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Water Planning: Untapped Opportunity for the Western States

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I. INTRODUCTION

The western states face shifting and increasing resource demands that dictate, now more than ever, the implementation of workable, comprehensive state water planning. This article explores the objectives, advantages, and fundamentals of water planning. After reviewing past, largely unsuccessful attempts at water planning and some promising recent efforts, the article suggests methods of attaining and applying a successful planning process.

Water planning, like planning for other resources, means articulating policy and applying that policy to specific facts and data. It was characterized by the National Water Commission as "the prelude to informed decisionmaking."[1] To be effective, water planning must be a strategic effort that integrates policy with the best available resource information, providing guidance and assistance for future actions.

The physical nature of the water resource, which is fluid and widely shared among many competitors,[2] and the nature of legal in-

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[1] NATIONAL WATER COMMISSION, WATER POLICIES FOR THE FUTURE 365 (1973).

[2] Under the appropriation doctrine, when return flows from senior water rights holders rejoin the stream, they are subject to appropriation by others downstream. State laws protect downstream junior appropriators from adverse impacts caused by changes in upstream water use patterns that may alter return flows to the streams. *E.g.*, City of Boulder v. Boulder & Left Hand Ditch Co., 192 Colo. 219, 557 P.2d 1182 (1977) (change in place of use must not diminish the return flow available to junior appropriators); Farmers Highline Canal & Reservoir Co. v. City of Golden, 129 Colo. 575, 272 P.2d 629 (1954) (junior appropriators have a right to "continuation of stream conditions as they existed at the time of their respective appropriations"); Enlarged Southside Irrigation Co. v. John's Flood Ditch Co., 120 Colo. 423, 210 P.2d 982 (1949) (change in place of use is allowed only if it will not result in harm to junior appropriators);

terests in water, which is declared property of the public (or the state) in most western state constitutions,[3] suggest the need for articulation and application of clear state policies on how water is to be used. Yet western states have not developed a future vision for use and protection of their water resources. Although most have embarked on water planning, and some have produced documents called "plans," these usually have been little more than proposals for particular structural developments. Few plans assess a full range of alternatives for water supply or deal with water management issues.

The neglect of state water planning has resulted in serious consequences: depletions and contamination of groundwater; huge, expensive projects that are ready to deliver water at times and in places it is not needed; communities with rights to more water than they will ever need next to communities with inadequate water for their basic needs; salinity levels and soil erosion annually costing millions of dollars in lost productivity; economies built on water-based recreation threatened by "senior" rights that can dry up streams; and picturesque canyons and riparian habitat that have been destroyed to provide water that could have come from other, less harmful sources. Unlike failures of land use policies, these failures of water policy are not as obvious as a slum or unsightly strip development. The inundated canyon is, after all, a reservoir that may be used by boaters and which is impressive as an engineering feat. Furthermore, the financial costs of past mistakes are hidden because many were financed by or, in the case of pollution clean-up, remedied by the federal government.

Water resources planning can introduce regularity into public interest determinations in water allocation and administration decisions. Further, planning can help to prevent federal dominance in state water matters and protect states' rights in interstate waters.[4] A public trust can also be carried out without surprises when foresight is expressed in a planning process. It will never be easy to reach

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Weibert v. Rothe Bros., Inc., 200 Colo. 310, 618 P.2d 1367 (1980); W.S. Ranch Co. v. Kaiser Steel Corp., 79 N.M. 65, 439 P.2d 714 (1968). *See also* D. GETCHES, WATER LAW IN A NUTSHELL 159-78 (1984); C. MEYERS, A. TARLOCK, J. CORBRIDGE & D. GETCHES, WATER RESOURCE MANAGEMENT 347-60 (3d ed. 1988).

[3] *See* ALASKA CONST. art. VIII, § 3; CAL. CONST. art. 10, § 5; COLO. CONST. art. XVI, § 5; IDAHO CONST. art. 15, § 1; MONT. CONST. art. IX, § 3; N.M. CONST. art. XVI, § 2; N.D. CONST. art. XI, § 3; WASH. CONST. art. XXI, § 1; WYO. CONST. art. VIII, § 1. The state's "property" interest is essentially regulatory, not a proprietary ownership interest. The resource is subject to appropriation by private users. 1 S. WIEL, WATER RIGHTS IN THE WESTERN STATES § 172 (3d ed. 1911).

[4] *E.g.*, Nevada v. United States, 463 U.S. 110, 144 (1983); Arizona v. California, 460 U.S. 605, 620 (1983). *See* R. DUNBAR, FORGING NEW RIGHTS IN WESTERN WATERS (1983).

agreement on how to balance diverse public interests and values, but a deliberate process for developing water policies and plans can address these questions in an orderly and timely manner. Elimination of uncertainty is a fundamental purpose of western water law.

II. The Need for Water Planning

A. *Shifting Demands*

As competition for water in the West becomes keener, water planning becomes more urgent. The most important competitors for western water are growing urban areas that need to divert, transport, and store water for domestic uses,[5] and recreational users who demand clean, flowing water in streams and full lakes for fish, wildlife, and water-based activities.[6] There is a strong public interest in securing sufficient water for both types of uses. Both are necessary for a thriving Western economy.

Pressures for new allocations and reallocation of water rights impel growing urban areas to seek water sources from distant areas that must suffer the consequences of major water exports.[7] Agriculture, which holds rights to most western water, will relinquish much of the water needed for new uses.[8] Thus, the fate of family farms and of rural communities depends in part on policies guiding water transfers.

Instream flow programs are beginning to appear in many western states.[9] But states have not clearly determined policies concerning

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[5] Western states' urban populations all grew between 1970 and 1980, with increases ranging from six percent in Kansas to 73% in Nevada. United States Department of Commerce, Bureau of the Census, 1980 Census of Population, General Population Characteristics (1982).

[6] Tarlock, *Appropriation for Instream Flow Maintenance: A Progress Report on "New" Public Western Water Rights*, 1978 Utah L. Rev. 211; Wilkinson, *Western Water Law in Transition*, 56 U. Colo. L. Rev. 317, 334 (1985).

[7] *See generally* MacDonnell & Howe, *Area-of-Origin Protection in Transbasin Water Diversions: An Evaluation of Alternative Approaches*, 57 U. Colo. L. Rev. 527 (1986).

[8] Agriculture accounts for 90% of the consumptive use of water in the West. J. Bredehoeft, *Physical Limitations of Water Resources*, in Water Scarcity: Impacts on Western Agriculture 29 (E. Engelbert ed. 1984). One writer found that if conservation measures were implemented that produced a seven percent reduction in agricultural use, the water available for other purposes would double. F. Welsh, How to Create a Water Crisis 55 (1985).

[9] Instream flow laws include: Alaska Stat. § 46.15.145 (Supp. 1986); Colo. Rev. Stat. § 37-92-102 (1973 & Supp. 1987); Idaho Code §§ 67-4301 to -4312 (1980) (authorizing administrative filings on specific streams); Idaho Code § 42-1501 (1980) (all streams); Kan. Stat. Ann. § 82a-703a-c (1984); Neb. Rev. Stat. § 46-2, 107 to -117 (Supp. 1985); Mont. Code Ann. §§ 85-2-601 to -608 (1985) (streamflow requirements for streams in the Yellowstone River Basin); Or. Rev. Stat. § 536.325 (1985); Utah Code Ann. § 23-21-1 (1984) (Division of Wildlife Resources may buy or lease water rights); Utah Code Ann. § 73-3-3 (Cum. Supp. 1987) (Division of Wildlife

the appropriate level of protection. Persistent issues include whether fisheries should be protected to the fullest possible extent, or just enough for bare survival, and whether recreational boating or aesthetics are to be protected.[10] The health of a burgeoning, multi-billion dollar tourism industry[11] and the cost of water for new communities[12] both hang in the balance.

Western states, intent on securing their future economic growth and vitality, project future land use, roads, schools, taxes, and labor force size. Water needs are rarely discussed in the same context. Instead they are left to separate experts and systems of rights.

B. *Marketability of Water Rights*

The transferability of water rights under the prior appropriation system is heralded as one of the great advantages of that doctrine.[13] Market transfers are generally allowed in some form in the western states.[14] Theoretically, these transfers move water to the highest valued uses and thus serve society's most important needs as expressed in the marketplace. Thus, most commentators agree that unnecessary legal restraints on water transfers should be removed.[15]

Resources may change use of existing water rights to instream flow protection); WASH. REV. CODE ANN. §§ 90.22.010, -.040 (Cum. Supp. 1985); WYO. STAT. § 43-3-1001 to -1004 (Cum. Supp. 1987). California has no instream flow law, but requires a case-by-case review of all applications to ensure protection of instream values. CAL. WATER CODE §§ 1256, 1260 (West 1971). *See also* J. BAGLEY, D. LARSON & L. KAPALOSKI, ADAPTING APPROPRIATION WATER LAW TO ACCOMMODATE EQUITABLE CONSIDERATION OF INSTREAM FLOW USES (1983); Tarlock, *supra* note 6; WESTERN STATES WATER COUNCIL, INSTREAM FLOWS AND THE PUBLIC TRUST (1986).

[10] *See* Tarlock, *supra* note 6, at 214-20 (discussing the various methodologies for instream flow standards and the underlying philosophies); J. BAGLEY, D. LARSON & L. KAPALOSKI, *supra* note 9, at 35-56.

[11] In 1981 tourists spent 46 billion dollars in the 11 western states, up nearly 87% from 1976. C. GOELDNER & K. DUEA, TRAVEL TRENDS IN THE UNITED STATES AND CANADA, at Table 12 (1984).

[12] *See generally* D. GIBBONS, THE ECONOMIC VALUE OF WATER (1986).

[13] *E.g.*, C. MEYERS & R. POSNER, MARKET TRANSFERS OF WATER RIGHTS: TOWARD AN IMPROVED MARKET IN WATER RESOURCES (1971); WATER AND AGRICULTURE IN THE WESTERN U.S.: CONSERVATION, REALLOCATION, AND MARKETS 193-214 (G. Weatherford ed. 1982); NATIONAL WATER COMMISSION, WATER POLICIES FOR THE FUTURE 260 (1973). *See generally* Wahl & Osterhoudt, *Voluntary Transfers of Water in the West*, in NATIONAL WATER SUMMARY 1985-HYDROLOGIC EVENTS AND SURFACE-WATER RESOURCES, U.S. Geologic Survey Water-Supply Paper 2300 113 (1986).

[14] NATIONAL WATER COMMISSION, *supra* note 13, at 260. *See, e.g.*, ARIZ. REV. STAT. ANN. § 45-172 (Cum. Supp. 1986); CAL. WATER CODE § 1745 (West Supp. 1987); IDAHO CODE § 42-207 (1977); MONT. CODE ANN. § 85-2-403 (1985); NEV. REV. STAT. § 533.385 (1986); N.M. STAT. ANN. § 75-5-22 (1985); OR. REV. STAT. § 537.220 (1985); WASH. REV. CODE ANN. § 90.03.380 (1987).

[15] *See* NATIONAL WATER COMMISSION, *supra* note 13, at 260-61; C. MEYERS & R. POSNER, *supra* note 13, at 47; B. DRIVER, WESTERN WATER: TUNING THE SYSTEM (1986) (Report to the Western Governors' Association by the Water Efficiency Task Force); Williams, *A Market-*

Yet legal, institutional, and cultural barriers prevent the ideal of free transferability of water rights from being fully realized.[16] Those who seek to sell or buy water rights must deal with a wide margin of uncertainty as to the marketability or value of rights because of constraints intended to protect certain interests.[17] Protection for existing uses is the most extensive limitation on the transferability of water rights.[18] Public concerns with how water is used also lead to policies and laws that limit the marketability of rights.[19] A notion that every-

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Based Approach to Water Rights: Evaluating Colorado's Water System, in TRADITION, INNOVATION AND CONFLICT: PERSPECTIVES ON COLORADO WATER LAW 107, 109-16 (L. MacDonnell ed. 1986).

[16] The National Water Commission reported that legal and institutional obstacles obstruct the smooth operation of the transfer process in many parts of the West. It concluded that removal of these obstacles would significantly increase the number of transfers from low value water uses to high value uses. NATIONAL WATER COMMISSION, *supra* note 13, at 260-61. In addition, transfers are inhibited by inadequacy of records, i.e., some rights to use water do not appear of record and some claims that do appear are not legally enforceable because of abandonment and forfeiture. *See* C. MEYERS, A. TARLOCK, J. CORBRIDGE & D. GETCHES, *supra* note 2, at 347. The no injury rule discussed *supra* in note 2 can also impede transfers. Colorado law provides that the party applying for a transfer or change of water right bears the burden and cost of showing no injury to other water users. COLO. REV. STAT. § 37-92-304(3) (Cum. Supp. 1986). This can be a substantial cost, as dozens of parties have the right to be heard in water court, and the change or transfer must be defended against all challenges. *See* Martz & Raley, *Administering Colorado's Water: A Critique of the Present Approach*, in TRADITION, INNOVATION AND CONFLICT: PERSPECTIVES ON COLORADO WATER LAW 41, 52-56 (L. MacDonnell ed. 1986). In addition, the transferable water right is limited to the amount historically consumed, not the decreed (or permitted) "paper" right. *E.g.*, Green v. Chaffee Ditch Co., 150 Colo. 91, 371 P.2d 775 (1962). Thus, it takes a trial to decide the amount actually for sale.

