Some Reflections on Environmental Considerations in Water Rights Administration

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Originally aimed solely at protecting surface and underground sources of drinking water, water pollution control has become an increasingly complex and difficult environmental problem. In California the State Water Resources Control Board has been given a broad authority to control pollution and preserve the quality of the State's water resources. A primary aspect of the Board's responsibilities relates to the administration in the public interest of appropriative water rights, both existing and to be created. In this Article, the current Vice-Chairman of the Board offers insights into the extent of the Board's authority and suggests several avenues for its future use.

Preservation and enhancement of our physical environment is not only a national policy1 but is of deep concern to individual Americans. In its first annual report the Council on Environmental Quality observed:

The recent upsurge of public concern over environmental questions reflects a belated recognition that man has been too cavalier in his relations with nature. Unless we arrest the depredations that have been inflicted so carelessly on our natural systems—which exist in an intricate set of balances—we face the prospect of ecological disaster.2

In any listing of environmental problems, those related to the development and use of water resources will be items of major concern

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   "[T]here is a National Policy for the environment which provides for the enhancement of environmental quality . . . . The primary responsibility for implementing the policy rests with State and local governments."


relating not only to pollution of water supplies but also to other potentially serious effects which water development and transfer projects may have on the environment. Since the granting of permits for the appropriation of water effectively constitutes approval for construction of water development projects, the administrative allocation of water resources through a water right permit system can have a major impact on the environment. It is the purpose of this Article to examine the statutory, judicial, and institutional framework for the allocation of water resources in California, with particular emphasis on the extent to which environmental factors are, or should be, considered.

I

CALIFORNIA APPROPRIATIVE WATER RIGHTS

A. Development of Appropriate Rights

Prior to statehood in 1850, California miners developed the custom of recognizing rights to mining claims and to related water diversions according to the principle of the priority in time of the staking of a claim or the putting of water to beneficial use. In 1851, California's second legislature gave statutory recognition to this custom with respect to mining claims then in existence. The establishment of such

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4. E. CLYDE & D. JENSEN, ADMINISTRATIVE ALLOCATION OF WATER 34 (National Water Comm'n Legal Study No. 3, 1971) [hereinafter cited as CLYDE & JENSEN].

5. Ch. 5, [1851] Cal. Stat. 149 (codified at CAL. CODE CIV. PROC. § 748 (West 1955)).

California's first legislature had adopted the common law of England as the law of the State. Ch. 95, [1850] Cal. Stat. 219. In so doing, it included the doctrine of riparian rights, based on ownership of land contiguous to surface or underground streams, lakes, or ponds. W. HUTCHINS, CALIFORNIA LAW OF WATER RIGHTS 196-200, 216 (1956). A riparian right is not lost by disuse nor is it based on priority of use. Id. at 179. A riparian is entitled to use as much water as required for reasonable and beneficial purposes on riparian lands, limited to those within the watershed. Id. at 202-03. Judicial interpretation has narrowed the scope of riparian lands by limiting the right to "the smallest tract held under one title in the chain of title leading to the present owner." Rancho Santa Margarita v. Vail, 11 Cal. 2d 501, 529, 81 P.2d 533 (1938). See also W. HUTCHINS, supra, at 201. Although there is no requirement that riparian users report their claims to the State or any governmental agency, sections 5100-08 of the Water Code require riparians to file statements of diversion and use with the State Water Resources Control Board at three-year intervals (with certain exceptions). Section 5106 provides, however, that such statements do not constitute evidence of a right or of a claim of right to divert or use water. Section 5108 makes clear the statements are for "informational purposes only" and neither the failure to file nor an error in the information filed shall have any legal consequences as far as the claimed right is concerned. Few voluntary filings are made. Thus the State has no inventory of the extent of these rights as to either the land area affected or the amount of water necessary to meet reasonable needs of riparian lands.

Conflicts between riparians and appropriators arose early in the State's history,
“appropriative rights” to water, based on the principle of “first in time, first in right,” was first recognized by the California Supreme Court in 1855.⁶

An 1872 statute set forth procedures for the initiation of appropriative rights. A claimant obtained priority by posting a notice at the point of diversion and by recording with the county recorder.⁷ In 1913 the State Legislature enacted the Water Commission Act,⁸ which created a State Water Commission and for the first time provided an administrative permit procedure to be followed for obtaining appropriative rights.⁹ In 1923 this administrative procedure was made the exclusive method for appropriation.¹⁰ A number of statutory provisions establish the policy underlying State regulation of water rights.¹¹

and culminated in Herminghaus v. Southern California Edison Company, 200 Cal. 81, 252 P. 607 (1926). The California Supreme Court held that as against appropriators, a riparian owner was entitled to the full flow of the stream without regard to reasonableness. In response to this decision, an amendment to the California Constitution was proposed by the State Legislature in 1927, and adopted in 1928, limiting water rights to the water reasonably required for beneficial use. CAL. CONST. art. XIV, § 3. The provisions of the amendment have been held to apply to all California water rights—riparian, appropriative, and groundwater. Peabody v. Vallejo, 2 Cal. 2d 351, 40 P.2d 486 (1935).


7. Priority was established from the date of the original posting. CAL. CIVIL CODE §§ 1414, 1415 (West 1955). An appropriative right could be lost by nonuse. See W. HUTCHINS, supra note 5, at 285-91 (abandonment) & 291-98 (forfeiture). Contrast this with riparian rights, discussed at note 5 supra. Due diligence had to be exercised in the completion of works and placing of the water to beneficial use. W. HUTCHINS, supra note 5, at 116-19. For an excellent statement of the diligence concept, see Ophir Silver Mining Co. v. Carpenter, 4 Nev. 534, 97 Am. Dec. 550 (1869).


9. From 1914 to 1921 the permit system was administered by the Water Commission. This duty was transferred to the Department of Public Works in 1921. From 1929 to 1956, the permit system was the responsibility of the State Engineer in the Department of Public Works. A three-member, full-time Water Rights Board held the responsibility from 1957 [Ch. 1932, [1957] Cal. Stat. 337] to 1967, when the State Water Resources Control Board was created. Ch. 284, [1967] Cal. Stat. 162.


11. All water within the State is the property of the people of the State, but the right to the use of the water may be acquired by appropriation in the manner provided by law. CAL. WATER CODE § 102 (West 1971).

[T]he people of the State have a paramount interest in the use of all the water of the State . . . the State shall determine what water . . . can be converted to public use or controlled for public protection.

Id. § 104.

[T]he protection of the public interest in the development of the water resources of the State is of vital concern to the people . . . the State shall determine in what way the water of the State . . . should be developed for the greatest public benefit.
To combine the administration of water rights with water pollution and water quality control functions, the Legislature in 1967 created the State Water Resources Control Board, a five-member, full-time body. In establishing this Board, the Legislature declared that

1. Id. § 105. See part I, C infra. See also Marks v. Whitney, 6 Cal. 3d 251, 491 P.2d 394, 98 Cal. Rptr. 790, 3 ERC 1437 (1971) (application of the "public trust" doctrine to navigable waters); CLYDE & JENSEN, supra note 4, at 16-17. For a general discussion of public rights in water, see R. DEWSNUP, PUBLIC ACCESS RIGHTS IN WATERS AND SHORELANDS (National Water Comm'n Legal Study 8B, 1971).

12. State policy for water quality control is formulated by the State Water Resources Control Board. See note 13 infra. The Porter-Cologne Water Quality Control Act, CAL. WATER CODE §§ 13000 et seq. (West 1971), designated this Board as the State water pollution control agency for purposes of the Federal Water Pollution Control Act and other federal legislation. Id. § 13160.

In the area of water quality control, the responsibilities of the State Board include: recommendation of needed water quality research programs; administration of statewide programs of research into technical aspects of water quality control; coordination of water-quality related investigations conducted by other state agencies; supervision of the establishment of procedures by which water quality control plans are formulated and implemented by the regional boards; appellate jurisdiction over actions of the regional boards; and adoption of regulations governing the use of chemicals in cleaning up oil spills. Id. §§ 13142-69.

While these duties are significant, the major responsibility for water quality control in the State lies with the regional boards. Nine regional water quality control boards, whose jurisdictional boundaries follow the divisions of major watersheds, are primarily responsible for the implementation of the policies formulated by the State Board. Each board is composed of nine members, one of whom must be associated with each of the following areas: water supply, conservation, and production; irrigated agriculture; industrial water use; municipal government; county government; and private associations concerned with recreation, fish, or wildlife. Two of the remaining three members must have special competence in the area of water quality, and the last need possess no particular qualifications. Id. §§ 13200, 13201. For a more complete discussion of California's water quality control program, see Robie, Water Pollution, An Affirmative Response by the California Legislature, 1 PAC. L.J. 2 (1970); Robie & Hume, Practice Under California's Porter-Cologne Water Quality Control Act, 44 L.A. BAR BULL. 1 (1970); Comment, Water Quality Control in California: Citizen Participation in the Administrative Process, 1 ECOLOGY L.Q. 400 (1971).

