affected when water use in reclamation projects shifts away from agriculture, as is increasingly the case in many reclamation projects.¹⁵² Fresh attention to these issues is clearly warranted, and the final article which follows examines the role of the Bureau of Reclamation in irrigation districts undergoing urbanization, and criticizes the Bureau's extension of the agricultural water subsidy to municipal users in such situations.¹⁵³

VI. CONCLUSION

In sum, many irrigation districts today find themselves caught in the middle of a maelstrom. Created for limited purposes which enjoyed widespread popular support, they must now grapple with a more complex world, where conflicting demands and new emphases in federal and state policies require adaptation. It is in this setting that the current project has been developed. The articles that follow are not exhaustive in scope, but they are an important first step. Special governmental districts in general have perhaps not received the attention they deserve, and irrigation districts in particular have in recent times substantially escaped serious scrutiny.¹⁵⁴ Because it seems inevitable that the trends giving rise to the cur-

- 152. See supra notes 78, 89, 95-96 & 100.
- 153. Comment, supra note 87, at 522-29.

^{148.} The subject has been aptly described as "pregnant with confusion." Comment, Voter Restrictions in Special Districts: A Study of the Salt River Project, 1969 L. & THE SOC. ORDER [now ARIZ. ST. L.J.] 636, 655, n.114; see also Goldberg, Interposition—Wild West Water Style, 17 STAN. L. REV. 1 (1964).

^{149.} For the best of the few available efforts, see Trelease, Reclamation Water Rights, 32 ROCKY MT. L. REV. 464 (1960).

^{150.} See, e.g., Note, Water Districts Contracting for Water with the Bureau of Reclamation—Can a State-Created Entity Violate State Laws? 11 U. CAL. DAVIS L. REV. 473 (1978). See also supra note 93; C. SMITH, supra note 22, at 59, who notes that SRP has used its tie with the federal bureaucracy "as a source of power to ward off threats from outside organizations." The same strategy has been employed by the Middle Rio Grande Conservancy District in central New Mexico. See M. MCDONALD, supra note 90.

^{151.} California v. United States, 438 U.S. 645 (1978); on remand, 509 F. Supp. 867 (E.D. Cal. 1981); United States v. Alpine Land Reservoir Co., 503 F. Supp. 877 (D. Nev. 1980), appeal docketed, Nos. 81-4084, 81-4116 (9th Cir.).

^{154.} Besides the studies cited in various notes *supra*, the literature is relatively sparse. A brief but penetrating analysis appears in C. CORKER, GROUNDWATER LAW AND MANAGEMENT ANO ADMINISTRATION (Legal Study No. 6 for the Nat'l Water Comm'n, 1971), although Professor Corker's prediction of the outcome of Ball v. James, 451 U.S. 355 (1981) proved erroneous. He wrote that property ownership as a voting qualification for irrigation districts "is probably unconstitutional today,

rent stresses will continue, we hope our work will encourage others to take up these and related important issues, to help inform their resolution in the legislatures and the courts.

particularly in a district which has added a range of functions in addition to irrigation to its powers." Id. at 253. Cf. De Young, supra note 145, at 444-52. Treatises on water law and irrigation published around the turn of the century usually devoted a chapter or two to irrigation districts. See, e.g., H. FARNHAM, LAW OF WATERS AND WATER RIGHTS, §§ 616-622 (1904); C. KINNEY, LAW OF IRRIGA-TION, ch. 70 (2d Ed. 1912); LONG, LAW OF IRRIGATION, ch. XV (2d Ed. 1916); I S. WEIL, supra note 1, ch. 58. The analysis that appears in some of these treatises has likewise not withstood the test of time. Thus, Kinney found a "very close analogy" between irrigation districts and public school districts, in describing how each are controlled by affected citizens through voting for their directors. KINNEY, supra this note, at § 1389. This analogy was found wanting in Ball v. James, 451 U.S. 355, 364 n.8, and 451 U.S. at 373 n.2 (Powell, J. concurring) (1981); cf. Hadley v. Junior College Dist., 397 U.S. 50 (1970); Kramer v. Union Free School Dist., 395 U.S. 621 (1969).