[17] For instance, some states attempt to protect areas of origin from the effects of transbasin diversions. California assigns a permanent priority to the area of origin for certain categories of exported water. *See* CAL. WATER CODE §§ 10505, 11460 (West 1971 & Supp. 1985). These statutes have been criticized as injecting a significant element of uncertainty into any transbasin transaction since area-of-origin water users may presumably be able to recall water without consideration of the relative values of water use within and outside the basin. *See* MacDonnell & Howe, *supra* note 7, at 547; C. MEYERS, A. TARLOCK, J. CORBRIDGE & D. GETCHES, *supra* note 2, at 384-87.

In Colorado, exports from the Colorado River Basin by conservancy districts are conditioned on assuring adequate supplies to the area of origin. COLO. REV. STAT. § 37-45-118(b)(IV) (1973). This historically has been done by providing "compensatory storage" facilities capable of replacing waters diverted out of the basin if and when they might be needed by the area of origin. This can make exports more costly, without necessarily mitigating the effects on the natural basin related to the diversion. *See* MacDonnell & Howe, *supra* note 7, at 544-46.

The "no injury" rule, *supra* note 2, can also create uncertainty by casting doubt on the value of a transaction in which a transferor must defend challenges to the sale. And, as instream flow statutes see more use, the marketability of certain rights may be affected by enforcement of the no injury rule in favor of junior instream rights. *See* J. BAGLEY, D. LARSON & L. KAPALOSKI, *supra* note 9, at 37.

[18] *See supra* note 2.

[19] *See generally* Thorson, *State Innovations for Protecting Public Rights in Water*, in RECENT DEVELOPMENTS IN WESTERN WATER LAW (1987); Thorson, Brown & Desmond, *Forging Public Rights in Montana's Waters*, 6 PUB. LAND L. REV. 1 (1985); Wilkinson, *supra* note 6, at

one is entitled to equitable and reasonable access to water supplies, at least for basic needs, further dissuades policymakers from allowing water to be allocated by a free market. Few policies or laws are necessary to protect the trace of water that is directly needed by individuals to sustain life,[20] but there is a mystique created by water's life-giving qualities. Consequently, there are cultural barriers to yielding water entirely to the market for distribution. As economist Kenneth Boulding has said, "[t]he sacredness of water as a symbol of ritual purity exempts it somewhat from the dirty rationality of the market."[21]

For a free market to work, there must be a clear definition of the right to be transferred.[22] The quantity of water rights one may own or transfer and the circumstances under which a transfer may be made are necessarily limited by the shared nature of the resource and the substantial public interest that surrounds the use of water. It is nearly impossible to think of a water use that does not affect some other individual's ability to use water or some public value, especially in western watersheds where water is repeatedly diverted, used, and returned to the stream to be reused.[23]

Policies underlying the limitations and circumstances that confine water rights trading have not been clearly articulated. A jumble of laws enacted in response to particular concerns is typically not held together by coherent, conscious policy. But a planning process can identify the interests to be protected and set the boundaries of the market where necessary. The process thus can frame appropriate protections while maximizing predictability and, hence, marketability of rights.

Ideally, all affected interests should be represented in a market

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334. *See also infra* note 129.

[20] Domestic water use constitutes a relatively small percentage of total water use, and less than five percent of the average domestic use is for drinking and cooking. D. GIBBONS, *supra* note 12, at 20.

[21] Boulding, *The Implications of Improved Water Relocation Policy*, in M. DUNCAN, WESTERN WATER RESOURCES: COMING PROBLEMS AND POLICY ALTERNATIVES 302 (1980).

[22] C. HOWE, NATURAL RESOURCE ECONOMICS 276-314 (1979). *See also* Anderson, *The Water Crisis and the New Resource Economics*, in WATER RIGHTS (T. Anderson ed. 1983). *See generally* Wahl & Osterhoudt, *supra* note 13; Young, *Why Are There So Few Transactions Among Water Users?*, 68 AM. J. AGRIC. ECON. 5 (1986).

[23] *See supra* note 2. It has been estimated that approximately one-half of diverted irrigation water returns to the stream. The "reuse index" (the ratio of total volume of water diverted from surface sources in a basin to the sum of native waters and imports in the basin) in the South Platte Basin of Colorado was 2.03 in 1970, indicating that on the average water is used at least twice to meet the demands of water rights holders. Hendricks, Morel-Seytoux & Turner, *Water for the South Platte Basin*, in COLORADO WATER RESOURCES RESEARCH INSTITUTE, INFORMATION SERIES No. 37, at 4, 7 (1977).

transaction. However, many public interests are unrepresented or underrepresented in water markets.[24] It is difficult for the market to reflect, for example, the interests of fish and wildlife, recreation, the poor, areas of origin, Indian tribes, farmers, rural communities, and future generations. These constituencies are seldom organized to assert their interests in market transactions, yet all are affected by the nature, extent, and manner of water allocation and use. Although state instream flow programs can avoid the difficulties inherent in private acquisition and defense of instream flow rights, most public concerns are not the subject of clear policies and comprehensive strategies. Instead, the most egregious situations are dealt with case-by-case, through political intervention or judicial challenges.

Market failure occurs in water trading because — while prior appropriation is said to be a system of private resource allocation — most water rights are held by public or quasi-public agencies, whose decisionmaking processes are attenuated from the profit motive. Water districts with appointed boards, unresponsive to the taxpaying public,[25] may have no interest in marketing their rights. Their parochial concern is to ensure an adequate water supply for a particular geographic area for the indefinite future. Even municipalities governed by elected officials may find it unpopular to engage in economic transactions. Today, many districts and municipalities neither respond to markets nor act in a manner that fulfills broad public policies of the state or region. Policy can be designed to encourage public agencies to respond to market forces so far as doing so is consistent with the public interest. This will lead to more regularity in private water rights markets. The policies developed in a state planning process can require a district to pursue state goals, such as protection of fisheries or water quality. Constitutional constraints on reallocating or affecting private water rights should not inhibit regulation of public entities (like water districts) to the same extent

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[24] *See, e.g.*, F. LEE BROWN & H. INGRAM, WATER AND POVERTY IN THE SOUTHWEST: CONFLICT, OPPORTUNITY AND CHALLENGE 79-80 (1986); Dunning, *Reflections on the Transfer of Water Rights*, 4 J. CONTEMP. LAW 109 (1977) (a critique of the free market's ability to safeguard social values).

[25] In Colorado, for instance, water conservancy district board members are appointed by local district court judges from among people with backgrounds in agricultural, industrial, and municipal use of water. COLO. REV. STAT. § 37-45-114(1)(a) (Cum. Supp. 1986). This process has been criticized as perpetuating and insulating control of conservancy district affairs in the hands of a few. *See* DeYoung, *Discretion Versus Accountability: The Case of Special Water Districts*, in SPECIAL WATER DISTRICTS: CHALLENGE FOR THE FUTURE 31 (J. Corbridge ed. 1984). For a discussion of problems associated with land-weighted voting rights in special districts, see DeYoung, *Governing Special Districts: The Conflict Between Voting Rights and Property Privileges*, 1982 ARIZ. ST. L.J. 419.

as regulation of private rights holders because it is the state that creates and gives legitimacy and authority to public entities. For instance, if some districts hold excessively large quantities of water rights, the state could adopt a policy requiring a portion of their rights to be dedicated to instream flows and a portion to be sold at fair market value so that other uses could be developed.

Planning for water resources can improve marketability of water by providing reliability, information, and certainty in private transactions. By effectively defining the currency, planning can make water rights more valuable. The value of water rights is also enhanced if public values are not disserved by the market. It has been said that the objective of land use planning is "to interject the notion of the general public welfare into the market interaction between land supply and demand [so as] to maximize the positive externalities resulting from the market allocation of land use and to minimize the negative externalities."[26] The same objective of allowing the market to operate for the public good by adjusting for externalities applies to water planning.

C. *Rights in Interstate Waters*

States that share a source of water compete for the rights to use it. Faster developing states covet the water of those with slower growth rates. Many states have sought rights to use the waters of interstate streams by invoking the jurisdiction of the United States Supreme Court in "equitable apportionment" proceedings.[27] Others have entered compacts with neighboring states to allocate interstate waters.[28] Indeed, only a few major interstate streams in the West remain unapportioned.

A state's policies and plans for how to use its water in the future can be crucial in an equitable apportionment proceeding: the United

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[26] Kaiser, *Land Use Planning: The Cornerstone of Local Environmental Planning and Control*, in AMERICAN SOCIETY OF PLANNING OFFICIALS, LAND USE AND THE ENVIRONMENT 104 (V. Curtis ed. 1973).

[27] Tarlock, *The Law of Equitable Apportionment Revisited, Updated, and Restated*, 56 U. COLO. L. REV. 381 (1985). *See, e.g.*, Colorado v. New Mexico, 459 U.S. 176 (1982), 467 U.S. 310 (1984); Nebraska v. Wyoming, 325 U.S. 589 (1945); Colorado v. Kansas, 320 U.S. 383 (1943); Wyoming v. Colorado, 259 U.S. 419 (1922); and Kansas v. Colorado, 206 U.S. 46 (1907).

[28] *See, e.g.*, Colorado River Compact of 1922. Congress authorized compact negotiations by the Act of Aug. 19, 1921, ch. 72, 42 Stat. 171. The Compact was signed in 1922 and approved by Congress in the Boulder Canyon Project Act, ch. 42, § 13, 45 Stat. 1064 (1928) (codified at 43 U.S.C. § 617(l) (1982)). *See generally*, F. ZIMMERMAN & M. WENDELL, THE INTERSTATE COMPACT SINCE 1925 (Council of State Governments 1951); J. MUYS, INTERSTATE WATER COMPACTS: THE INTERSTATE COMPACT AND FEDERAL-INTERSTATE COMPACT, NATIONAL WATER COMMISSION LEGAL STUDY No. 14 (1971).

States Supreme Court recently indicated that it will favor states with plans for water use. In *Colorado v. New Mexico*[29] (*Colorado II*), the Court rejected Colorado's claims to the waters of the Vermejo River in favor of New Mexico's established uses. In an earlier opinion in the same case,[30] the Court indicated its displeasure with the inefficient way in which New Mexico appropriators were using the water. The Court was inclined to reallocate the water to Colorado for future uses having greater economic value, but remanded the case to a Special Master for appropriate findings. After reviewing the Master's findings, the Supreme Court found that "Colorado has not committed itself to any long term use for which future benefits can be studied and predicted."[31] Over Colorado's objection that planning would involve speculation, the Court said: "We have only required that a state proposing a diversion conceive and implement some type of long-range planning and analysis of the diversion it proposes. Long-range planning and analysis will, we believe, reduce the uncertainties with which equitable apportionment judgments are made."[32] Thus, a state with neither established uses nor long-range plans is severely disadvantaged in equitable apportionment proceedings.[33]

Once states adjudicate their rights in an interstate stream, their instate uses must conform to the terms of the judicial decree or compact setting the quantities to which each is entitled.[34] A state may allocate water among in-state users based on its own policy goals, but accidents of prior use often do not coincide with state policies as to the best use of apportioned interstate water. A state that fought valiantly to preserve its share of interstate water may lose much of the benefit of its efforts if it is inattentive as to how the water is used.

Interstate markets for water are on the horizon. Contracts may provide for use in one state of waters allocated to another state, within or without a shared basin. The United States Supreme Court held in *Sporhase v. Nebraska*[35] that water is an article of commerce and thus may be marketed across state lines free of interference by state laws. Although the decision undermined existing anti-export laws in many states,[36] it left room for restraints on interstate water

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[29] 467 U.S. 310 (1984).

[30] Colorado v. New Mexico, 459 U.S. 176 (1982).

[31] 467 U.S. at 321.

[32] *Id.* at 322.

[33] Tarlock, *supra* note 27; Comment, *Is There a Future for Proposed Water Uses in Equitable Apportionment Suits?*, 25 NAT. RESOURCES J. 791 (1985).

[34] *See* Hinderlider v. La Plata River and Cherry Creek Ditch Co., 304 U.S. 92 (1938).

[35] 458 U.S. 941 (1982).

[36] Prior to the *Sporhase* decision, of the 17 states west of the hundredth meridian, only three

transfers that protect health and safety,[37] that effectuate interstate allocations,[38] that carry out the special public interest of a state's own citizens in water,[39] and that reflect a state's efforts to conserve water by controlling its use among users within the state.[40] *Sporhase* thus suggests that a state may control interstate transport and use of water if it has a carefully planned strategy.

After *Sporhase*, New Mexico sought to prevent exports of groundwater to Texas, but a federal district court struck down a restriction that simply recited the state interest in protecting its citizens from future water shortages.[41] A portion of a more sophisticated statute was also held unconstitutional for its failure to adopt an even-handed policy for evaluating both in-state and out-of-state transfers.[42] New

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(California, North Dakota and Texas) did not have statutory restrictions on the exportation of water. Since *Sporhase*, Colorado, Montana and Wyoming have repealed their anti-export statutes. New Mexico's statute was struck down by a federal district court. See *infra* notes 41-42 and accompanying text. However, New Mexico has adopted a new statute regulating the export of surface and groundwater. N.M. STAT. ANN. § 72-12B-1 (1985). *See* Schwartz, *Water as an Article of Commerce: State Embargoes Spring a Leak Under Sporhase v. Nebraska*, 12 B.C. ENVT'L AFF. L. REV. 103 (1985).