13. Ch. 284, [1967] Cal. Stat. 1441 (codified at CAL. WATER CODE §§ 174, 175 (West 1971)). For background information concerning the legislation creating the Board, see CALIF. ASSEMBLY COMM. ON WATER, A PROPOSED WATER RESOURCES CONTROL BOARD FOR CALIFORNIA (1966) and NEW HORIZONS IN CALIFORNIA WATER DEVELOPMENT (1967).

14. There is in the Resources Agency the State Water Resources Control Board consisting of five members appointed by the Governor. One of the members appointed shall be an attorney admitted to practice law in this state who is qualified in the fields of water supply and water rights, one shall be a registered civil engineer under the laws of this state who is qualified in the fields of water supply and water rights, one shall be a registered professional engineer under the laws of this state who is experienced in sanitary engineering and who is qualified in the field of water quality, one shall be qualified in the field of water quality, and one member shall not be required to have specialized experience.

Each member shall represent the State at large and not any particular portion thereof and shall serve full time. The appointments so made by the Governor shall be subject to confirmation by the Senate at the next regular or special session of the Legislature, and the refusal or failure
it was necessary to establish a control board to exercise both the ad-
judicatory and regulatory functions of the State in the field of water
resources in order to provide for the orderly and efficient administration
of water resources.15

B. Current Administrative Procedures

In order to obtain an appropriative right, the first requirement is
that an application must be filed.16 In acting on an application, the
Board has three primary objectives: to determine whether there is
unappropriated water available for the applicant; to determine whether
the proposed use is beneficial and reasonable; and finally, to determine
what conditions should be imposed in the permit to protect the public
interest.17 It is in the granting or denying of these applications that
most of the substance of California water rights decision making arises.
If the Board acts favorably on an application, a permit is issued au-
thorizing the applicant to divert and place the amount of water speci-
fied to beneficial use. If construction of necessary facilities and use of
the water have not been accomplished within the time specified in the
permit, application can be made to the Board for an extension of
time.18 When construction is complete and the water applied to ben-
eficial use, the Board will issue a license with priority of right as of the
date of the application.19

C. Primary Statutory Standard: Protecting the Public Interest

Prior to the establishment of a water right permit system in
1913,20 the Legislature recognized that "[a]ll water within the State
[is] the property of the people of the State."21 It was not until 1917,22
however, that the administrative predecessors of the Board were au-
thorized specifically to consider the public interest in acting on appli-
cations to appropriate water. Such authority is currently found in
sections 1253 and 1255 of the California Water Code:

of the Senate to confirm an appointment shall create a vacancy in the
office to which the appointment was made.
CAL. WATER CODE § 175 (West 1971).
15. Id. 174.
16. The applicable filing provisions are found in Division 2 of the CAL. WATER
CODE (West 1971). Administrative regulations governing water rights are found in
17. CAL. WATER CODE §§ 1200-01 (West 1971). See CLYDE & JENSEN, su-
ptra note 4, at 37-38.
18. CAL. WATER CODE § 1398 (West 1971).
19. Id. § 1455.
21. CAL. WATER CODE § 102 (West 1971).
1253. The board shall allow the appropriation for beneficial purposes of unappropriated water under such terms and conditions as in its judgment will best develop, conserve, and \textit{utilize in the public interest the water sought to be appropriated.}

1255. The board shall reject an application when in its judgment the proposed appropriation would not best \textit{conserve the public interest.}\footnote{23}

The concept of the public interest that is to be considered has been further defined by the Legislature:

In acting upon applications to appropriate water, the board shall consider the relative benefit to be derived from (1) all beneficial uses of the water concerned including, but not limited to, use for domestic, irrigation, municipal, industrial, preservation and enhancement of fish and wildlife, recreational, mining and power purposes, and any uses specified to be protected in any relevant water quality control plan, and (2) the reuse or reclamation of the water sought to be appropriated, as proposed by the applicant. The board may subject such appropriations to such terms and conditions as in its judgment will best develop, conserve, and utilize in the public interest, the water sought to be appropriated.\footnote{24}

It also has been approvingly discussed by the judiciary. In \textit{Johnson Rancho County Water District v. State Water Rights Board}, a California court of appeal characterized the "public interest" as

\ldots the primary statutory standard guiding the [Water Rights] Board in acting upon applications to appropriate water. \ldots The board is to consider the variety of beneficial uses which the particular water may serve and may subject the appropriation to conditions which will best develop and conserve the water in the public interest.\ldots\footnote{25}

The predecessor body to the current Board, referring to the public interest as "a beacon light to guide this Board at arriving at each decision made by it," concluded:

[I]f the Board finds that a particular application \ldots contains any element that does not conform to the public interest, it is the duty of the Board to devise terms and conditions to require the proposed ap-

24. \textit{id.} § 1257.
25. 235 Cal. App. 2d 863, 874, 45 Cal. Rptr. 589 (1965). The Water Rights Board was a predecessor to the State Water Resources Control Board. See note 9 supra.}

The District brought this action to review the Board's decision granting a permit to the Yuba County water agency and denying the application of the Johnson Rancho District. Both projects would have developed the remaining water of the Yuba River. Priority of filing was not a consideration in the court's discussion. \textit{See also Temescal Water Co. v. Department of Public Works}, 44 Cal. 2d 90, 99, 35 P.2d 1, 5 (1955) for a discussion of the Board's "broad discretion."
propriation to conform thereto. If that appears infeasible the Board must deny the application.26

The Board has, therefore, broad authority for fashioning terms and conditions of the permits issued to coincide with the public interest. This authority of the Board is further strengthened by the power to reserve jurisdiction where

the Board finds that sufficient information is not available to finally determine the terms and conditions which will reasonably protect vested rights without resulting in waste of water or which will best develop, conserve and utilize in the public interest the water sought to be appropriated, and that a period of actual operation will be necessary in order to secure the required information.27

This authority has been utilized by the Board in numerous instances.

It is important to note that the statutes which authorize the attachment of conditions to permits refer to "water sought to be appropriated,"28 thus permitting the conditions to relate not only to diversion and storage, but to the use of the water after diversion as well.29 Terms specifying methods of use have, however, seldom been utilized by the Board.30 The discussion that follows will indicate some ways in which the Board should increase its use of such conditions.

II

THE CHANGING ROLE OF THE ADMINISTRATIVE AGENCY:
THE CALIFORNIA ENVIRONMENTAL QUALITY ACT

A. Broadened Policy Considerations

State water rights administrators and the courts traditionally have been guided by property concepts and have equated "public interest"

27. CAL. WATER CODE § 1394(a) (West 1971).
28. Id. §§ 1253, 1257.
29. In examining these and other provisions of the California Water Code, the California Supreme Court in East Bay Municipal Utility District v. Department of Public Works, 1 Cal. 2d 476, 35 P.2d 1027 (1934) concluded:
Under the statute before us, unless and until the statutory requirements and conditions are met, the applicant obtains no property right or any other right against the state. If the statutory prerequisites are not present, the application may be rejected in its entirety or, as here done, a permit may be issued with qualifications as to use of the water . . . . Id. at 480-81, 35 P.2d at 1029 (emphasis supplied).
30. In its major 1967 decisions [Cal. Water Rights Bd. Decision D 1275 (May 31, 1967) and Decision D 1291 (Nov. 30, 1967)] granting permits to the State Department of Water Resources to appropriate 4.2 million acre-feet annually for the State Water Project, terms and conditions were included as to minimum flows in streams from which diversions were being made (the Feather River and the Sacramento-San Joaquin Delta) but no terms or conditions were imposed with regard to the nature or methods of use of the vast quantity of water contracted for delivery from the project.
with public economic interest.\textsuperscript{31} It is clear that the scope of the public interest has now been broadened to include a myriad of non-economic social values as well.\textsuperscript{32} In a recent decision of the Board where new conditions on water rights permits of the United States Bureau of Reclamation and the California Department of Water Resources relating to diversions from the Sacramento-San Joaquin Delta were established,\textsuperscript{33} it was concluded that to determine the public interest in a particular situation, the Board will look to any guidelines which the Legislature has provided.\textsuperscript{34} The Board found the latest and most comprehensive expression of such guidelines to be the policy in the California Environmental Quality Act of 1970 (CEQA).\textsuperscript{35}

Enacted shortly after\textsuperscript{36} NEPA,\textsuperscript{37} CEQA provided that "the maintenance of a quality environment" for the people of California "now and in the future" was "a matter of statewide concern."\textsuperscript{38} It provided further that it was the intent of the Legislature that all agencies of the State government which regulate activities of private individuals, corporations, and public agencies which may affect the quality of the environment, shall regulate such activities so that major consideration is given to preventing environmental damage.\textsuperscript{39}

Accordingly, it declared it to be the policy of the State to:

(a) Develop and maintain a high-quality environment now and in the future, and take all action necessary to protect, rehabilitate, and enhance the environmental quality of the state.

(b) Take all action necessary to provide the people of this state with clean air and water, enjoyment of aesthetic, natural, scenic, and historic environmental qualities and freedom from excessive noise.

(c) Prevent the elimination of fish or wildlife species due to

\textsuperscript{31} Two commentators note: "Beneficial use is still defined . . . in economic terms . . . . Other social values in water have been and still are largely ignored by state law." CLYDE & JENSEN, supra note 4, at 6. See also id. at 26, 29, 41, 53.

\textsuperscript{32} Id. at 29.


\textsuperscript{34} Id. at 11.

\textsuperscript{35} CAL. PUB. RES. CODE §§ 21000 et seq. (West Supp. 1972). See note 45 supra.

\textsuperscript{36} Enacted Sept. 18, 1970. The Act is also worded much like the National Environmental Policy Act of 1969 (NEPA). "The timing and titles of the two acts tend to indicate that the CEQA was patterned on the federal act . . . ." Friends of Mammoth v. Board of Supervisors of Mono County, 8 Cal. 3d 247, 260, 502 P.2d 1049, 1057, 104 Cal. Rptr. 761, 769, 4 ERC 1593, 1597 (1972). Another court stated: "The resemblance between NEPA and CEQA is so uncanny that the conclusion is inescapable that CEQA was deliberately modeled after NEPA." Keith v. Volpe, 352 F. Supp. 1324, 1337, 4 ERC 1350, 1358 (C.D. Cal. 1972).


\textsuperscript{38} CAL. PUB. RES. CODE § 21000(a) (West Supp. 1972).

\textsuperscript{39} Id. § 21000(g) (emphasis supplied).
man's activities, insure that fish and wildlife populations do not drop below self-perpetuating levels, and preserve for future generations representations of all plant and animal communities and examples of the major periods of California history.

(d) Ensure that the longer-term protection of the environment shall be the guiding criterion in public decisions.

(e) Create and maintain conditions under which man and nature can exist in productive harmony to fulfill the social and economic requirements of present and future generations.

(f) Require governmental agencies at all levels to develop standards and procedures necessary to protect environmental quality.

(g) Require governmental agencies at all levels to consider qualitative factors as well as economic and technical factors and long-term benefits and costs, in addition to short-term benefits and costs and to consider alternatives to proposed actions affecting the environment.40

Recently, the California Supreme Court, in its first interpretation of CEQA,41 held:

The significance of this legislative act cannot be understated. . . . [There is a] clear legislative mandate that [CEQA] be given a broad construction . . . .

. . . .

[W]e conclude that the Legislature intended [CEQA] to be interpreted in such manner as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language.42

It appears that by statute and judicial decision the CEQA policy declarations considerably broaden the scope of the public interest as

40. Id. §§ 21000(a)-(g) (emphasis supplied).

41. Friends of Mammoth v. Board of Supervisors of Mono County, 8 Cal. 3d 247, 502 P.2d 1049, 104 Cal. Rptr. 761, 4 ERC 1705, modifying 8 Cal. 3d 1 [adv. sheets], 500 P.2d 1360 [adv. sheets], 104 Cal. Rptr. 16 [adv. sheets], 4 ERC 1593 (1972). See also EDF v. Coastside County Water Dist., 27 Cal. App. 3d 695, 104 Cal. Rptr. 197, 4 ERC 1573 (1972).

Subsequent to the Friends of Mammoth decision, the California Legislature enacted urgency legislation clarifying and substantially modifying CEQA. Ch. 1154, [1972] Cal. Stat. — (to be codified in scattered sections of CAL. PUB. RES. CODE)), 1972 WEST'S CAL. LEGIS. SERVICE 2638. The 1972 amendments did not, however, amend the policy provisions of CEQA [see text accompanying note 40 supra], but related primarily to the environmental impact report provisions. They imposed a 120-day moratorium on preparation of certain impact reports and validated certain actions taken without preparation of an impact report prior to the Friends of Mammoth decision. Ch. 1154, § 16, [1972] Cal. Stat. — (to be codified at CAL. PUB. RES. CODE §§ 21169-71), 1972 WEST'S CAL. LEGIS. SERVICE 2638. It is the author's opinion that the 1972 amendments do not modify the conclusions in this Article.

42. 8 Cal. 3d at 255-59, 502 P.2d at 1053-56, 104 Cal. Rptr. at 765-68, 4 ERC at 1594-97.
applied by the Board in acting on applications to appropriate water. Although the policy sections of CEQA are not as closely parallel to the policy provisions of NEPA as are the environmental impact sections, in the leading case of Zabel v. Tabb\textsuperscript{43} the Fifth Circuit held that the policy provisions of NEPA, when considered together with certain requirements of the Fish and Wildlife Coordination Act,\textsuperscript{44} provided sufficient basis for the United States Army to deny an application for a permit to fill tidelands. This was even though the statute establishing the Corps of Engineers's permit authority\textsuperscript{46} "does not put any restrictions on denial of a permit or the reasons why the secretary [of the Army] may refuse to grant a permit . . . ."\textsuperscript{46} Traditionally the only consideration in acting on permits under that statute had been the effect on navigation. The court, however, asserted that governmental agencies in executing a particular statutory responsibility ordinarily are required to take heed of, sometimes effectuate and other times not thwart other valid statutory governmental policies. And here the government-wide policy of environmental conservation is spectacularly revealed in at least two statutes . . . .\textsuperscript{47}

It seems likely that the California courts will similarly construe the policy provisions of CEQA. The public interest is a general standard and there are many other provisions of California law providing for protection and enhancement of environmental resources.\textsuperscript{48} The Board should be able to deny an application for a permit to appropriate water even though there is available unappropriated water, if the environmental consequences of the proposed diversion are significantly in conflict with the environmental policy enunciated in CEQA.\textsuperscript{49}

\textsuperscript{43} 430 F.2d 199, 1 ERC 1449 (5th Cir. 1970).
\textsuperscript{46} 430 F.2d at 207, 1 ERC at 1454.
\textsuperscript{47} \textit{Id.} at 209, 1 ERC at 1455. In Calvert Cliffs' Coordinating Comm., Inc. v. AEC, 449 F.2d 1109, 2 ERC 1779 (D.C. Cir. 1971), the District of Columbia Circuit held that section 101 of NEPA—the policy provision: "makes environmental protection a part of the mandate of every federal agency and department . . . . [Federal agencies such as the AEC are] compelled to take environmental values into account." \textit{Id.} at 1112, 2 ERC at 1780-81. The court referred to the duties of section 101(b) as "substantive" ones.

This language and approach has been followed and extended by the Eighth Circuit in EDF v. Corps of Engineers, — F.2d —, 4 ERC 1721 (8th Cir. 1972). See also NRDC v. Morton, 337 F. Supp. 167, 3 ERC 1623 (D.D.C.), aff'd, 458 F.2d 827, 3 ERC 1558 (D.C. Cir. 1972).

\textsuperscript{48} See, e.g., CAL. EDUC. CODE § 565.4 (West 1969); CAL. GOV'T CODE § 16000 (West Supp. 1972); CAL. PUB. RES. CODE §§ 8600, 8601 (West Supp. 1972); CAL. STS. & H'WAYS CODE § 75.7 (West Supp. 1972); CAL. WATER CODE §§ 8608, 11900 et seq. (Davis-Dolwig Act), 13000-01, 13971 (West 1971).