[37] In *Sporhase* the Court stated:

> "[A] State's power to regulate the use of water in times and places of shortage for the purpose of protecting the health of its citizens and not simply the health of its economy is at the core of its police powers. For Commerce Clause purposes, we have long recognized a difference between economic protectionism, on the one hand, and health and safety regulation on the other."

458 U.S. at 956.

[38] Intake Water Co. v. Yellowstone River Compact Comm'n, 769 F.2d 568 (9th Cir. 1985), *cert. denied*, 106 S. Ct. 2288 (1986). *Intake* challenged a state law that restricted water exports. The Compact Commission argued that the law codified the Yellowstone River Compact requirement of unanimous consent by the signatory states (Montana, Wyoming, and North Dakota) for out-of-basin transfers of Yellowstone River water. The Commission contended that the Compact was federal, not state, law because Congress approved it, and thus, it was not subject to commerce clause constraints. Finding no violation of the commerce clause, the court stated:

> When Congress approved this compact, Congress was acting within its authority to immunize state law from some constitutional objections by converting it into federal law. Nor can there be any question as to whether Congress in fact approved the state law from which immunity from Commerce Clause attack is claimed: The Compact was before Congress and Congress expressly approved it.

769 F.2d at 570.

[39] "[A]lthough [Nebraska's] claim to public ownership of Nebraska groundwater cannot justify a total denial of federal regulatory power, it may support a limited preference for its own citizens in the utilization of the resource." *Sporhase*, 458 U.S. at 956.

[40] "[A] State that imposes severe withdrawal and use restrictions on its own citizens is not discriminating against interstate commerce when it seeks to prevent the uncontrolled transfer of water out of the State. An exemption for interstate transfers would be inconsistent with the ideal of evenhandedness in regulation." *Id.* at 955-56.

[41] *See* El Paso v. Reynolds, 563 F. Supp. 379 (D.N.M. 1983).

[42] *See* El Paso v. Reynolds, 597 F. Supp. 694 (D.N.M. 1984).

Mexico then apparently concluded that its claims to interstate waters are best protected by a planning effort that gives a broader, more thoughtful consideration to a range of state interests in water. Local governments and others now must justify proposed appropriations in a way that requires some planning. Recent legislation accordingly provides for two new programs.[43] First, the state is to be divided into "planning regions," a combination of politically and hydrologically related areas.[44] These regions can then submit proposals for funds to the Interstate Stream Commission (ISC) for the purpose of regional water planning.[45] The ISC will examine the regional proposals and make planning grants and loans.[46] Prior to approval of any financial assistance, the ISC will develop criteria for the regional proposals.[47] The legislation also provides for a two-part state water appropriation program. Under this program, the ISC is authorized to appropriate unappropriated groundwater and purchase water rights on behalf of the various regions of the state.[48] Thus, the state is attempting to facilitate the regional planning for future needs by ensuring an adequate future water supply.

Montana's response to *Sporhase's* limitation on state export reductions was a program of reservations of water for future in-state uses and regulation of water marketing by statute.[49] A statute gives the state exclusive authority to make large appropriations and exports of water, and the state has embarked on a comprehensive planning effort.[50]

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[43] 1987 N.M. LAWS, chapter 182.

[44] *Id.* § 1.

[45] *Id.* § 2.

[46] *Id.* § 2(A).

[47] *Id.* § 2(C).

[48] *Id.* § 2(A).

[49] *See* Thorson, Brown & Desmond, *Forging Public Rights in Montana's Waters*, *supra* note 19; MONT. CODE ANN. § 85-2-316(1) (1985); MONT. CODE ANN. § 85-2-141 (1985).

[50] MONT. CODE ANN. § 85-1-203 (1985); MONTANA DEPARTMENT OF NATURAL RESOURCES & CONSERVATION, STATE WATER PLAN DEVELOPMENT: A REVISED APPROACH, REP. TO THE FIFTIETH SESSION OF THE MONTANA LEGISLATURE (1987); WATER POLICY COMMITTEE, REP. OF THE WATER POLICY COMMITTEE TO THE 50TH LEGISLATURE OF THE STATE OF MONTANA (1986). For some time, observers have urged that planning could enhance Montana's position in interstate conflicts. Ladd, *Federal and Interstate Conflicts in Montana Water Law: Support for a State Water Plan*, 42 MONT. L. REV. 267 (1981).

D. *Federal Control of Water*

State water planning can forestall expansion of federal control over water resources. Ironically, while states cling jealously to their authority to allocate water, they have willingly abdicated water resources planning to the federal government.

The federal government's interests in how water is allocated and used almost inevitably will lead it to fill gaps left by state planning processes. In *Sporhase*, the Supreme Court indicated that there are significant unused federal powers that can be exercised, and might be exercised, if a state does not assume sufficient control of water resources. The Court, in the context of groundwater, said:

> The multistate character of the Ogallala aquifer . . . confirms the view that there is a significant federal interest in conservation as well as in fair allocation of this diminishing resource . . . . Ground water overdraft is a national problem and Congress has the power to deal with it on that scale.[51]

Past federal involvement in water planning has been mainly in project financing and construction. Project purposes have included navigation, hydroelectric production, irrigation and drainage, reclamation, and flood control.[52] The federal government determined when, where, and how such projects would be constructed. Some states were so eager to get their "share" of federal largesse that they neglected to consider whether there was a substantial need for particular projects or how the projects might be integrated with other state water needs. Often the only question asked was whether sufficient undeveloped water was legally available under state law. Questions of feasibility, design, size, and purpose were left to the federal government. State policies and plans for growth, land use, economic development, or environmental protection were rarely raised as issues.

Just as they have changed the face of the western landscape, federal projects have profoundly influenced and changed how western

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[51] 458 U.S. at 953-54.

[52] Federal interests in water have expanded substantially over the past century as the courts have acknowledged the legitimacy of various project purposes. The traditional authority of the federal government over navigable waters was extended to waterways that could be made navigable through "reasonable improvements." United States v. Appalachian Elec. Power Co., 311 U.S. 377 (1940). Federal hydroelectric production projects have been upheld as a valid exercise of federal authority under the property clause, First Iowa Hydro-Electric Coop. v. Federal Power Comm'n, 328 U.S. 152 (1946), and under the defense power, Ashwander v. Tennessee Valley Auth., 297 U.S. 288 (1936). Federal flood control projects have been upheld on commerce clause grounds. Oklahoma v. Guy F. Atchinson Co., 313 U.S. 508 (1941). The federal reclamation program has been sustained as a valid exercise of federal authority based upon the spending and general welfare powers. United States v. Gerlach Live Stock Co., 339 U.S. 725 (1950).

states' water resources may be used. Many federal projects were developed in areas and for purposes that do not serve the most important interests of communities and states. Some projects have become substantial burdens on local communities, not only imposing environmental harm and community rearrangement, but also requiring repayment from participants in excess of their economic benefits.[53]

Today, the federal government's influence in water planning is less as a financer and more as a regulator, and is expressed largely through statutory programs for environmental protection that affect public and private activities. It has been suggested that the federal government effectively acquires rights in the water when it exerts limitations and other requirements upon water users.[54]

The National Environmental Policy Act[55] is a major planning law, forcing broad consideration of the consequences of proposed development. But NEPA binds federal agencies, not necessarily states. The states are more directly affected by specific federal environmental protection requirements under other statutes. The Clean Water Act,[56] Endangered Species Act,[57] Federal Power Act,[58] Fish and Wildlife Coordination Act,[59] and other statutes may determine the places

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[53] The Dallas Creek Water Project was commenced in the mid-1970s based upon a perceived need for additional water supplies in the Uncompahgre Valley in western Colorado. With the project nearing completion, the valley does not need the additional supply, but the Tri-County Conservancy District is committed to buying more than double its present consumption at a seven-fold increase in price. The Denver Post, Aug. 11, 1985, at 12B, col. 1. Similarly, the Dolores Project on Colorado's Dolores River will impose substantial water purchase obligations on economically distressed farmers. They are seeking relief from their obligations. The Denver Post, July 9, 1987, at 3B, col. 1.

[54] Tarlock, *The Endangered Species Act and Western Water Rights*, 20 LAND & WATER L. REV. 1, 3 (1985).

[55] 42 U.S.C. §§ 4321-70 (1982).

[56] 33 U.S.C. §§ 1251-1376 (1982).

[57] 16 U.S.C. §§ 1531-43 (1982).

[58] 16 U.S.C. §§ 791a-828 (1982). The Federal Power Act requires that the Federal Energy Regulatory Commission (FERC) approve only projects that satisfy the public interest, following a thorough analysis. Among other things, FERC must find that a project "will be best adapted to a comprehensive plan for improving or developing a waterway or waterways for the use or benefit of interstate or foreign commerce, for the improvement and utilization of water-power development, . . . and for other beneficial public uses . . . ." *Id.* § 803(a)(1). Under 1986 amendments to the Act, FERC must incorporate a variety of considerations relating to environmental protection and other water needs such as fish and wildlife mitigation and enhancement, recreation, irrigation, flood control, water supply, etc. Accordingly, FERC is to consider whether a proposed project is consistent with any state or federal comprehensive plans for "improving, developing, or conserving a waterway." An implementing rule sets out the requirements for FERC to consider a state's "comprehensive plan" under the section. 52 Fed. Reg. 39,905 (1987). Even if the state plan does not qualify as "comprehensive," it is considered by FERC in its public interest determination process.

[59] 16 U.S.C. §§ 661-68 (1982).

and manner in which water may be developed and used. Consequently, these federal statutory programs may have a dramatic effect upon rights established under state law.

The federal government exerts a subtle but powerful influence on water resources within western states through plans for use of the federal public lands. The use and development of water on public lands by both public and private entities, though entirely consistent with state water law, may be confined or altered by federal planning decisions. This can have far reaching consequences because about half of all the land in the West is federally owned.[60]

Federal land managers are required to develop long-range plans for the National Forests[61] and for Bureau of Land Management (BLM) lands.[62] Both the United States Forest Service and BLM must plan for "multiple uses," which include recreation, range, timber, minerals, watershed, wildlife and fish, and natural scenic, scientific, and historical values.[63] Since the federal land manager's objective is to achieve the maximum benefit for a national public, the results of planning may or may not comport with a state's policy. Water quantity and quality objectives expressed in a federal land use plan can affect the use of water within much of the state, yet may be developed with little or no state participation. Although there is ample opportunity for state input, a state lacking in policy and planning tools is unable to participate and respond effectively to federal proposals.

A primary objective of federal public land planning is to determine water requirements. State water planning is strengthened when state policy goals and recommended approaches are included in federal land use plans. Furthermore, the information produced by the federal government can assist states in pursuing their own water planning. This information will be of little use, however, if a state lacks a factual and policy context into which it may be integrated.

E. *The Prospect of Judicial Intervention*

Increasingly, the public insists that water law serve far more di-

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[60] PUBLIC LAND LAW REV. COMM'N, ONE THIRD OF THE NATION'S LAND — REP. TO THE PRESIDENT AND TO THE CONGRESS 23 (1970).

[61] National Forest Management Act, 16 U.S.C.§§ 1600-14 (1982).

[62] Federal Land Policy and Management Act, 43 U.S.C. §§ 1711-12 (1982).

[63] Forest Service: 43 U.S.C. §§ 1701(a)(7), 1702 (c) (1982); Wilkinson & Anderson, *Land and Resource Planning in the National Forests*, 64 OR. L. REV. 1 (1985); Bureau of Land Management: 16 U.S.C. §§ 528-31, 1600(3) (1982); Coggins & Evans, *Multiple Use, Sustained Yield Planning on the Public Lands*, 53 U. COLO. L. REV. 411 (1982).

verse and sophisticated purposes than the original, simpler tasks of ensuring the relative security of the rights of early miners and farmers. Today the state is called upon to be more than a referee among water rights holders; legislatures have responded by enacting laws to account for public interests in the allocation and administration of water. Examples include instream flow laws,[64] conjunctive management of groundwater,[65] pollution control laws,[66] fish and wildlife protections,[67] and wetlands preservation.[68] Most states also require administrative agencies to apply public interest considerations in permitting new water uses or allowing changes of use.[69] But legislative responses have often been late or inadequate, typically a patchwork of ad hoc responses, rather than part of a coordinated strategy or plan for use of a state's water resources.

Deficiencies and inconsistencies in state water law or administration may be remedied by the courts. The emergence of the public trust doctrine in California in the context of water allocation decisions is a bellwether. If states fail to conform their water allocation and administration systems with contemporary norms for use of a publicly significant resource, judicial intervention may disrupt established rights and expectations.

At issue in *National Audubon Society v. Superior Court*[70] was the depletion of tributary streams by the City of Los Angeles that lowered the level of Mono Lake, destroying bird habitat and reducing the brine shrimp population.[71] The California Supreme Court found this environmental harm to be inconsistent with a public trust,[72] pursuant to which the state holds water for the benefit of all its citizens.

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[64] *See supra* note 9.