\textsuperscript{49} In Utah an application can be denied if it will unreasonably affect public recreation or the natural stream environment. See CLYDE & JENSEN, supra note 4, at 54, 57, 118.
In most states, water rights administration follows traditional economic concepts of cost-benefit analysis, which do not consider values such as scenic beauty and fish and wildlife resources to the extent that readily measurable irrigation, and municipal and industrial water benefits are considered.\(^{50}\) Under the expanded concept of public interest, the CEQA requirement that State agencies consider "qualitative factors as well as economic and technical factors and long-term benefits and costs, in addition to short-term benefits and costs"\(^{51}\) would require the Board to give greater weight to these intangible factors, such as recreation and preservation of natural beauty.\(^{52}\) The California Supreme Court recently affirmed that "[t]he public interest in a challenge to administrative action need not be economic" and pointed to the United States Supreme Court's statement that "[a]esthetic and environmental well being . . . are important ingredients of the quality of life in our society . . . ".\(^{53}\)

**B. Resulting Procedural Obligations**

One of the principal constraints on any administrative agency is the requirement that it limit itself to the record before it.\(^ {54}\) A major problem in the administration of water rights in California has been that critical issues, such as those relating to environmental effects of either a proposed diversion or activities the would-be diverter will undertake, often are not considered in administrative proceedings because the applicants and protestants, if any, fail to raise them. Of the protests which are made, most involve alleged interference with existing vested rights. Frequently no protests at all are filed to applications to appropriate water. Virtually the only issues considered by the

\(^{50}\) See note 31 supra.

\(^{51}\) CAL. PUB. RES. CODE \(\S\) 21001(g) (West Supp. 1972).

\(^{52}\) Some commentators feel the concept of beneficial use should also be broadened. CLYDE & JENSEN, supra note 4, at 2c.

\(^{53}\) 8 Cal. 3d at 254, 502 P.2d at 1053, 104 Cal. Rptr. at 765, 4 ERC at 1594 (1972), citing Sierra Club v. Morton, 405 U.S. 727, 734, 3 ERC 2039, 2042 (1972). In Scenic Hudson Preservation Conf. v. FPC, 354 F.2d 608 (2d Cir. 1965), cert. denied sub nom. Consolidated Edison Co. v. Scenic Hudson Preservation Conf., 384 U.S. 941, 1 ERC 1909 (1966), a case which was one of the catalyst decisions prompting the enactment of NEPA (ENVIRONMENTAL QUALITY: THE THIRD ANNUAL REPORT OF THE COUNCIL ON ENVIRONMENTAL QUALITY 223 (1972) [hereinafter cited as 1972 ENVIRONMENTAL QUALITY REPORT]), the Second Circuit stated that under the Federal Power Act, 16 U.S.C. \(\S\) 791 et seq. (1970), the Federal Power Commission proceedings must include as a basic concern the preservation of natural beauty and of natural historic shrines, keeping in mind that in our affluent society the cost of a project is only one of several factors to be considered. 354 F.2d at 624.

\(^{54}\) See 1972 ENVIRONMENTAL QUALITY REPORT, supra note 53, at 240-42, for a general discussion of this requirement in the context of NEPA.
Board in acting on the vast majority of water right applications, therefore, are whether the proposed use is beneficial and whether there is unappropriated water available. In most of the cases where protests are filed, the Board acts as a referee between holders of vested water rights and those wishing to obtain new rights.

Since the broadened concept of the public interest under CEQA and recent judicial decisions requires the Board to consider a far greater range of factors in acting upon applications and authorizes denial of applications that conflict with the public interest in environmental protection, information regarding environmental factors clearly must be obtained by the Board's staff if the Board is to carry out its responsibilities properly. Such an approach was suggested by the Second Circuit in *Scenic Hudson Preservation Conference v. FPC*:

The [Federal Power] Commission has claimed to be the representative of the public interest. This role does not permit it to act as an umpire blandly calling balls and strikes for adversaries appearing before it; the right of the public must receive *active and affirmative protection* at the hands of the Commission. The necessity of considering a broad range of relevant factors in water allocation was amplified by the United States Supreme Court in *Udall v. FPC*, again involving the Federal Power Act:

A license under the Act empowers the licensee to construct, for its own use and benefit, hydroelectric projects utilizing the flow of navi-

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55. There were 279 applications filed in 1971.
56. Of the 328 applications for permits received by the Board during the two-year period of July 1970, to July 1972, approximately 50 percent were protested by downstream water users alleging interference with prior vested rights should the applications be approved. The percentage of applications being protested will undoubtedly increase in the future as the available water supply becomes less abundant.
57. Traditionally, in California the burden of raising environmental concerns has been borne by the State Department of Fish and Game which files protests to pending applications. In recent years, environmental organizations such as the Sierra Club have also taken on this role as an "interested person." The crucial fact is, however, that the protection and enhancement of public resources has always been the duty of the Board.
59. *Id.* at 620 (emphasis supplied). This approach was reaffirmed in the *Calvert Cliffs* decision:

It is unrealistic to assume that there will always be an intervenor with the information, energy and money required to challenge a staff recommendation which ignores environmental costs. NEPA establishes environmental protection as an integral part of the Atomic Energy Commission's basic mandate. The *primary responsibility* for fulfilling that mandate lies with the Commission. Its *responsibility* is not simply to sit back, like an umpire, and resolve adversary contentions at the hearing stage. Rather it must *take the initiative*.
449 F.2d at 1118-19, 2 ERC at 1785 (emphasis supplied).
60. 387 U.S. 428 (1967).
gable waters and thus, in effect, to appropriate water resources from the public domain. The grant of authority to the Commission to alienate federal water resources does not, of course, turn simply on whether the project will be beneficial to the licensee. . . . The test is whether the project will be in the public interest. And that determination can be made only after exploration of all issues relevant to the "public interest."\textsuperscript{61}

Since the task facing the Federal Power Commission is comparable to that facing the Board in state water rights administration, this language appears equally applicable to the Board's actions on applications to appropriate water. As emphasized in \textit{Scenic Hudson}, in regulatory actions the public is a third party to the proceedings and its \textit{sole representative} is the regulatory agency itself.\textsuperscript{62} The modern regulatory body must, therefore, make a record of all relevant factors if the parties before it fail to do so.

\section*{C. Environmental Impact Reports}

In addition to its declarations of policy, CEQA specifically requires "all state agencies, boards, and commissions . . . [to] include in any report on any project they propose to carry out or approve which have a significant effect on the environment"\textsuperscript{63} of the State, a detailed statement by the responsible State official setting forth the following:

(a) The environmental impact of the proposed action.

(b) Any adverse environmental effects which cannot be avoided if the proposal is implemented.

(c) Mitigation measures proposed to minimize the impact.

(d) Alternatives to the proposed action.

(e) The relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity.

(f) Any irreversible environmental changes which would be involved in the proposed action should it be implemented.\textsuperscript{64}

(g) The growth-inducing impact of the proposed action.\textsuperscript{64a}

These requirements for the impact report are nearly identical to the

\textsuperscript{61} Id. at 450 (emphasis supplied).

\textsuperscript{62} 354 F.2d at 620-21 (emphasis supplied).


\textsuperscript{64} Id. §§ 21100(a)-(f).

\textsuperscript{64a} Ch. 1154, § 2.5, [1972] Cal. Stat. — (to be codified at CAL. PUB. RES. CODE § 21100(g)), 1972 WEST'S CAL. LEGIS. SERVICE 2638.
provisions of NEPA\textsuperscript{65} relating to environmental impact statements. The State Office of Planning and Research was required to prepare and submit to the Secretary of the State Resources Agency proposed guidelines for applying the recently amended provisions of CEQA by no later than Feb. 3, 1973.\textsuperscript{66} The guidelines were adopted by the Resources Agency on that date.\textsuperscript{67}

Neither the Office of Planning and Research nor the Board initially interpreted CEQA as requiring an environmental impact report for the issuance of a water right permit.\textsuperscript{68} They narrowly construed "project" so as not to include permits issued as part of regulatory functions of state government. The California Supreme Court, in deciding \textit{Friends of Mammoth v. Board of Supervisors of Mono County},\textsuperscript{69} took a different position. It held that the statutory designation "project they intend to carry out," as applied to cities, counties, and other local governmental agencies,\textsuperscript{70} included "private activities for which a government permit, lease or other entitlement for use is necessary."\textsuperscript{71} Since the court considered the policy provisions of CEQA to be "a clear legislative mandate that . . . [CEQA] be given a broad construction and that it apply to private actions for which a permit is necessary . . . ,"\textsuperscript{72} it appeared clear from that decision that the provisions of CEQA that applied to actions of State agencies were to be similarly construed and, therefore, that environmental impact reports (EIRs) were required for the issuance of those water right permits which result in "a
significant effect on the environment." The recent guidelines for implementation of CEQA require each public agency responsible for public or private projects which may have a significant effect on the environment to develop its own procedures for complying with the EIR requirement and other provisions of CEQA.

Preparation of environmental impact reports for water right applications, or proposed extensions of existing permits, would provide the Board with a much broader record with which to evaluate their merits. The question arises, if an environmental impact report indicates potentially serious adverse effects or shows feasible alternatives to the proposed appropriation of water, whether the application should be denied even though there is unappropriated water and the proposed use is reasonable and beneficial?