[65] *See* Corker, *Inadequacy of the Present Law to Protect, Conserve and Develop Groundwater Use*, 25 ROCKY MTN. MIN. L. INST. 23-1 (1979); Trelease, *Conjunctive Use of Groundwater and Surface Water*, 27B ROCKY MTN. MIN. L. INST. 1853 (1982); Getches, *Controlling Groundwater Use and Quality: A Fragmented System*, 17 NAT. RESOURCES LAW. 623 (1985); COLO. REV. STAT. §§ 37-92-101 to -601 (1973).

[66] *E.g.*, MONT. CODE ANN. §§ 75-5-101 to -641 (1985); OR. REV. STAT. §§ 468.700 to .778 (1985); WASH. REV. CODE ANN. ch. 90.48 (1962 & Cum. Supp. 1987). Most state pollution laws today are a response to the mandates of the Federal Clean Water Act, 33 U.S.C. §§ 1251-1376 (1986).

[67] Every state has a comprehensive wildlife management program. *See* WILDLIFE MANAGEMENT INSTITUTE, ORGANIZATION, AUTHORITY AND PROGRAMS OF STATE FISH AND WILDLIFE AGENCIES (1977).

[68] States have responded to the growing awareness of wetlands' role in the environment by enacting legislation to protect these areas. *See* statutes collected in C. MEYERS, A. TARLOCK, J. CORBRIDGE & D. GETCHES, *supra* note 2, at 514-16.

[69] *See infra* statutes cited in note 139.

[70] 33 Cal. 3d 419, 189 Cal Rptr. 346, 658 P.2d 709, *cert. denied*, 464 U.S. 977 (1983).

[71] 658 P.2d at 711.

[72] *Id.* at 712.

The court held that the trust does not permit water to be allocated in a way that damages wildlife, aesthetics, and other elements of public enjoyment in water.[73] In this case, the potential of substantial public harm had not been properly balanced against the benefits to the City of Los Angeles of making private, consumptive uses of water hundreds of miles away from the lake.[74] Thus, the waters tributary to Mono Lake had been allocated to Los Angeles in 1940 in a manner incompatible with the public trust.

The California Supreme Court has reached farther than any other court in insisting that public values be protected in water decision-making. The *National Audubon* decision has been extended in subsequent proceedings involving water allocation decisions that adversely affect water quality.[75]

Other courts are recognizing notions of public trust and public interest concerns in water, and are using them to limit the manner and extent with which a state deals with its water resources.[76] The first judicial application of "public trust" concepts to guide the manner in which water is allocated under the appropriation doctrine was by the North Dakota Supreme Court in 1976. In *United Plainsmen Association v. North Dakota State Water Conservation Commission*[77] the court held that the state could not allocate large quantities of water to major energy projects without, "at a minimum, a determination of the potential effect of the allocation of water on the present supply and future water needs of this State."[78] The court stopped short of saying that planning was required as a condition of water allocation activities. Nevertheless, it seems clear that the court would have upheld the agency's action if the state had engaged in a comprehensive planning process. The decision reflected doubts that water allocation was preceded by full consideration of the factors and issues that implicate the public interest.[79] Neither *United Plainsmen* nor *National Audubon* states that particular uses of water are unacceptable, but

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[73] *Id.* at 718-29.

[74] *Id.* at 732.

[75] *See* United States v. State Water Resources Control Bd., 182 Cal. App. 3d 82, 227 Cal. Rptr. 161 (1986) (upholding authority of the California State Water Resources Control Board to modify existing federal project permits in order to implement water quality standards for the Sacramento-San Joaquin Delta region).

[76] *See In re* Sleeper, No. RA-84-53(c) (D. Ct. Rio Arriba County 1985) *rev'd on other grounds*, No. 8720-8830 (N.M. Ct. App. Mar. 22, 1988), *cert. granted*, No. 17661 (N.M. May 11, 1988), discussed in text accompanying *infra* note 147.

[77] 247 N.W.2d 457 (N.D. 1976).

[78] *Id.* at 462.

[79] *Id.* at 463-64.

both say that an allocation that creates public harm cannot be sustained unless the public's diverse interests are at least weighed in the decisionmaking process.

Colorado law is considered to be the "purest" in its protection of vested rights among the legal regimes of states that follow the prior appropriation doctrine. Nevertheless, the Colorado Supreme Court has indicated that it is willing to depart from an absolute protection of vested water rights based on priority in order to ensure that the allocation, administration, and use of water be designed to achieve the fullest benefits:

> It is implicit in these constitutional provisions [concerning the appropriation doctrine] that along with *vested rights* there shall be *maximum utilization* of the water of this state. As administration of water approaches its second century the curtain is opening upon the new drama of *maximum utilization*, and how constitutionally that doctrine can be integrated into the law of *vested rights*.[80]

And in *Alamosa-La Jara Water Users Protection Ass'n v. Gould*,[81] the court said:

> [T]he policy of maximum utilization does not require a single-minded endeavor to squeeze every drop of water from the valley's aquifers. [Statutory law] makes clear that the objective of "maximum use" administration is "optimum use." Optimum use can only be achieved with proper regard for all significant factors, including environmental and economic concerns.[82]

The state's constitutional doctrine granting the public an interest in all the state's water resources thus implies that water should be used to the maximum public benefit.

Some have hailed the public trust doctrine and the trend in judicial decisions toward protection of public values;[83] others have se-

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[80] Fellhauer v. People, 167 Colo. 320, 336, 447 P.2d 986, 994 (1969) (emphasis in original). Since *Fellhauer*, several other cases have emphasized the policy goal of maximum utilization of the state's water. *E.g.*, Kuiper v. Well Owners Conservation Ass'n, 176 Colo. 119, 124-26, 490 P.2d 268, 270-71 (1971); Southeastern Colorado Water Conservancy Dist. v. Shelton Farms, Inc., 187 Colo. 181, 188-90, 529 P.2d 1321, 1325-26 (1974); A-B Cattle Co. v. United States, 196 Colo. 539, 544-45, 589 P.2d 57, 60-61 (1978); R.J.A., Inc. v. Water Users Ass'n of Dist. No. 6, 690 P.2d 823, 827-29 (Colo. 1984).

[81] 674 P.2d 914 (Colo. 1983).

[82] *Id.* at 935.

[83] *E.g.*, Comment, *The Public Trust Doctrine as a Source of State Reserved Water Rights*, 63 DEN. U. L. REV. 585 (1986); Johnson, *Public Trust Protection for Stream Flows and Lake Levels*, 14 U.C. DAVIS L. REV. 233 (1980); Wilkinson, *The Public Trust Doctrine in Public Land Law*, 14 U.C. DAVIS L. REV. 269 (1980); Stevens, *Life, Liberty and the Right to Navigate: Justice Mosk and the Public Trust*, 12 HASTINGS CONST. L.Q. 421 (1985).

verely criticized it.[84] Whatever justification may or may not exist for imposing such judicial doctrine, reliance on remedies crafted by the courts to strike delicate balances among broad public concerns is a role of last resort for the judiciary. It is preferable to exhaust the efforts of the other branches of government first. Ideally, legislators and administrators should make decisions that balance interests and fulfill public obligations with full public participation and dialogue. Yet if broad, prospective determinations are shirked by the legislative and executive branches, the judicial branch may be asked for retroactive relief. Difficult, sometimes surprising, legislative and judicial palliatives may be avoided by integrating public values and policies with a system of vested rights through a planning process.

III. The Fundamentals of Water Planning

Water resource planning is widely misunderstood. It is often seen as a centralized, bureaucracy-dominated, inflexible blueprint for specific project development. The use of the terminology "state water plan" contributes to the confusion because it connotes a single, prescriptive document. If planning is to serve public needs, it must be a comprehensive, dynamic process, articulating policies and strategies relative to a state's particular water resources and needs. To be effective, the results of the process should be legally integrated into state decisions, giving "teeth" to the effort.

A. *Assessment of Resources and Needs*

Development of a broad and accurate data base is an essential element of planning. This includes an inventory of all available water supplies and identification of existing uses and rights. Information on groundwater resources is especially scant in most states because data are fragmented and often unreliable, and expensive monitoring is often unavailable.

Projection of future needs is the most important planning tool. Although all prognostication is risky, current information concerning demographics, economic growth, and other trends can often predict a likely set of future water demands. The planning process may be

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[84] *See* Lazarus, *Changing Conceptions of Property and Sovereignty in Natural Resources: Questioning the Public Trust Doctrine*, 71 Iowa L. Rev. 631 (1986); Note, *Lyon and Fogerty: Unprecedented Extensions of the Public Trust*, 70 Calif. L. Rev. 1138 (1982); Huffman, *Trusting the Public Interest to Judges: A Comment on the Public Trust Writings of Professors Sax, Wilkinson, Dunning and Johnson*, 63 Den. U. L. Rev. 565 (1986); Walston, *The Public Trust Doctrine in the Water Rights Context: The Wrong Environmental Remedy*, 22 Santa Clara L. Rev. 63 (1982).

most helpful if alternative scenarios are considered. A state may also choose to identify the most desirable scenario from the standpoint of policy considerations. Interstate obligations, such as compacts, decrees, and legislative requirements, must be set forth in order to anticipate a range of external demands. Federal and Indian reserved water rights[85] should also be considered, and the likelihood of developing such rights assessed. Where there are unquantified reserved water rights, a range of uncertainty should be included in projections. This may lead to recommendations that such rights be quantified.

B. *Comprehensive Process*

Water resources planning should include a wide range of subjects that affect or are affected by the use of water, including land use, pollution, wildlife, and recreation. A comprehensive planning process must consider all available sources of water, both surface and underground.

It is highly unusual for water planning to be integrated with land use planning, yet the two are inextricably connected.[86] Land use plans and projections depend on the availability of water supplies. Similarly, water resources planning depends heavily upon plans made by state and local governments for future land use. The presence or absence of a water supply has not historically determined how growth will occur but the timing and cost of water supply may influence patterns of growth. If investments in land are to be reliable and a development pattern reasonably predictable, water needs should be anticipated based on land use plans, and the necessary infrastructure should be identified.

Water quality planning is traditionally divorced from water resource planning; most states divide the responsibilities for regulating water quality and allocating water resources between different agencies.[87] Considerable water quality planning has been done in the

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[85] The doctrine of reserved rights was first articulated in Winters v. United States, 207 U.S. 564 (1908). The Court held that a reservation of land for an Indian tribe carried with it water rights sufficient to fulfill the purpose of the land reservation, which in that case was to provide agricultural land for the tribes. In Arizona v. California, 373 U.S. 546 (1963), the doctrine was applied to federal lands withdrawn from the public domain for particular purposes. For an historical account of *Winters* and the events surrounding it, see Hundley, *The "Winters" Decision and Indian Water Rights: A Mystery Reexamined*, 13 W. HIST. Q. 17 (1982). *See also* Collins, *The Future Course of the Winters Doctrine*, 56 U. COLO. L. REV. 481 (1985).

[86] J. MULDER, INTEGRATING WATER RESOURCES AND LAND USE PLANNING, WATER RESOURCE PLANNING SERIES (1979); DeKnatel, *Possible Transfers of Experience from Land-Use Planning to Water Resources Planning*, in AMERICAN WATER RESOURCES ASS'N: UNITED RIVER BASIN MANAGEMENT — STAGE II (1981).

[87] *See* Getches, *supra* note 65. This fragmentation is apparent in Colorado, where a division

United States. Congress required and funded water quality plans as a condition of local governments receiving major construction grants under the Clean Water Act, but this was carried out independent of any ongoing state water resources planning.[88] Similarly, detailed plans for construction and operation of specific water projects have ignored water quality concerns. This is especially negligent in the case of irrigation projects, where there is a direct connection between application of water, which seeps and leaches through saline soils, and the pollution of surface and groundwater supplies by increased salinity levels. One striking example of this problem is the Wellton-Mohawk Project in Arizona. Millions of dollars were spent to bring irrigation water into a basin, where seepage built up and saline water eventually entered the root zone of crops. Then, another multi-million dollar project was constructed to pump out the saline groundwater and drain it back to the river. The second project so increased the salinity of the river that water entering Mexico was useless for irrigation. This touched off an international dispute and eventually led to a several-billion-dollar program to desalt the river's water.[89] Unwise decisions were compounded because foreseeable consequences were not assessed and given appropriate weight in the decision process.

Another example is the Bureau of Reclamation's Kesterson Project in California. That project drained irrigation return flows from the Central Valley into the Kesterson Wildlife Refuge. Naturally-occurring selenium leached out of the soils and returned to the refuge, concentrating to the point of toxicity for migratory birds using the refuge. After-the-fact remedies have disrupted existing irrigation patterns and curtailed use of the project.[90] If the Bureau had considered the water quality and wildlife consequences of the project and

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of the Department of Health is charged with water quality protection, COLO. REV. STAT. §§ 25-8-201 to -206 (1973 & Supp. 1986), while the Division of Water Resources, headed by the State Engineer within the Department of Natural Resources, deals with water allocation. COLO. REV. STAT. §§ 37-80-102 to -104 (1973 & Supp. 1986), 37-92-501 (1973). The California system is more integrated. The State Water Resources Control Board is charged with setting water quality standards and with issuing water right permits. CAL. WATER CODE § 174 (West 1971).

[88] 33 U.S.C. § 1285 (1982).

[89] *See* T. MILLER, G. WEATHERFORD, & J. THORSON, THE SALTY COLORADO 24-25, 35-41 (1986).

[90] For a discussion of Kesterson's history and the legal responses to the problem, see Comment, *Tragedy at Kesterson Reservoir: Death of a Wildlife Refuge Illustrates Failings of Water Law*, 15 Envtl. L. Rep. (Envtl. L. Inst.) 10386 (1985). *See also* Marshall, *Selenium Poisons Refuge, California Politics*, 229 SCIENCE 144 (1985); Deverel, *Selenium in the San Joaquin Valley of California*, in UNITED STATES GEOLOGICAL SURVEY, NATIONAL WATER SUMMARY 1984, 45 (Water-Supply Paper 2275 1984). Kesterson is not the only wildlife refuge facing a serious contamination problem. *See* Norris, *Poisoned Refuges*, AUDUBON 118 (Jan. 1986).

its operation in the planning stages, uses and expectations could have been adjusted.

Conjunctive management of groundwater and surface supplies has been urged for years, but the two sources are rarely considered together by water managers.[91] Although some groundwater is hydrologically connected with surface streams, the two are treated as legally separate sources in some states. Even if this anomalous division of ground and surface water allocation is to continue, sound planning could lead to more rational decisions by the agencies or officials who implement the separate schemes.

Planning for use of groundwater also is important where the resource is physically unconnected with surface water. Nonrenewable groundwater deposits are valuable resources that are being exhausted in many areas. The depletion of the extensive Ogallala Aquifer underlying much of the Great Plains is one highly publicized example.[92] Most states that depend on the aquifer have not anticipated alternatives to using it and how best to amortize the finite supply. In some areas, like the Denver Basin, nonrenewable groundwater is being mined as the sole supply for growing communities.[93] Neighboring areas that use surface water must have sufficient storage facilities to get through droughts. State water planning would lead to the use of renewable supplies for basic needs with stores of nonrenewable groundwater reserved for times of extraordinary needs, such as droughts or peak use periods. However, a lack of planning has led to heavy mining of groundwater by some users who rely on it as their sole source of supply, while other users in the region build independent surface systems designed to cope with droughts and heavy demands.

States regularly plan for recreation,[94] fish and wildlife manage-

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[91] *See* Young, Daubert & Morel-Seytoux, *Evaluating Institutional Alternatives for Managing an Interrelated Stream-Aquifer System*, AM. J. AGRIC. ECON., Vol. 68, No. 4 (Nov. 1986).

[92] *See* M. BITTINGER & E. GREEN, YOU NEVER MISS THE WATER TILL . . . (THE OGALLALA STORY) (Water Resources Publications 1980); HIGH PLAINS STUDY COUNCIL, A SUMMARY OF RESULTS OF THE OGALLALA AQUIFER REGIONAL STUDY, WITH RECOMMENDATIONS TO THE SECRETARY OF COMMERCE AND CONGRESS (Dec. 13, 1982); OGALLALA AQUIFER SYMPOSIUM, THE OGALLALA AQUIFER (Texas Tech. Univ., R. Mattox and W. Miller eds. 1977).

[93] The Colorado Groundwater Management Act allows the Groundwater Commission to regulate withdrawals from designated nontributary groundwater basins. COLO. REV. STAT. § 37-90-106 (1973). In 1982 the legislature barred designation of the Denver Basin, effectively removing the most important aquifer system from the Commission's control. COLO. REV. STAT. § 37-90-103(6) (Cum. Supp. 1986). The law was further amended in 1984 to vest control of the Denver Basin aquifer in overlying landowners. COLO. REV. STAT. § 37-90-102(2) (Cum. Supp. 1986). *See also* Paddock, *Nontributary Ground Water: A Continuing Dilemma*, in TRADITION, INNOVATION AND CONFLICT (L. MacDonnell ed. 1986).

[94] The Land and Water Conservation Fund, 16 U.S.C. §§ 4601-4 to -11 (1982), authorizes federal funding and assistance to the states for planning, acquisition, and development of out-

ment,[95] flood protection,[96] and instream flow needs.[97] These state environmental and other resource plans should be integrated into water planning. Similarly, state economic development goals and plans need to be reflected in a water plan. Industrial expansion, development of new business, and satisfaction of municipal needs all may turn on sound water planning.

Comprehensive water planning requires states to consider how to manage existing supplies better, rather than simply to assume that future needs will be satisfied from newly developed sources. A key planning goal should be to identify optimum uses of a state's water resources and existing facilities, and to consider a variety of sources for those uses. A Western Governors Association report on water efficiency found that a tremendous amount of western water is wasted through inefficient use and management. It found that basin-wide cooperation, water conservation and efficiency, alternative physical solutions, and conjunctive use could satisfy much of the West's foreseeable future demand.[98]

C. *Policy-based*

One of the most important functions of a state water planning process is to articulate the policies of the state that bear on water resources use, development, and conservation. Environmental, economic, and social policy goals of the state should be explicitly stated. The plan should identify policy conflicts and recommend needed changes. Where policy decisions have not been made, appropriate boards, agencies, and officials should be urged to develop and articulate them.

The subject matter of water policy planning goes well beyond matters specifically dealing with water. Major decisions concerning water are instilled with a variety of state interests. For instance, the state has stewardship responsibilities over natural resources such as fish and wildlife[99] and state-owned lands.[100] State policies and plans for

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door recreational areas and facilities. States are required to devise comprehensive statewide outdoor recreation plans as a prerequisite to federal assistance for acquisition or development projects. These plans must include an ample opportunity for public participation, an evaluation of the demand for and supply of recreational resources and facilities within the state, and a program for implementation of the plan. *Id.* § 4601-8(d).

[95] *See* WILDLIFE MANAGEMENT INSTITUTE, *supra* note 67.

[96] *See* National Flood Insurance Act of 1968, 42 U.S.C. § 4001 (1982).

[97] *See supra* note 9.

[98] B. DRIVER, WESTERN WATER: TUNING THE SYSTEM (1986) (Report to the Western Governor's Association by the Water Efficiency Task Force).

[99] Fish and wildlife management is primarily a state function. *See* M. BEAN, THE EVOLUTION OF NATIONAL WILDLIFE LAW 12-17 (rev. ed. 1983).

[100] The federal government granted certain lands to states upon their admission to the union.

land use, recreation, resource development, agricultural preservation, and urban growth are also intertwined with most major water decisions, whether public or private.

The broad policy implications of water planning demand substantial public involvement. Although a single state agency may coordinate planning efforts, participation should be sought from other state agencies and local entities. Because land use controls are typically left to municipalities, they have a significant stake as well.

D. *Dynamic*

A water planning process must allow for continuous updating and revision. A hazard in denominating any particular document or product as a "plan" is that it tends to lose its dynamic character. Changing demographic projections and economic conditions should be reflected in the planning process, and new data should be incorporated as it becomes available.

The planning process should be an ongoing agency responsibility. After an initial effort that establishes and articulates data bases, policies, and basin-specific concerns, the state legislature or governor should charge one or more agencies with applying the policy to specific cases. Policies developed in the planning process should be applied flexibly, but true to their conceptual underpinnings. Before any necessary fundamental changes are made, they should be considered as thoroughly as the original policy.

E. *Enforceable*

Planning for water resources, as other planning, has often been merely an academic exercise. Many expensive state efforts have resulted in potentially useful compilations of data that have languished unused. An example is the Nevada planning process. During the era of the Water Resources Planning Act,[101] the Nevada legislature authorized the development of a comprehensive water resources plan.[102] Private consultants and state agencies produced a series of reports

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For instance, Utah was granted four sections of each township for school lands. *See* Andrus v. Utah, 446 U.S. 500 (1980). The federal government also granted land to the states for specific public purposes such as public buildings, jails, road building, and canal and river improvements. *See* G. COGGINS & C. WILKINSON, FEDERAL PUBLIC LAND AND RESOURCE LAW 70-71 (2d ed. 1987).

[101] 42 U.S.C. § 1962-1962d-3 (1982). *See* discussion in text accompanying *infra* notes 109 to 120.

[102] NEV. REV. STAT. ANN. § 532.165 (1986).

comprising twenty-one volumes. Although they do not deal with management and quality issues, the reports are reasonably comprehensive.[103] Yet, the state's water resources decision process for allocation, development, and use of water virtually ignores the existence of the reports.

Planning can have practical meaning only if it is related to decisionmaking processes for allocation of water, changes of water rights, compact issues and other interstate relations questions, land use and development, and water quality protection. Decisionmaking entities and officials should base their decisions on fundamental policies expressed in the planning process. While water policies should not become embedded or immutable, they should be followed absent a full review.

Legislative authorizations for planning and the actions of an entity carrying out planning responsibilities should be unambiguous about which aspects of the process are to be considered binding. Some parts of planning documents may be merely illustrations or examples of how the policy could be carried out. The identification of water development projects in the planning process is especially susceptible to the interpretation that it is prescriptive, as illustrated by the case of *Johnson Rancho County Water District v. State Water Rights Board.*[104] In that case, the court considered the propriety of the state Water Rights Board's (predecessor to the state Water Resources Control Board) allowing development of a project at a point on a river that would preclude the future development of another project that was a specific feature of the California Water Plan. The California statutes provide that "it is the policy of the State that The California Water Plan . . . is accepted as the guide for the orderly and co-ordinated control, protection, conservation, development, and utilization of the water resources of the State."[105] Interpreting this vague statement, the court pointed out that the statute also said that the declaration "does not constitute approval of specific projects . . . nor shall this declaration be construed as a prohibition of the development of the water resources of the State by any entity."[106] Furthermore, the Code said that the Board is required only to "give consid-

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[103] *See* STATE ENGINEER'S OFFICE, NEVADA DIVISION OF WATER RESOURCES, DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES, WATER FOR NEVADA, SPECIAL SUMMARY REPORT, NEVADA STATE WATER PLAN (1974).

[104] 235 Cal. App. 2d 863, 45 Cal. Rptr. 589 (3d Dist. 1965).

[105] CAL. WATER CODE § 10005 (West 1971).

[106] *Id.*

eration to . . . the California Water Plan . . . ."[107] Thus, the court rejected the contention that the Water Rights Board was legally powerless to grant a permit for a new project that would preclude building a project set out in the plan.[108]

To avoid confusion and uncertainty about the effect and purposes of state water planning, state law should clearly specify the intended uses for the resulting plans and policies. Possible uses of state water plans are discussed in Part V.

IV. Western State Water Planning

Western state water planning today remains primitive. Historically, planning seemed unnecessary as water was so plentiful in most places that most allocation decisions could be left to individuals. There were also few calls for protecting public values through instream flow maintenance, enforcement of water quality standards, or anticipation of future uses. The prior appropriation doctrine was considered sufficient to allocate and reallocate water resources with little guidance. Rights and interests have been recognized in most western water without regard for public concerns. Thus, it is politically difficult for states now to engage in comprehensive planning that may produce results inconsistent with the fulfillment of expectations based on the unrestrained use and development of existing water rights.

A. *Water Resources Planning Act*

Most western states first grudgingly undertook water planning as a response to federal inducements. Congress enacted the Water Resources Planning Act of 1965 to achieve "coordinated planning" for water.[109] Under the Act, river basin commissions were set up, typically involving several states. A panel of high level federal officials coordinated the basin efforts through the national Water Resources Council. The federal government gave financial assistance to states to support their planning efforts, obliging states to seek their share of planning funds. The states in turn used the process to justify their bids for federally financed projects.

State planning under the Water Resources Planning Act was

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[107] *Id.* § 1256.

[108] It may have been significant to the court's decision that the California Water Plan had been amended two months after the Board's ruling, but before the commencement of the lawsuit, to eliminate the project that the plaintiff was seeking to protect in its challenge to the Board's ruling. *See Johnson Rancho County*, 235 Cal. App. 2d at 873, 45 Cal. Rptr. at 595.

[109] 42 U.S.C. §§ 1962-1962d-3 (1982).

largely unsuccessful.[110] Funding was not adequate for a comprehensive planning effort. Further, the states did not embrace the established planning structure enthusiastically because it was a federally motivated and coordinated effort in an area traditionally occupied by the states.[111] In addition, the process did not incorporate local and private interests and did not address urban needs.

The river basin commission approach faltered in part because other federal programs relating to water resources were not integrated into the Planning Act's structure. For instance, the National Flood Insurance Act[112] directly involved local governments in its planning activities. Various compact commissions that implement interstate apportionments of water resources, and the Tennessee Valley Authority, which has a major water development mission, did not work through the river basin commissions.[113] Water quality planning under the Clean Water Act[114] also occurred separately from planning functions of states, the river basin commissions, and the Water Resources Council under the Water Resources Planning Act.

The Water Resources Council reported in 1980 that twenty-nine states had express legislative or administrative authority to implement comprehensive water resources planning.[115] Since then, others have adopted planning missions. Until the most recent state water planning efforts, however, none has sufficiently accounted for the strong, diverse, and changing interests and needs of the public in water resources. As Figure A indicates (pp. 44-45), today every state in the western continental United States (except Colorado) has authorized a water resources planning process. The results have been varied. Some states have concentrated on studies to justify political decisions seeking federal funding for water projects. Several states have compiled helpful water resources data and inventories, though few have kept the information current, and most do not require that water decisions be based on such information. Most of the recently initiated planning programs purport to be more comprehensive and dynamic than the "state water plans" of the past. Their promise is

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[110] C. MEYERS, A. TARLOCK, J. CORBRIDGE & D. GETCHES, *supra* note 2, at 844; NATIONAL WATER COMMISSION, *supra* note 13, at 365-72 (1973).