Based solely on the expanded concept of the public interest which includes environmental factors, it appears that the answer could properly be affirmative. The California Supreme Court has suggested that CEQA may provide an independent basis for such denial. In dicta relating to local actions, the court commented:

Obviously if the adverse consequences to the environment can be mitigated, or if feasible alternatives are available, the proposed activity, such as the issuance of a permit, should not be approved. The court went on to say:

It is undisputed that the Legislature intended that the environmental considerations play a significant role in governmental decision-making . . . and that such an intent was not to be effectuated by vague or illusory assurances by State . . . entities that the effect of a project on the environment had been "taken into consideration."

There could be many possible circumstances, therefore, under


At the writing of this Article the Board had not accepted its procedures.

75. 8 Cal. 3d at 263 n.8, 502 P.2d at 1059 n.8, 104 Cal. Rptr. at 771 n.8, 4 ERC at 1599 n.8.

76. Id. at 263, 502 P.2d at 1059, 104 Cal. Rptr. at 771, 4 ERC at 1599.
which a water right application might not be approved. If a proposed water development project would destroy irreplacable resources, such as parks or fishery or wildlife resources, and other sources of water were available to the applicant (including improvement of existing water use practices, water reclamation, or alternative surface or underground supplies), the permit might not be approved. It is also possible that a water right permit might be denied if the applicant wished to develop a new water supply to expand a community, the existence of which was already causing serious adverse environmental problems. Examples might be expansion of development in ecologically sensitive areas of Lake Tahoe, or expansion of communities which do not have adequate existing waste disposal facilities. The possible fact patterns which could be presented in the context of the requirements of CEQA and a broadened "public interest" are virtually without limit.

In following the new legislative mandates of CEQA, it is clear that the Board's past interpretations of the public interest must give way to far broader considerations of the overall impact of proposed appropriations and the development or uses accompanying them on the total environment.

III

SIGNIFICANT ENVIRONMENTAL CONSIDERATIONS

A. Fishery Resources and Other Instream Uses

Most Western water rights systems are designed to promote economic development. Historically they required that water be taken from the stream and applied to beneficial use. This resulted in depletion of streams and interference with instream values, including

77. See Udall v. FPC, 387 U.S. 428 (1966):
The objective of protecting "recreational purposes" means more than that the reservoir created by the dam will be the best one possible or practical from a recreational viewpoint. If the Secretary [of the Interior] is right in fearing that this [proposed] additional dam would destroy the waterway as spawning grounds for anadromous fish... or seriously impair that function, the project is put in an entirely different light. The importance of salmon and steelhead... is so great that there certainly comes a time when their destruction might necessitate a halt in so-called "improvement" or "development" of waterways.
Id. at 437 (emphasis supplied). The Court suggested that one alternative available to the Federal Power Commission in that case was whether "preservation of the reaches of the river affected would be more desirable and in the public interest than the proposed development..." Id. at 449.


79. See Clyde & Jensen, supra note 4, at 41. For a general discussion of instream uses, see R. Dewsnup, Legal Protection of Instream Water Values (National Water Comm'n Legal Study 8A, 1971).

80. R. Dewsnup, supra note 79, at 10.
recreation use, and the propagation and maintenance of fish and wildlife resources.\textsuperscript{81} The conclusions of a recent federal study are instructive:

[U]se of water for recreation, fishery and wildlife as a consideration in water resource development [prior to World War II] was unheard of, for all practical purposes. These uses were incidental. They could be accommodated as long as their use did not interfere with attainment of the basic objective [of water resource development for irrigation water supplies].\textsuperscript{82}

There are several procedures available for protecting and enhancing these instream uses. First, diversions can be limited or denied in order that natural flow will remain in the stream for these uses. This can be done either on a case-by-case basis, as the Board acts on individual water right applications,\textsuperscript{83} or, as in some states, through blanket withdrawals of streams, or portions of streams, from appropriation.\textsuperscript{84}

Second, when the flow in a stream is well below historic levels due to the failure to consider instream uses during the prior administration of water rights, instream uses may already be seriously impaired or even destroyed.\textsuperscript{85} To enhance instream uses, additional water must be put in the stream. One means for accomplishing this is to condition the permit, requiring the permittee, in return for winter diversion and storage, to release stored water to supplement natural flows during summer and fall. In this manner, the flow can be improved or restored. Third, public access to reservoirs and streams can be provided to enhance the availability of instream uses.\textsuperscript{86}

Most of these procedures for protecting and enhancing instream uses have been utilized by the Board to some extent. The following sections discuss a few examples, as well as the statutory basis for such protection. It should be noted that in virtually every case when in-

\textsuperscript{81} Id.


\textsuperscript{83} Of course no complete protection can be obtained under the permit system in California since riparian and pre-1914 appropriative rights are not subject to control by the Board. Also, the many prior permits now vested virtually dry up some streams at some times of the year.

\textsuperscript{84} See R. DEWSNUP, supra note 79, at 33, 39, 40. See also CLYDE & JENSEN, supra note 4, at 48-53, 115-18. A variation of blanket withdrawal is to allow an appropriation of the water in place. In most states, however, a physical diversion is necessary. The predecessor to the current Board required a diversion in Cal. Water Rights Bd. Decision D 1030 (Aug. 17, 1961). See also Simons v. Inyo Cerro Gordo Mining & Power Co., 48 Cal. App. 524, 192 P. 144 (1920). The traditional rule seems outmoded and today's court may well abandon the concept.

\textsuperscript{85} See part III, A, 3 infra.

\textsuperscript{86} See note 98 infra.
Stream protection is required, it results in a head-on collision with the plans of the applicant and often reduces the amount of water available for his diversion.

1. The Basis for Protection and Enhancement

In California a series of legislative enactments since the late 1950's has provided a broad basis for consideration of recreation, fish, and wildlife values in water rights decision making.

In 1957 the Board was authorized to consider the relative benefits obtainable from all potential beneficial uses of the water concerned, specifically including the preservation of fish and wildlife, and recreational purposes, in acting upon water right applications, and to "subject appropriations to such terms and conditions as in its judgment will best develop, conserve and utilize in the public interest the water sought to be appropriated." In 1959 this provision was amended to require such consideration. At that time the use of water for recreation and the preservation as well as enhancement of fish and wildlife resources received specific recognition as beneficial uses of water. In addition, the Board was required to take into account the amount of water required for instream recreation, fish, and wildlife needs in determining the amount available for appropriation for other beneficial uses. In 1961 the Legislature declared recreation, and fish and wildlife enhancement to be among the purposes of projects constructed by the State of California as part of the State Water Resources Development System. In the Porter-Cologne Act, California's water quality control statute, the Legislature enumerated the beneficial uses of waters to be protected against quality degradation, and included recreation, aesthetic enjoyment, and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves.

Additional statutory protection was given to instream uses in 1969. The Board was required to "take into account . . . water

87. Ch. 2082, [1957] Cal. Stat. 3699 (codified at CAL. WATER CODE § 1257 (West Supp. 1958), as amended, CAL. WATER CODE § 1257 (West 1971)) (emphasis supplied). This is in form an expansion of the factors the Board is to consider in determining the public interest.
89. Ch. 2048, [1959] Cal. Stat. 4742 (codified at CAL. WATER CODE § 1243 (West 1971)).
90. Id.
needed to remain in the source for protection of beneficial uses including any uses specified to be protected in any relevant water quality control plan," in considering the amount of water that is available for appropriation.93 Fish, wildlife, recreation, and aesthetic uses are generally protected in regional water quality control plans on most streams.

Finally, CEQA provides that it is State policy to "[p]revent the elimination of fish or wildlife species due to man’s activities [and] insure that fish and wildlife populations do not drop below self-perpetuating levels . . . ."94

The Board’s principal input on the need for protecting fish and wildlife resources95 comes from the California Department of Fish and Game. It has been the practice of that Department to enter into agreements with applicants for water right permits to provide minimum flows during critical times of the year for protection of fishery resources. These agreements customarily are incorporated into the Board’s decisions on the respective applications.96 This informal procedure was given statutory recognition in 1972.97 The Legislature required the Department to recommend for each water right application the amount of water needed for preservation and enhancement of fish and wildlife resources. In addition, the Board now requires water right permittees who construct dams on streams naturally frequented by fish to provide public access to the impounded water as a condition of the water right permit.98

93. Id. § 10 (codified at CAL. WATER CODE § 1243.5 (West 1971)) (emphasis supplied). This is the first reference to leaving water in the source in the California Codes.