[111] The federal government historically has deferred to state management and control of water resources. *See, e.g.*, California v. United States, 438 U.S. 645, 664-65 (1978). *See also* Reclamation Act of 1902, 43 U.S.C. § 383 (1982).

[112] 42 U.S.C. §§ 4001-128 (1982).

[113] NATIONAL WATER COMMISSION, *supra* note 13, at 365-72 (1973).

[114] 33 U.S.C. §§ 1252, 1288, 1313 (1982).

[115] U.S. WATER RESOURCES COUNCIL, STATE OF THE STATES: WATER RESOURCES PLANNING AND MANAGEMENT III-4 (1980).

great, but their success will depend on sustaining the funding and the political will to continue them as they encounter more controversial issues.

The orientation of the Water Resources Planning Act toward river basin planning was both a blessing and a curse. The approach has roots in the wisdom of sound resource management. From the early recommendations of John Wesley Powell[116] to the present, the logic of planning and managing water resources according to watershed rather than artificial political boundaries has been inescapable.[117] Unfortunately, the political realities of state lines overwhelm that logic.

The importance of water as a means of attaining economic development and security, as well as a means of defining the character of a state, has created intense competition for water among states that share a single watershed. It was, perhaps, too much to expect states vying for congressional and judicial allocations of a scarce resource to collaborate on managing a watershed. Protection of state interests is, after all, the role of state governments.

Partly in response to the Water Resources Planning Act, the Western States Water Council was formed in 1965.[118] One of the functions set forth in the Council's rules of organization was to "prepare criteria in the formulation of plans for regional development of water resources to protect and further state and local interests."[119] This mission proved to be impractical, however, and the Council early abandoned its first listed function. The Council also removed standards for guidance in the formulation of concepts and plans for staged regional development of water resources from its principles, standards, and guidelines.[120] Plainly, states had their own ideas about

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[116] John Wesley Powell envisioned planning by river basins and watersheds as the most efficient and logical planning scheme. *See*, J. POWELL, REPORT ON THE LANDS OF THE ARID REGION OF THE UNITED STATES, WITH A MORE DETAILED ACCOUNT OF THE LANDS OF UTAH (1962).

[117] The National Water Commission recognized that a river basin planning commission was the appropriate mechanism for proper water resource planning. The Commission specifically recommended that: "[w]here Federal interests are not involved directly, State and local governments should be encouraged to proceed on their own to establish intrastate planning bodies." The Commission further stated that: "Where there is a distinct Federal interest in a small basin or metropolitan planning area because of the interstate or international dimensions of its water problems, a new Federal-state-local river basin organization could be created . . . ." NATIONAL WATER COMMISSION, WATER POLICIES FOR THE FUTURE 370 (1973).

[118] The governors creating the Western States Water Council recognized that they were without a unified voice in the use of the region's water resources during a period of rapid federal water resources development and regional planning. WESTERN STATES WATER COUNCIL, ANNUAL REPORT ii (1985).

[119] *Id.* at 55.

[120] *Id.* at 60.

how to approach planning, and were not comfortable dealing with related issues through an interstate organization.

B. *Specific State Efforts*

The most progressive and interesting examples of state planning did not emerge from the Water Resources Planning Act experience. California's plan pre-dates the Act. Kansas' is of more recent origins. Other emerging efforts that hold promise are modelled after the Kansas approach.

California. California began active water resources planning in 1947 when the legislature directed that the predecessor to the Department of Water Resources begin a statewide water resource investigation.[121] Phase I of the investigation, which was completed in 1951, identified the state's water resources.[122] The second phase, issued in 1955, concentrated on determining the present and potential water requirements of the state.[123] The third phase, which is generally referred to as the "California Water Plan," was published in 1957.[124] It was intended to be a comprehensive master plan to guide and coordinate the planning and construction of facilities for the state's present and future water needs.

The California Plan was enormously successful in justifying the expenditures of hundreds of millions of dollars of state and federal funds for water development.[125] From another perspective, it was unsuccessful. Had the plan been sufficiently comprehensive, perhaps the courts would not have resorted to the public trust doctrine to impose a retroactive remedy when water allocation institutions failed to keep pace with the full spectrum of society's needs and preferences for water use. The values that led to the announcement of the public trust doctrine were apparent even when the allocations challenged in *National Audubon* were being made, but the Water Board believed that it lacked jurisdiction to consider such values. The California Supreme Court found forty-three years later that the Board was incorrect in this assumption.[126] These values properly would have

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[121] *See* DEPARTMENT OF WATER RESOURCES, THE CALIFORNIA WATER PLAN: PROJECTED USE AND AVAILABLE WATER SUPPLIES TO 2010, Bulletin 160-83, 15 (1983).

[122] *See* STATE WATER RESOURCES BOARD, WATER RESOURCES OF CALIFORNIA, Bulletin 1 (1951).

[123] *See* STATE WATER RESOURCES BOARD, WATER UTILIZATION AND REQUIREMENTS OF CALIFORNIA, Bulletin 2 (1955).

[124] *See* DEPARTMENT OF WATER RESOURCES, THE CALIFORNIA WATER PLAN, Bulletin 3 (1957).

[125] *See* DEPARTMENT OF WATER RESOURCES, THE CALIFORNIA WATER PLAN: PROJECTED USE AND AVAILABLE WATER SUPPLIES TO 2010, Bulletin 160-83 (1983).

[126] The California Water Board could have rejected Los Angeles' application on one of two theories. First, the Board was authorized to reject applications "when in its judgment the pro-

been considered in the planning process, thus rendering recent judicial correction unnecessary.

The California Water Plan has undergone five major revisions; the most recent was released in November 1987.[127] Beginning with the 1974 update of the Plan, issues other than development were seriously considered, including the use of cooling water for electrical energy production, water deficiency risks, water exchanges, agricultural drainage, water use efficiency, transfers, and wastewater reclamation. The 1983 update[128] used an innovative modeling system to assess the economic effects of increased costs of energy and water in agriculture. The report also quantified the effects of urban and agricultural conservation measures and the potential for water reclamation as a means of reducing the need for expanded water supplies. Nonstructural options for making more effective use of water supplies were considered. The California Water Plan's emphasis clearly has shifted from a concentration on the state water project, which has been largely completed, to management of present supplies and satisfying future demand without having to build expensive new projects and sacrificing environmental values.

Although it has evolved into a rather progressive, management-oriented water planning process, the California Plan still has some significant deficiencies. One of the most obvious is that it does not deal with groundwater. This is a notable omission, as groundwater is the

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posed appropriation would not best conserve the public interest." CAL. WATER CODE § 1255 (West 1971). Second, the Board could have rejected the application because the water was already being put to beneficial uses (commercial, recreational, and scenic). The Board felt bound, however, by another section of the Water Commission Act which "declared to be the established policy of this state that the use of water for domestic purposes is the highest use of water." WATER COMMISSION ACT ch. 139, Stat. 1921 (codified at CAL. WATER CODE § 1254.) Since Los Angeles' application was for domestic use, the Board assumed that it must grant the city's application even though it recognized that harm to uses of Mono Lake would result.

The Board's decision stated:

> It is indeed unfortunate that the City's proposed development will result in decreasing the aesthetic advantages of Mono Basin but there is apparently nothing that this office can do to prevent it. The use to which the City proposes to put the water [domestic] is defined by the Water Commission Act as the highest [use of water] . . . . This office therefore has no alternative but to dismiss all protests based upon the possible lowering of the water level in Mono Lake and the effect that the diversion of water from these streams may have upon the aesthetic and recreational value of the Basin.

DIV. WATER RESOURCES Dec. 7053, 7055, 8042 and 8043, at 26 (Apr. 11, 1940). *See National Audubon*, 658 P.2d at 713-14.

[127] DEPARTMENT OF WATER RESOURCES, CALIFORNIA WATER: LOOKING TO THE FUTURE, Bulletin 160-87 (1987).

[128] DEPARTMENT OF WATER RESOURCES, THE CALIFORNIA WATER PLAN: PROJECTED USE AND AVAILABLE WATER SUPPLIES TO 2010, Bulletin 160-83 (1983).

principal source of water supply for most of Southern California. Groundwater resources continue to be planned and managed locally.[129]

Kansas. Recent state-initiated planning efforts seem more promising than those undertaken pursuant to the Water Resources Planning Act. They build on the experience of California and other states. Kansas has the most progressive approach, in which comprehensive planning takes the form of a policy-development process.

In 1983 Kansas revised its planning process in response to the state's Water Resources Planning Act.[130] The Kansas Water Office is charged with formulating a state water plan for the management, conservation, and development of the state's water resources. The Office must consider alternative plans, programs and projects emphasizing efficient use, multipurpose reservoir sites, safeguards to human and animal health through water quality management, existing water rights, groundwater, instream flow protection, habitat protection, and cooperation among different levels of government.[131] Kansas views its water plan as a dynamic instrument, subject to revision and updating as new information becomes available and new policies are announced.

The Kansas water plan has six major sections. Three of them — management, conservation, and development — are mandated by the Act.[132] The other three areas — water quality, fish and wildlife and recreation, and basin planning — are not specifically mandated, but were included at the initiative of the Kansas Water Office. The plan is designed to raise both statewide and basin-specific policy issues. By ventilating particular issues, the plan focuses decisionmakers' attention on the important questions related to water development that must be addressed if water planning is to have practical impacts.

Each year, the Kansas Water Office is required to submit an updated State Water Plan to the legislature. The Water Office initially develops a preliminary draft by drawing on informal input by local and other interests. It then incorporates these suggestions into a working draft, airs the proposals at formal public meetings, and re-

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[129] Groundwater supplies more than 50% of southern California's freshwater needs. Bredehoeft, *Physical Limitations on Water Resources*, in WATER SCARCITY: IMPACTS ON WESTERN AGRICULTURE 25 (E. Engelbert ed. 1984). *See also* C. MEYERS, A. TARLOCK, J. CORBRIDGE & D. GETCHES, *supra* note 2, at 582; de Lambert, *District Management for California's Groundwater*, 11 ECOLOGY L.Q. 373 (1984); Comment, *Groundwater: A Call for a Comprehensive Management Program*, 14 PAC. L.J. 1279 (1983).

[130] KAN. STAT. ANN. § 82a-901(a) (1984).

[131] *Id.* § 82a-903 (Supp. 1985).

[132] *Id.* § 82a-901(a) (1984).

ceives comments. Proposed revisions include discussions of major issues, alternative proposals for action, and recommendations. For instance, the working draft of the Fiscal Year 1989 State Water Plan, released in May 1987, proposes new subsections on stream rehabilitation within the Management section and an environmental protection strategy subsection within the Water Quality section.[133] The Kansas Water Authority must approve these additions, which are then reviewed by the legislature and governor, before they become part of the State Water Plan.

Once these recommended programs become part of the State Water Plan, the Water Office attempts to implement them. For instance, the proposal for stream rehabilitation calls for the state and basin committees jointly to identify streams in need of rehabilitation through the basin planning program. If the proposed new section is approved as part of the State Water Plan, a local sponsor may request financial assistance from the state for planning a project. A rehabilitation plan is then prepared by a qualified consultant in coordination with the State Conservation Commission and the local sponsor. The Division of Water Resources then reviews the plan and seeks public comment. If the particular plan is approved, the local sponsor may request state cost-sharing assistance to carry it out.[134]

Montana, Nebraska, and Oregon are emulating the Kansas pattern in their recently initiated planning programs. The Montana Department of Natural Resources and Conservation has proposed revisions in its water resources planning process. As in Kansas, Montana's new state water plan is to be a collection of management issue components that will be developed incrementally depending on available funding and resources. Montana proposes to divide the plan into two categories: statewide issues and basin-specific issues. The proposal enables public input by creating advisory committees made up of a cross section of various interests at both state and basin levels.[135]

Nebraska also has an innovative approach to water resource planning. It has replaced the traditional blueprint for development with a continuous, flexible planning process based on policy issue analysis. Issues of concern are identified, then a state program to deal with

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[133] *See* KANSAS WATER OFFICE, KANSAS WATER PLAN, EXECUTIVE SUMMARY FISCAL YEAR 1989 (May 1987).

[134] KANSAS WATER OFFICE, KANSAS WATER PLAN, EXECUTIVE SUMMARY, FISCAL YEAR 1989, Working Draft 15-16 (May 1987).

[135] MONTANA DEPARTMENT OF NATURAL RESOURCES & CONSERVATION, STATE WATER PLAN DEVELOPMENT: A REVISED APPROACH, REPORT TO THE FIFTIETH SESSION OF THE MONTANA LEGISLATURE (1987).

these problems is designed and ultimately implemented. In addition, area studies are prepared for problems specific to a particular region, usually based on river basins or similar hydrologic units.[136]

Oregon is currently implementing a new water resource planning approach similar to that used in Kansas, with planning being done at both the statewide and basin levels. A continuous process, it integrates new information as it is gathered and new problems as they are identified.[137]

V. State Water Planning in Practice

A process for setting policy and planning for water resources should be designed to serve particular announced and well-defined purposes. Planning is not an end in itself. Its products may range from a consistent and complete data base for individual and agency decisionmakers to detailed rules and standards to guide decisions. Some of the options are discussed below.