94. CAL. PUB. RES. CODE § 21001(c) (West Supp. 1972).

95. Fishery uses of navigable waters of California are subject to a reserved easement in the State for trust purposes.

Public trust easements are traditionally defined in terms of navigation, commerce and fisheries. They have been held to include the right to fish, hunt, bathe, swim, to use for boating and general recreation purposes the navigable waters of the state, and to use the bottom of the navigable waters for anchoring, standing, or other purposes.

The power of the state to control, regulate, and utilize its navigable waterways and the lands lying beneath them, when acting within the terms of the trust, is absolute . . . .


98. See 53 OP. CAL. ATT’Y GEN. 332 (1970). Public access to artificial lakes and dedication of a public easement along a river was required in a recent decision of the Board granting a permit to appropriate water for a large subdivision development.
2. Recent Decisions

In two recent decisions affecting the Auburn unit of the Federal Central Valley Project and State and federal appropriations from the Sacramento-San Joaquin Delta, the Board has given greater consideration to fish, wildlife, and recreation resources than at any previous time.

FIGURE 1
(schematic—not to scale)

a. American River Decision

In 1970, while granting permits to the United States Bureau of Reclamation to store water in the Auburn Reservoir, now under


construction, the Board reserved jurisdiction on the later formulation of terms and conditions relating to downstream flows to be maintained between the Auburn Dam and the confluence of the American and Sacramento Rivers in Sacramento for recreation purposes and the protection and enhancement of fish and wildlife.102

The key question before the Board while holding hearings on these reserved matters in the summer and fall of 1971 was whether previously established minimum flows for fish and wildlife protection incorporated in the permits granted to the Bureau of Reclamation for storage at Folsom Dam103 should be modified. These minimums—which were based on an agreement between the Bureau and the California Department of Fish and Game104—provided for flows between Nimbus Dam and the Sacramento River of 250 cubic feet per second (cfs)105 from January 1 to September 14, and 500 cfs for the balance of the year.

Since the construction of the Folsom Dam, the County of Sacramento had developed plans for a parkway106 to include a 12 square mile recreational and open-space greenbelt along 30 miles of the American River flood control plain. This area stretches from Folsom Dam to the Sacramento River, including the 23-mile reach from the Nimbus Reservoir to the mouth of the river. This portion of the river maintains a number of important fishery resources, including Chinook

102. The American River, second largest tributary of the Sacramento River, rises in the Sierra Nevada and flows generally southwestward to Sacramento, where it joins the Sacramento River. Two of the three principal forks, the North and Middle join above the site of the proposed Auburn Dam. The third, the South Fork, joins the North Fork at Folsom Reservoir, about 20 miles downstream from Auburn. From Folsom Dam, the American River flows through Lake Natoma, which is an afterbay and diversion reservoir formed by Nimbus Dam, and then another 23 miles through the valley to the Sacramento River. Cal. Water Res. Control Bd. Decision D 1400, at 2 (April 11, 1972). See Figure 1 at p. 714 supra.


104. Memorandum of Operating Agreement for the Protection and Preservation of Fish Life in the American River as Affected by Folsom and Nimbus Dams and Their Related Works and Diversion of Water Under Contract With the United States (October 15, 1957). This agreement was incorporated as condition 13 of Decision D 893. Id.

105. This is a unit of discharge for the measurement of flowing liquid. One cfs is equal to a flow of one cubic foot per second past a given point. It is also called a second-foot.

106. The plan would preserve the character of natural areas along the river, improved only by additional access, riding, and hiking trails. Developed recreation areas would provide for picnicking, swimming, boating, and other types of day-use, plus several camping locations along the river.

[Through 1971] the county has invested over $6 million and acquired about one-third of an ultimate 5,400 acres. For the next 20 to 25 years, the county expects to spend $1 to $1½ million annually for land acquisition, and annual operational costs will increase from the present $½ million to $1 million.

salmon, steelhead trout, striped bass, and American shad. It is also widely used for recreational purposes including swimming, water skiing, motorboating, and the extensive use of canoes, kayaks, and rafts.\textsuperscript{107}

In its final decision the Board required substantially greater minimum flows for fish and wildlife preservation and enhancement, and for recreation, than were previously provided.\textsuperscript{108} The specific provision for flows for recreation purposes substantially in excess of those necessary to maintain and enhance fish and wildlife resources represents the first time that flows have been provided for instream recreation in amounts greater than those which would have existed in the stream in the absence of the project.\textsuperscript{109}

\textbf{b. The Delta Decision}

The Sacramento-San Joaquin Delta is perhaps the classic example of an area with conflicting water uses and needs. The Delta is located at the confluence of the Sacramento and San Joaquin rivers and contains over 700,000 acres, including 700 miles of waterways, with a highly developed agricultural economy.\textsuperscript{110} The western part of the Delta has a large industrial area and is a major recreational area for fishing, boating, and water-skiing.

The Delta plays a significant role in water development as a collection and distribution center for the State's major inter-basin water transfer projects—the federal Central Valley Project and the California State Water Project. The Bureau of Reclamation\textsuperscript{111} and State Department of Water Resources,\textsuperscript{112} the respective agencies responsible for these two projects, received water right permits from the Board and its predecessors several years ago. At that time, however, the Board found that sufficient information was not available to formulate permanent conditions regarding water quality in the Delta. Conse-

\textsuperscript{107} Id. See also T. Harris,\space\textit{Down the Wild Rivers} 110-12 (1972).
\textsuperscript{108} The new minimum flows are (in cfs):

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<th>Jan. 1 to May 14</th>
<th>May 15 to July 14</th>
<th>July 15 to Oct. 14</th>
<th>Oct. 15 to Oct. 31</th>
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<tr>
<td>Fish and Wildlife</td>
<td>1250</td>
<td>1250</td>
<td>800</td>
<td>1250</td>
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<tr>
<td>Recreation (not cumulative)</td>
<td>1500</td>
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\textsuperscript{109} For example, in August of an average year, the flow of the American River into the Sacramento River, if unmodified by the project, would be about 1100 cfs, compared to 1500 cfs required in the decision. Id. at 23.

\textsuperscript{110} See Figure 1 at p. 714 supra. See also Cal. Water Code § 12220 (West 1971).

\textsuperscript{111} See Cal. Water Res. Control Bd. Decision D 1308 (July 18, 1968) and Cal. Water Rights Bd. Decision D 1250 (June 1, 1966), Decision D 1020 (June 30, 1961), and Decision D 990 (Feb. 9, 1961).

quently, the Board consistently reserved jurisdiction to impose additional conditions on the projects at a later date.\textsuperscript{113}

After 90 days of hearings between July 1969 and October 1970, the Board issued its decision on the reserved question in July 1971.\textsuperscript{114} In that decision, the Board held that the public interest required that all beneficial uses of water in the Delta be protected by appropriate terms in the permits for both projects, including uses for domestic, irrigation, municipal, industrial, and recreational purposes, and for the preservation and enhancement of fish and wildlife. Such protection was to be afforded whether or not the water was beneficially used pursuant to vested rights.\textsuperscript{115}

To implement this objective the Board established "State Delta Standards," which included numerous water quality criteria\textsuperscript{116} to be maintained at various control stations in the Delta (to the extent that such criteria were subject to control by operation of the two projects). In establishing the standards, the Board proclaimed its intent that this great productive and useful area shall be managed intelligently for the benefit of all Californians now and in the future. \textit{These standards come first.} They must be maintained as a first priority operating criteria for any and all projects or parts thereof that may be constructed and operated as part of the federal and state project facilities.\textsuperscript{117}

The Board concluded that it had the authority to require that a reasonable amount of the water diverted for storage under the permits

\textsuperscript{113} The Water Rights Board was concerned about both the protection of fish and wildlife and the control of salinity, which if not kept out by adequate freshwater outflows, can move into the Delta from San Francisco Bay and affect various beneficial uses. At the time the Bureau's applications were approved information was insufficient for the Water Rights Board to establish permanent conditions for salinity control and terms and conditions for coordination with permits to be issued on the State Water Project and other units of the Central Valley Project. In the decisions on the State Water Project, the Water Rights Board established interim conditions for the protection of fish and wildlife and salinity control, and again reserved jurisdiction to revise or formulate additional terms concerning these subjects pending development of further information and to coordinate terms of the various permits for the State and federal projects. Cal. Water Res. Control Bd. Decision D 1379, at 2-3 (July 28, 1971).

\textsuperscript{114} Id.

\textsuperscript{115} In the Delta, quantitative determinations of water rights are meaningless since adequate quantities of water are generally available in all channels. The measure of a water right entitlement is the quality of the water since the availability of suitable quality water varies during the year. This is an excellent example of the interrelationship between water quality and quantity considerations. Id. at 21-22.

\textsuperscript{116} Parameters included are: total dissolved solids, chlorides, and soil salinity. The monitoring schedule included in the decision requires monitoring of a much more comprehensive list of parameters, however. Id. at 61.

\textsuperscript{117} Id. at 50 (emphasis supplied). The Board placed the export requirements of the projects in a secondary position.
of the two agencies be released when needed to provide an adequate flow through the Delta for salinity control, and fish and wildlife protection—both instream uses. The releases required by the decision will produce Delta flows during some times of the year in excess of those which would exist under natural conditions. The controversial Delta Decision represents the most significant action in the Board's history of protecting instream uses.

3. Restoring the San Joaquin Fishery Resources

In contrast to the Delta Decision, where water right permit conditions were imposed after project construction was well underway, a better approach for future application proceedings would be to issue permits for water storage prior to project construction. Conditions, such as release of water from storage to protect or enhance instream uses, could thus be incorporated into the planning, design, and authorization of projects. A recent study of the water resources of California's Central Valley made by the United States Department of the Interior noted that

... legal and public policy criteria for formulating and evaluating water resource projects have changed significantly over the last several years and further evolution can be expected in the immediate future. Reformulation or modification of projects conceived to satisfy less demanding criteria has been and will continue to be necessary. Such changes may be applicable to both authorized and yet to be authorized projects. To the extent that imposition of additional ... requirements on authorized projects impairs the ability to meet present obligations, appropriate compensation, alternatives or other relief will be required.

The proposed East Side Division of the federal Central Valley Project is an example of advance planning of environmental considerations. Historically, California's San Joaquin River has contained substantial anadromous fish resources. Water development along the river, however, gradually eliminated the fall salmon runs. In 1959 when the Water Rights Board issued permits for the Friant Dam of the

118. Id. at 15-16.
120. The Board currently possesses the authority under section 1052 of the Water Code, to institute actions in trespass for unauthorized diversions or uses of water. As a planning tool, such authority has little use. And as a practical matter, the Board has not frequently used this provision.
121. UNITED STATES DEP'T OF THE INTERIOR, CENTRAL VALLEY WATER RESOURCE STUDY 44 (1970) [hereinafter cited as CENTRAL VALLEY STUDY].
federal Central Valley Project, it wrote off as permanently destroyed both the fall and spring migrations of salmon in the San Joaquin River. The Bureau had already completed construction of the dam, the principal facility on the river, before the Board issued permits for it. The design of the project did not provide for the commitment of water for the purpose of preserving the fish life in the river below Friant Dam.

In its decision granting a permit for that project, the Water Rights Board took an astonishingly narrow view of its responsibilities. It reported: "Regrettable as [the loss of the salmon fishery] may be, the sense of urgency has been removed in that failure to take action at this time will not . . . destroy existing runs. . . . "The Board thereby declared itself helpless to remedy the situation, and held that to require the United States to bypass water down the channel of the San Joaquin River for the reestablishment and maintenance of the salmon fishery at this time is not in the public interest."

Subsequently, it has become apparent that the reduced flows in the river not only resulted in the loss of the fishery, but also contributed to water quality problems in the lower San Joaquin River. Under provisions of the Federal Water Pollution Control Act, preliminary

122. Cal. Water Rights Bd. Decision D 935 (June 2, 1959); see Figure 1 supra.

123. The Central Valley Project plan as approved by the President of the United States on December 2, 1935, contemplated that the United States should eventually store and divert to nonriparian use all of the waters of the San Joaquin River flowing at Friant, except for occasional spills. Such spilling was not intended for the purpose of supplying water for downstream use, but was contemplated for the purpose of reserving vacant storage space in Friant Reservoir in the exercise of flood control. Such spilling would not provide an adequate or dependable supply of water for irrigation or other purposes.

. . .

The plan contemplated that the United States should acquire all existing rights to the use of the water flowing past Friant.

Letter from Gleason Renoud, United States Bureau of Reclamation, to L.C. Spencer (n.d.) (emphasis supplied).


125. Id. at 41 (emphasis supplied). It would, of course, have been physically possible to make such releases but the water that would be dedicated to that purpose had been committed for agricultural, municipal, and industrial purposes under Bureau contracts.


(b)(1) In the survey or planning of any reservoir . . . consideration shall be given to inclusion of storage for regulation of streamflow . . . .

(2) The need for and the value of storage for regulation of streamflow (other than for water quality) including . . . salt water intrusion, recreation, esthetics, and fish and wildlife, shall be determined by [federal agencies].

(3) The need for, the value of, and the impact of, storage for water quality control shall be determined by the Administrator [of EPA] . . . .

(4) The value of such storage shall be taken into account in determining the economic value of the entire project of which it is a part, and costs shall be allocated to the purpose of regulation of streamflow in a manner which
plans for the proposed East Side Division of the Central Valley Project include consideration of low flow augmentation to correct these problems. The federal study of the Central Valley concluded:

The extensive stream withdrawals for consumptive use and export have literally dried up the San Joaquin River and some tributaries during some periods in the past and these conditions will persist until augmenting flows become available. Incomplete studies of the former salmon resources resulted in estimates of 100,000 returning adult fish. Proposed releases from the East Side Canal should reconstitute salmon runs in the San Joaquin River and tributary streams.\textsuperscript{122}

In approving a permit\textsuperscript{128} for the proposed Auburn Dam Project (which includes development of a limited, partial supply of water for the proposed East Side Division),\textsuperscript{129} the Board has recognized that the East Side Division offers a great opportunity to rehabilitate anadromous fish runs and enhance the resident fishery of that river system. The Board urged that studies be made by the Bureau so that Congress may have the results before its authorization proceedings. In the meantime, the Board reserved jurisdiction until the East Side Division of the Central Valley Project has been authorized by Congress and further hearings held, . . . for the purpose of formulating terms and conditions to provide, as necessary, in the public interest, release of water from the proposed East Side Canal into the natural stream channels crossed by said East Side Canal . . . .\textsuperscript{130}

Since action by the Board on water rights prior to construction will make clear to project developers\textsuperscript{131} how much of the water they seek

\begin{itemize}
\item will insure that all project purposes share equitably in the benefits of multiple-purpose construction.
\item (5) Costs of regulation of streamflow features . . . shall be determined and the beneficiaries identified and if the benefits are widespread or national in scope, the costs of such features shall be nonreimbursable.
\end{itemize}

\textit{Id.} §§ 102(b)(1)-(5).

127. \textit{CENTRAL VALLEY STUDY, supra} note 121, at 66. The effort would require a net release of 95,000 acre-feet annually in the San Joaquin River and tributaries until the year 2000.


129. The proposed East Side Division includes five dams and more than 300 miles of canals. As the various features of the Central Valley Project are integrated operationally, the Auburn Dam-Folsom South Canal Unit, together with other units, will provide the conservation yield of this project, which totals 1.5 million acre-feet. Facilities already authorized or constructed will provide about 600,000 acre-feet of water which could be utilized by the East Side Project. It should be pointed out that authorization of the East Side Division appears to be many years in the future. The need for the project (87\% of the benefits are for agricultural water supply) has been questioned and it must be authorized by the Congress before existing supplies can be utilized.


131. The Board interprets applicable statutes and judicial decisions as requiring
to appropriate will be available for their uses and how much must be dedicated to protect fish and wildlife, and other instream uses, better protection and enhancement of instream uses should result. In any event, the Board, not the applicant, will make the ultimate decision on the volume of releases required, since permit terms will quantify where and how much water is to be released for these purposes.

B. Water Quality

Water quality has long been considered a part of the legal privileges and duties accompanying a water right. A private action is permitted against polluters of one's water supply. More recently, California has established a water pollution control statute which expressly limits the characterization of waste disposal as a beneficial use of water.

Since 1967, when the State Water Resources Control Board was created, the administrative responsibility for both water quality control and water rights administration has been vested in the same body. The provisions of the California Water Code authorize the Board to consider water quality and water pollution factors, as well as availability of unappropriated water, in ruling on applications for appropriations of water. The Board is required to “consider water quality control plans” which have been established... and may subject such appropriations to such terms and conditions as it finds are necessary to compliance by the United States Bureau of Reclamation with the terms of State water right permits. See Cal. Water Res. Control Bd. Decision D 1379, at 18-21 (July 28, 1971).

A downstream riparian owner whose use of water is impaired by an upstream polluter apparently can sue the upstream discharger for the impairment of his riparian right on the grounds of an unreasonable upstream use, or nuisance, or both. Whether the use is reasonable or not is a question of fact. As to appropriative water rights, it is generally held that the junior appropriator is liable for pollution that interferes with the right of a senior appropriator. The question of whether senior appropriators have a right to lower water quality to the detriment of a junior appropriator is unsettled. If an upstream appropriator causes pollution, abatement will not always be available as a remedy. A court may deny an injunction to the plaintiff and compensate him by money damages instead. In some instances, as in the case of riparian rights, pollution may be allowed to continue against the private water rights of others under a theory of prescriptive rights. For a more complete discussion, see Robie, Relationships between Water Quality and Water Rights in CONTEMPORARY DEVELOPMENTS IN WATER LAW 72 (E. Johnson & S. Lewis eds. 1970).