A. *Enforceable Standards*

A water planning agency might be vested with authority to approve all major water developments and diversions. Approval would be granted only if a proposal were consistent with plans articulated and interpreted by the agency. The requirement for agency approval could depend on the size of the water diversion or facility, whether transbasin diversions are anticipated, whether an obstruction would span an entire stream, or whether there was an interference with in-stream flows protected by the state. To give water planning this level of force would make such plans comparable to comprehensive land use plans developed by local governments. Ordinarily such plans are binding in determinations concerning land use and zoning unless elaborate procedures are followed to change the plan.[138] This works in the land use context because the comprehensive plan establishes overall patterns and policies for growth, expansion, and development of communities. Judgments about specific developments and uses are left to private owners and developers, subject to the discretion of an

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[136] Neb. Rev. Stat. §§ 2-15,100-106 (Cum. Supp. 1986). Nebraska Natural Resources Commission, State Water Planning and Review Process, Policy Issue Study Summary and Review (1986).

[137] Telephone Conversation with and material supplied by Becky Kreag, Oregon Water Resources Department, Jan. 22, 1987.

[138] D. Mandelker, Land Use Law 49-64 (1982). C. Haar, Land Use Planning: A Casebook on the Use, Misuse and Re-use of Urban Land 355-92 (3d ed. 1977); R. Ellickson & A. Tarlock, Land-Use Controls: Cases and Materials 213-30 (1981).

agency guided by the plan under a framework of laws, regulations, and procedures.

As an alternative to giving the water planning agency plenary oversight authority based on principles stated in a plan, the plan could have at least a presumptive effect in all public agency decisionmaking. All agencies involved in water-related decisions would be required to carry out their responsibilities in a manner that comports with policies and directions in the plan, or to justify their departures. This would enhance the predictability of decisions for water users and assist public entities in reaching conclusions compatible with the public interest.

B. *Public Interest Determinations*

Courts and administrative agencies increasingly are being asked to make determinations of "the public interest" in their decisions concerning water rights allocation and transfers. Sixteen states have some form of public interest review.[139] These mandates create difficulties and ambiguities for administrators because they typically lack legislative standards or guidance.

In *Shokal v. Dunn*,[140] the Idaho Supreme Court interpreted a statute prohibiting appropriations detrimental to "the local public interest."[141] The legislature had given virtually no indication of what it meant by the phrase, defining it only as "the affairs of the people in the area directly affected by the proposed use."[142] In its search for the meaning of local public interest in Idaho, the court had to weave a cloth from threads drawn from a variety of sources. It looked at the values that the legislature sought to protect in passing an instream flow protection law the same day that it passed the law with the public interest clause, and it looked at the decisions of courts in a num-

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[139] ALASKA STAT. §§ 46.15.040, -.080(a) (1984 & Supp. 1986); ARIZ. REV. STAT. ANN. §§45-142, -143 (Supp. 1986); CAL. WATER CODE §§ 1225, 2155 (West 1971 & Supp. 1987); IDAHO CODE §§ 42-201, -203A, -203C (Supp. 1986); KAN. STAT. §§ 82a-705, -711 (1984); MONT. CODE ANN. §§ 85-2-302, 311(2) (1985) (does not use typical "public interest" or "public welfare" phrasing but a permit can issue for larger appropriations only if the proposed use is "a reasonable use," which is defined in terms of typical public interest criteria); NEB. REV. STAT. §§ 46-233, -234, -2,116 (1984); NEV. REV. STAT. §§ 533.325, .370(3), 534.040(1) (1985); N.M. STAT. ANN. §§ 72-5-1, -6, -7, 72-12-3, -3E (1985); N.D. CENT. CODE §§ 61-04-02, 06 (1985); OR. REV. STAT. §§ 537.130, -.170(4) (1985); S.D. COMP. LAWS ANN. §§ 46-1-15, -2A-9, -5-10, -6-3 (1983); TEX. WATER CODE ANN. §§ 11.121, -134(3) (Vernon Supp. 1987); UTAH CODE ANN. §§ 73-3-1, -8(1) (1980 & Supp. 1986); WASH. REV. CODE ANN. §§ 90.03.250, -.290, -44.050, -44.060 (1962); WYO. STAT. §§ 41-4-503, -3-930 to -932 (1977 & Supp. 1986).

[140] 109 Idaho 330, 707 P.2d 441 (1985).

[141] IDAHO CODE § 42-203A(5)(e) (Supp. 1987).

[142] *Id.*

ber of other states. Indeed, it considered and quoted a recent statute from the state of Alaska enumerating particular elements of the public interest.[143] The court concluded that: "The relevant elements and their relative weights will vary with local needs, circumstances, and interests."[144] By contrast, it pointed out that mandatory water quality standards were inflexible and did not vary with the circumstances. With that exception, however, the determination of "what the public interest requires is committed to Water Resources' sound discretion."[145]

In New Mexico, the State Engineer has long considered public interest issues, but has done so narrowly.[146] The potential for extending the circumstances under which public interest review is applied is illustrated by a recent New Mexico trial court case. The court overturned the State Engineer's approval of a transfer of a small amount of water from agricultural uses to be used for an artificial lake at a resort. The court said:

> [I]t is simply assumed by the Applicants that greater economic benefits are more desirable than the preservation of a cultural identity. This is clearly not so . . . . This region of northern New Mexico and its living culture are recognized at the state and federal levels as possessing significant cultural value, not measurable in dollars and cents. The deep-felt and tradition-bound ties of northern New Mexico families to the land and water are central to the maintenance of that culture . . . . I am persuaded that to transfer water rights, devoted for more than a century to agricultural purposes, in order to construct a playground for those who can pay is a poor trade, indeed.[147]

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[143] ALASKA STAT. § 46.15.080 provides:

(b) in determining the public interest, the commissioner shall consider
(1) the benefit to the applicant resulting from the proposed appropriation;
(2) the effect of the economic activity resulting from the proposed appropriation;
(3) the effect on fish and game resources and on public recreational opportunities;
(4) the effect on public health;
(5) the effect of loss of alternate uses of water that might be made within a reasonable time if not precluded or hindered by the proposed appropriations;
(6) harm to other persons resulting from the proposed appropriations;
(7) the intent and ability of the applicant to complete the appropriation; and
(8) the effect upon access to navigable or public water.

[144] 109 Idaho at 339, 707 P.2d at 450.

[145] *Id.*

[146] *See* Young and Norton v. Hinderlider, 15 N.M. 666, 110 P. 1045 (1910) (possibility of inadequate water made project of senior water rights holder appear financially unsound and therefore contrary to the public interest).

[147] *In re* Sleeper, No. RA-84-53(c) (D. Ct. Rio Arriba County 1985), *rev'd on other grounds*, No. 8720-8830 (N.M. Ct. App. Mar. 22, 1988), *cert. granted*, No. 17661 (N.M. May 11, 1988).

Even where there is no statutory requirement that administrators' decisions further the public interest, courts increasingly require agencies to consider a variety of environmental and economic factors as they administer water. In Colorado, where administrative agencies exercise virtually no discretion in allocating or administering water, the supreme court has been moving firmly toward demanding that decisions, rules, and regulations ensure optimum utilization of water.[148]

The courts almost certainly will continue in their attempts to inject newly asserted, widely held public values into determinations concerning water, notwithstanding the sparsity of legislative guidance. The absence or vagueness of legislative standards understandably frustrates judicial efforts[149] and, as the New Mexico case quoted above demonstrates, can produce surprising results.

Legislatures prefer to delegate broad discretion to administrative officials and agencies, rather than to catalogue detailed standards. The legislative process is not well suited to developing standards detailed enough to be applied meaningfully in multiple and diverse situations. The legislature can require a state agency to engage in a planning process and thereby to produce comprehensive standards and guidelines, along with a description of how they should be applied and balanced in various circumstances. Although it is unlikely that any comprehensive planning document would be durable enough for all situations, it almost inevitably would be better than the product of a legislative drafting process or, alternatively, ad hoc exercises by an administrative agency. A planning process can consider variables in advance and continue to adjust the approaches taken to reflect changing facts and changing policies. The legislature can oversee the process by making periodic revisions of the agency's articulated plans and policies so far as necessary to keep the agency within the fundamental tenets of state legislative policies.

C. *Advice to Federal Agencies*

State agencies often are asked to take positions that could be

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[148] *See* Alamosa-La Jara Water Users Protection Ass'n v. Gould, 674 P.2d 914 (Colo. 1983). The Colorado Supreme Court has found a "clear obligation [for the state engineer] to represent the public interest" in water rights determinations. Bar 70 Enterprises, Inc. v. Tosco Corp., 703 P.2d 1297, 1304 (Colo. 1985); Wadsworth v. Kuiper, 193 Colo. 95, 562 P.2d 1114 (1977). *See also United Plainsmen, supra* note 77.

[149] At least one court has expressed uneasiness about the difficulties involved in applying public interest standards without definite criteria. *See* Steamboaters v. Winchester Water Control Dist., 69 Or. 596, 688 P.2d 92 (1984).

guided by clearly announced state policies regarding water resources. Federal permitting authorities sometimes defer to state policies. For instance, the U.S. Army Corps of Engineers has adopted extensive regulations[150] requiring a weighing of public interest factors in considering whether to grant or deny dredge and fill permits under section 404 of the Clean Water Act.[151] Unless "overriding national factors of public interest" are present, the Corps will defer to state judgments on the public interest.[152] Thus, if a state can resolve policy conflicts internally, such as between its fish and wildlife agency and its agency concerned with water development, the state has an opportunity to guide the course of federal decisionmaking. If not, the state leaves the decision entirely in the hands of the federal government. A state presumably would prefer to make a compromise decision itself in a state water planning process, instead of yielding to the judgment of a federal agency.

D. *Efficient Use of Existing Resources and Facilities*

Use of state water resources and of existing reservoirs and delivery facilities has often been inefficient. Recent studies conclude that better water management, not necessarily accompanied by new structures, can answer many of the West's future water problems. Some water laws, however, inhibit efficient management. The prior appropriation system as embellished in law results in some water users getting more water than they need while others get little or none, when coordinated use of resources could produce enough water for all. For instance, state water laws typically limit reservoirs to a single filling,[153] although water users might benefit from more extensive basinwide uses of those facilities. A planning process should identify possible exchanges, make proposals for basinwide cooperation, and explore possibilities for integrated management. Implementing those proposals could produce substantial benefits, especially in rural, agricultural areas.

Entities like municipalities and water districts often develop their water resources independently of one another, sometimes competing

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[150] 33 C.F.R. §§ 320.4, 323.1 to 323.6 (1987).

[151] 33 U.S.C. § 1344 (1982).

[152] 33 C.F.R. § 320.4(j)(4) (1987). *See supra* note 58 (Federal Energy Regulatory Commission deference to state water plans).

[153] *See* Wheatland Irrigation Dist. v. Pioneer Canal Co., 464 P.2d 533 (Wyo. 1970); Orchard City Irrigation Dist. v. Whitten, 146 Colo. 127, 361 P.2d 130 (1961); Federal Land Bank v. Morris, 112 Mont. 445, 116 P.2d 1007 (1941); Windsor Reservoir & Canal Co. v. Lake Supply Ditch Co., 44 Colo. 214, 98 P. 729 (1908).

to obtain rights to enough water for long-range expansion and building parallel delivery and distribution facilities. Each may anticipate the most optimistic growth possibilities being realized within their borders. Safety factors in calculating both demand and supplies are multiplied when each entity makes projections in isolation. Some local governments assume a competitive stance, seeking to attract growth away from neighboring communities. Indeed, growth projections and data are treated as proprietary even by some public water suppliers. As a result, water needs are usually overstated. It would be more efficient to make regional or basinwide growth plans and to anticipate reasonable water needs of the overall area relative to all available water. It is plainly inappropriate to use a state's public resource like water as a competitive tool to "win" growth away from other communities, particularly where efforts to acquire excessive and duplicative water facilities and resources involve public expense and displacement of other existing or proposed public water uses.

Clashes between fish and wildlife values and the equities of communities expecting to supply water to growth areas raise statewide concerns that should not be left to the decisions of entities with primarily narrow, local interests. A state planning process can protect values better and make wiser, more efficient decisions than a single local government or district concerned with competition for new growth.

The planning effort can also guide the operation of state and federal facilities. Federal projects in most western states are underutilized. By assessing present and future needs and assuming flexibility in use of major existing facilities, proposals for altering existing operations may be developed to satisfy present and future demands. Greater control of federal facilities may be negotiated, as there is a growing willingness by the Bureau of Reclamation to allow state management of federal projects so long as it is consistent with original project purposes. Furthermore, imposition of state laws and permit requirements may also guide operations of a federal project. Indeed, the California State Water Resources Control Board is reviewing all federal project operations to determine whether they comport with the public trust doctrine as defined by the California Supreme Court and applied by the Board.[154]

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[154] Telephone Conversation with Barbara Leidigh, Attorney, California State Water Resources Control Board, Dec. 4, 1987; *see supra* note 75.

E. *Prerequisites to State Assistance*

Some states provide financial or technical assistance for development projects, and more are being called upon to do so in light of the drastic decline in federal water project funding.[165] A planning process can influence public and private decisions if state funding and other assistance is withheld from projects that are contradictory or inconsistent with the values and policies of a state expressed in its water planning.

F. *Influence Private Decisions*

A well-conceived state water planning process ought to command enough respect and reliability that private decisionmakers would use it for advice and guidance. A plan should be a tool for influencing private as well as public entities in deciding how future water needs will be met at the least cost, considering all foreseeable effects on the public interest. A planning agency should be available to assist private water developers as they set out to solve water problems.

G. *Recommend Action*

An important function of state water planning is to recommend legislative action and policy decisions by boards and officials. In some cases this will mean recommending priorities for constructing projects. In other situations it may mean recommending the enactment of laws to enhance water management and the promulgation of administrative regulations for better water management and administration.

VI. RECOMMENDATIONS

A. *State Initiated Planning Processes*

States should design planning processes that are suited to their particular needs. As indicated above, a planning process must articulate state policies related to water use, development, conservation, and allocation. The process must be built on a sound factual basis. Thus, the best available data must be used, and projections must be carefully developed and frequently revised. A requirement that a plan be comprehensive and that it be regularly updated and revised

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[165] With the reduction in federally sponsored water projects, there is a need for greater state support for options available for state assistance to local governments, including: (1) technical assistance programs; (2) state assistance for local governments' purchase of bond insurance; (3) state-operated municipal bond banks; (4) state grants; and (5) state-constructed and operated water projects. *See* R. SMITH, TROUBLED WATERS, FINANCING WATER IN THE WEST 143 (1984).

suggests an expense that many states are reluctant to bear. But if states are considering huge expenditures of state funds to fill the gap left by the withdrawal of the federal government from major water development, they should find the cost of planning relatively low. A good water planning process implemented at an adequate level will cost far less over many years than a single mistake in building an unnecessary, oversized, underutilized, or improperly placed water project. Furthermore, the process may enhance economic development and secure better rights to use interstate streams. While the economic benefits of planning are not immediately obvious, they are, nevertheless, real.

For planning to be effective, the process must be empowered. The degree of authority given to a planning agency and the effect to be given to the results of the process will depend upon the preferences and traditions of individual states. It is particularly difficult in some states to promote the ideal of planning because most water is already allocated, and those with vested rights fear that yielding any decisionmaking authority to the state or to junior water users will lead to displacement or limitations of senior rights in the name of public values. There is some substance to this fear, but it need not be realized. A good system for planning will respect vested rights and anticipate how to deal with them equitably. Where necessary, the process might propose to compensate owners of adversely affected rights.

Vested rights holders should fear most a failure to plan. The greatest values in senior rights are reliability and predictability. Those values are threatened by surprises and retroactive changes in the definition of rights. Changes and redefinitions are likely to come at the hands of the judiciary and the federal government in the absence of a state response. A state planning process is likely to be more sensitive to vested rights than courts or federal agencies attempting to protect public rights.

B. *Federal Assistance to States*

The federal government can assist in furthering state planning processes. The lesson learned from the past is that the federal government cannot write a prescription for a particular approach to planning. On the other hand, it may be in the national interest to bolster state initiatives for planning.

The Colorado River Basin Project Act[156] evidenced Congress' discomfort with making huge expenditures for structural solutions to

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[156] Pub. L. No. 90-537, 82 Stat. 886 (codified at 43 U.S.C. §§ 1501-56 (1982)).

water problems without any comprehensive consideration of basinwide needs. The Act authorized the behemoth Central Arizona Project and several upper Colorado River Basin projects. One of the prices for its passage, however, was that the federal government would study how best to meet water problems throughout the eleven western states.[157] Among other things, the resulting "Westwide Study" recognized the inadequacies of individual project studies in addressing interrelated problems of basins.[158] In stressing the value of basinwide planning, however, it acknowledged that state boundary definitions are necessary for plans because decisions are made based on political, not hydrologic, boundaries. The study predicted, correctly it now appears, that water project development would decline in importance as society seeks to satisfy broader needs and to meet standards of economic efficiency and environmental quality. It concluded that, as river basins are subjected to more intensely competing demands, "the overall objective must be to devise an optimum plan for [river] operation so that each use or need will be met proportionately to its public values."[159] The first level of planning, then, should be the states; collaborative, basinwide efforts to coordinate and perhaps adapt those state plans should then follow.

The Bureau of Reclamation has a potentially significant role in facilitating state and basin water planning. The Bureau is becoming an agency without a mission. As its traditional roles of a financer and constructor of water projects fade in importance, the Bureau is left to finish building a few projects and to manage several existing facilities. The western states can expect little future benefit from the agency that once delivered billions of dollars in public works and promised even more. If the Bureau assisted states with the planning and management of water resources, however, it could serve the national interest as well as continuing to provide benefits to Western states.

The Bureau of Reclamation should give major technical and financial assistance to states to assist in their planning efforts and thereby to carry out the recommendations of the Westwide Study. This would include aid in designing data collection and management systems. Model state planning processes could also be proposed. Ideally, the Bureau would develop and recommend a framework for these functions and give the states the financial assistance they need to

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[157] 43 U.S.C. § 1511 (1982).

[158] UNITED STATES DEPARTMENT OF THE INTERIOR, WESTWIDE STUDY REPORT ON CRITICAL WATER PROBLEMS FACING THE ELEVEN WESTERN STATES (1975).

[159] *Id.* at 444.

proceed with them. The states could tailor the Bureau's sophisticated water management techniques to their individual needs. If states had consistent and compatible data systems and planning processes, it could promote interstate communication and cooperation. Federal assistance in developing data and designing information systems could lead to fuller and basically similar types of data bases, and facilitate information exchanges among states. This, in turn, could encourage essential basinwide planning among the states sharing a stream system. There is some indication that the Bureau of Reclamation may redirect its activities toward water management and promoting partnership relations with states and other non-federal entities.[160] The type of assistance recommended here comports with such a direction for the agency.

An attractive federal inducement for planning would be to offer states the opportunity to take over federal dams, reservoirs, and water distribution facilities along with the associated power facilities. The government has shown some inclination to discuss the possibility of state or local entities purchasing, leasing, or otherwise assuming management or ownership of federal facilities. Part of the consideration for states taking control could be the development of adequate, comprehensive state plans.

VII. CONCLUSION

Fulfillment of a variety of state goals is hampered by artificially isolating water allocation and management as a system of private rights subject occasionally to public controls or largesse. Comprehensive water planning deals with more than water; it integrates state goals and policies that are necessarily related to water. Water planning cannot be divorced from local land use decisions, urban growth policies, rural community problems, water quality goals, recreational needs, economic policy, environmental preservation, agricultural production, intergovernmental relations, and a panoply of other issues.

John Gunther wrote of the West and especially Colorado: "Touch water, and you touch everything."[161] Thus, the neglect of state water

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[160] The Assistant Secretary of Interior for Water and Science proposed in September 1987 that the Bureau of Reclamation change its mission "from an agency based on federally supported construction to one based on resource management." UNITED STATES DEPARTMENT OF THE INTERIOR, ASSESSMENT '87 . . . A NEW DIRECTION FOR THE BUREAU OF RECLAMATION 1 (1987). It was recommended that the Bureau work with states and local and tribal governments in a number of ways, including supplementing their technical and financial capabilities, facilitating non-federal take-over of the operation and maintenance of federal facilities and, as a partner, pursuing several strategies such as planning. *Id.*

[161] J. GUNTHER, INSIDE U.S.A. 233 (1951).

planning is surprising in the West, where scarce water must be allocated and used wisely or it will adversely affect all of life. The benefits of planning begin with achieving greater certainty and more productive use of water, goals that the West and its water laws and institutions have always pursued. They should extend to making and keeping the West a livable, productive, naturally beautiful place.

Fig. A. Western States' Water Planning

STATE	STATUTORY AUTHORITY	CONTINUING EFFORT	TYPE OF PLANNING*	INCLUDES PLANNING FOR: WATER MGMT.	WATER SUPPLY	WATER DEMAND	STRUCTURAL DEVELOPMENT	EFFICIENCY & CONSERVATION	WATER QUALITY	GROUNDWATER	ECONOMIC FACTORS	RIPARIAN MGMT.	RECREATION	INSTREAM FLOWS	WHEN STARTED
ALASKA	None	NO	—		X	X		X			X	X	X	—
ARIZONA	Ariz. Rev. Stat. Ann. § 45-2503	NO	Mgmt.		X		X							1975
	Ariz. Rev. Stat. Ann. § 45-401	YES	Mgmt.	X	X	X		X	X	X					1980
CALIFORNIA	Calif. Water Code § 10004 et. seq.	YES	Mgmt.	X	X	X	X	X	X		X			X	1957
COLORADO	None	NO	—												—
HAWAII	Act 45, 1987 Hawaii Sess. Laws	YES	Mgmt.	X	X		X		X	X				X	1985
IDAHO	Idaho Code § 42-1734	YES	Mgmt.; Develop.	X	X	X	X	X	X	X	X	X	X	X	1976
KANSAS	Kan. Stat. Ann. § 82a-901(a)	YES	Mgmt.; Proc.; Issue i.d.	X	X	X	X	X	X	X	X	X	X	X	1983
MONTANA	Mont. Code Ann. § 85-1-203	YES	Proc.	X	X	X	X	X	X	X	X	X	X	X	1981
NEBRASKA	Rev. Stat. Neb. § 2-1599	YES	Mgmt.; Proc.; Issue i.d.	X	X	X		X	X	X				X	1978
NEVADA	Nev. Stat. 532-165	NO	Develop.	X	X	X	X				X		X	X	1969
NEW MEXICO	Ch. 182, 1987 N.M. Laws	NO	Develop.		X		X	X			X				1987
NORTH DAKOTA	N.D. Cent. Code § 61-02-14	NO	Develop.				X		X		X		X		1983
OREGON	Or. Rev. Stat. Ch. 536	YES	Mgmt.; Proc.; Issue i.d.	X	X		X		X	X		X	X	X	1987
SOUTH DAKOTA	S.D. Codified Laws Ann. § 46A-1-1	YES	Develop.		X		X				X		X		1982
TEXAS	Texas Water Code § 16.051	YES	Mgmt. + Develop.; Proc.	X	X	X	X	X	X	X	X		X		1969
UTAH	Utah Code Ann. § 73-10-19	NO	Develop.				X				X				1984
WASHINGTON	Wash. Rev. Code § 90.54.040	NO	Mgmt.; Issue i.d.	X	X		X			X	X			X	1971
WYOMING	Wyo. Stat. § 41-2-107	NO	Mgmt. + Devlop.	X	X		X				X				1973

* Planning programs are divided into general categories as follows:

Develop. = Development-oriented; planning is focused on specific projects
Proc. = Planning occurs as an ongoing process
Mgmt. = Management-oriented, rather than focusing on projects
Issue i.d. = Identifies and discusses public policy issues
Mgmt. + Develop. = Concerned both with management and development

WHEN COMPLETED OR LAST REVISED	SCOPE OF PLANNING	CURRENT STATUS
—	Regional	No funding for state water plan. Regional land use plans contain water resource components, but currently no comprehensive state plan.
—	Statewide	State plan now outdated; no comprehensive state planning for surface water management.
ongoing	Regional	State divided into 4 regional Active Management Areas (AMAs) to manage groundwater.
1983	Statewide	Comprehensive state water plan, undergoing fifth revision. Divides state into regional study areas, but sets out statewide policy.
—	None	No state plan; none expected. Several studies and inventories initiated, but subsequently dropped.
—	Statewide; Regional	New water code established comprehensive state planning, with contribution from local land use plans.
1986	Statewide	Comprehensive state water plan; revised every 5 years. Some state policies apply to particular river basins, others statewide.
ongoing	Statewide	Comprehensive state water planning process, consisting of both statewide and basin-specific issues. Very successful, flexible planning process
(proposed) 1987	Regional	Currently, series of managment plans apply to major river basins in state. Elements shown here are in proposed planning process, modelled after Kansas.
ongoing	Statewide	Comprehensive state planning process with focus on policy issue analysis. Planning at state level with strong regional districts to coordinate management.
1974	Statewide; Regional	No comprehensive state planning. Series of reports on state water resources compiled by the State Engineer; not widely used.
—	Regional	No state water plan; none expected. Bill passed in 1987 to promote regional plans; did not authorize state planning.
—	Regional	No comprehensive state plan; compilation of projects proposed by river basin planning groups. The listed planning factors are recommended by the state.
—	Statewide	New state water plan developed in 1987 will replace prior basin planning approach with a comprehensive statewide planning process modelled after Kansas.
1984	Regional	State plan has two components: planning and financing. State board makes final decisions on proposed projects, but priorities are established at local district level.
1984	Statewide	Comprehensive state water plan, dividing state into planning regions but concentrating decisions at the state level. Currently undergoing revision.
—	Statewide	State water plan authorized, but no completed. Current state focus is on funding water projects and developing better flood protection
—	Statewide	State plan authorized, but not completed. Focus has been on instream flows, rather than allocation planning. Currently preparing programmatic EIS on instream flows.
—	Regional	State water plan outdated, not utilized. State has water development program, which finances new projects with coal severance tax.