See CAL. WATER CODE § 13263(g) (West 1971).

See text accompanying notes 12-15 supra.

CAL. WATER CODE §§ 174, 1242.5, 1243.5, & 13000 (West 1971).

“Water quality control plan” consists of a designation or establishment for waters within a specified area of (1) beneficial uses to be protected, (2) water quality objectives, and (3) a program of implementation needed for achieving water quality objectives. Id. § 13050(j).
carry out such plans.”137 This broad authority, when considered in conjunction with an expanded concept of the public interest,138 has greatly enlarged water quality considerations in California water rights administration.139

Since 1969, each permit issued by the Board has included a condition providing:

The quantity of water diverted . . . is subject to modification . . . if, after notice to permittee and opportunity for hearing, the Board finds that such modification is necessary to meet water quality objectives in water quality control plans . . . .

A caveat is added that such a reduction will not be made unless the Board finds that adequate waste discharge requirements have been prescribed and are in effect with respect to all waste discharges having any substantial effect upon water quality in the area involved, and that water quality objectives cannot be achieved solely through the control of waste discharges.140 The caveat thus requires regulation of waste discharges before water is provided for dilution for the improvement of water quality.141

In addition, several other permit terms are included in most water right permits. They have the effect of making compliance with provisions of California’s water quality control laws a condition of the water right permit, thereby allowing revocation of the permit for violation of water quality conditions. For example, when the construction of a dam is desired by an applicant, his water right permit (in order to prevent degradation of the quality of water during and after construction of the project) would include a requirement that the permittee file a report on waste discharges and comply with waste discharge requirements imposed by the appropriate Regional Water Quality Control Board. This condition will also be imposed when the activity undertaken by the water right permittee involves land development, and construction activities relating to the development and use of the water appropriated are subject to regulation by the Regional Board.142

137. Id. § 1258 (emphasis supplied).
138. See Part I, C and text accompanying notes 31-35 supra.
139. From a procedural standpoint, each water appropriation application filed with the Board is routinely submitted to the appropriate California regional water quality control board. These boards provide the Board with information concerning the anticipated effect of the proposed diversion on the remaining water supply. The regional board also recommends what special conditions, if any, should be included in a water right permit and whether changes in the project should be made to overcome water quality objections to the proposed water use. See note 12 supra.
140. These conditions are also added to permits previously issued when extensions of time are granted.
141. See note 126 supra.
142. Including control of turbidity from runoff caused by rain.
Whenever a water right permit is issued and use of the water to be appropriated, its resulting return flow, or waste disposal could affect water quality, the water right permittee may not divert water under the permit until he has complied with the statutory procedures for obtaining waste discharge requirements (or a waiver of such requirements) from the appropriate regional board. If requirements are prescribed, water may continue to be diverted only during such time as all water quality requirements are being met.143

In summary, the Board has substantial authority to impose stringent terms and conditions on permits for water appropriation to protect the public interest in the maintenance and enhancement of water quality for reasonable uses. Recent practices demonstrate that the Board has actively been exercising this authority.

C. Protection and Enhancement of Groundwater Resources

Despite efforts of federal, State, and local agencies to provide an adequate supply of water, California’s growth has exceeded the development of its surface water resources.144 As a result, during the past few decades water users in many areas have been compelled to draw from groundwater supplies to such an extent that many groundwater

143. See CAL. WATER CODE § 1391 (West 1971).
144. Water is California’s most precious asset, and also her most pressing need. . . .

Like the State itself, California’s water supply is characterized by contrasts. Annual rainfall ranges from more than 110 inches in the Klamath Mountains of the north to 6 inches in the south Central Valley and to 2 inches in the extreme southeastern portion of the State. Annual water runoff from precipitation varies from more than 80 inches in the wettest drainage area to nearly zero in the southeast. While the average runoff, statewide, is about 71 million acre-feet, it has been as high as 135 million acre-feet and as low as 18 million.

California’s leading water problem is not a deficiency of water; rather, it is the availability of the proper amount of water at the time and place it is needed. Most of the State is subject either to flooding or drought, some areas to both.

The problem is three-sided: seasonal, geographical, and ecological. The greatest runoff occurs in the winter and early spring, the lowest during the summer growing season. Also there is wide variation from year to year; one year the State may be drenched; the next, parched. Approximately 72 percent of its water resources are found in the northern third of the State, whereas 75 percent of the demand is in the remaining two-thirds. While the North Coast is the only area having a general surplus of water, the Central Valley, with its skyrocketing population and its expanding agriculture and industry, accounts for more than half the total water use in the State.

Other localities—such as the San Francisco Bay area, Central Coast, South Coast, and the Mojave and Colorado deserts—also have inadequate water supplies to meet their high water requirements. Many of the larger streams in the southern part of the State are dry for months of the year, and this is true of smaller streams in most sections of the State.

basins are threatened by subsidence of the ground surface, intrusion of salt water (in coastal basins), or the creation of an improper salt balance.\footnote{145}

The jurisdiction of the Board generally does not extend to underground water.\footnote{146} Owners of land overlying a groundwater basin have the right to withdraw water for reasonable beneficial uses on the overlying lands or such water may be appropriated for use on nonoverlying land. No permit is required for either use.\footnote{147}

The scope of the Board’s authority does make it possible, however, for the Board to assist indirectly in improving groundwater basin management. When an application for a permit to appropriate water is filed, and underground storage is available and convenient to the applicant, it would be within the Board’s authority to condition the permit so as to require underground terminal storage and conjunctive use of the surface and groundwater supplies.\footnote{148} Use of underground storage is often less expensive than surface storage, provides insurance during drought periods, lessens evaporation losses, and may improve the existing quality of underground water in many areas.\footnote{149} In the

\footnote{145} The hydrology of ground water is complex and dynamic. The amount of water that may be safely extracted from a ground water basin is not a fixed quantity, but may vary within rather wide limits as man’s activities increase or decrease the supply to and disposal from the ground water body. These activities include, among other things, artificial recharge, regulation of stream flow by surface storage, vegetal cover changes, extension of sewerage systems, paving of stream channels, and sealing of the ground surface by the spread of urbanization. Further, in most cases, the safe yield of a basin under a particular set of surface conditions will depend upon limits within which water levels in the basin are allowed to fluctuate. To a considerable extent, the safe yield is increased by lowering the water level, since this conserves water that would otherwise waste from the basin through run-off, drainage, and evaporation.


\footnote{146} CAL. WATER CODE § 1200 (West 1971) provides that the application-permit-license procedure which the Board administers includes, in addition to surface water, “subterranean streams flowing through known and definite channels.” Little if any underground water flows in a definite channel, as most is percolating or enclosed in aquifers. The writer is aware of no permits or licenses having ever been issued under this provision. Of course, some surface streams have underflow and this flow would be included within a permit for a surface appropriation.

\footnote{147} W. HUTCHINS, \textit{supra} note 5, at 426-61.

\footnote{148} The quality of water in underground basins can be degraded by the addition of water containing excessive concentrations of pollutants, particularly mineral salts. This is true whether the water is added pursuant to planned replenishment programs, enters the basin incidentally to its use for irrigation of crops or lawns, or percolates from waste disposal ponds. For water to be diverted for use for groundwater replenishment or for use in areas where incidental replenishment would occur, the Board could condition permits to prohibit use in such a manner that undesirable quality effects would obtain. The diverter could implement such prohibitions by replenishing only those basins with equal or worse quality, by improved irrigation practice, or by disposing of wastewater in an acceptable area.

\footnote{149} See C. MEYERS & D. TARLOCK, \textit{WATER RESOURCE MANAGEMENT} 605 (1971).
San Francisco Bay Area and in Southern California this type of control action can be significant, as there is little surface storage available.\textsuperscript{150} The Board could also approve appropriation of water for surface storage and later release where the purpose is to protect or enhance the quality of other water, including groundwater.\textsuperscript{151}

Some direct controls can also be exerted by the Board. In several Southern California counties where groundwater overdrafts have occurred for some time, reports on groundwater pumping are required to be submitted to the Board.\textsuperscript{152} The Board also has a limited authority to prevent damage from seawater intrusion\textsuperscript{153} and recently was authorized in certain situations to commence court actions to restrict pumping or to impose physical solutions to the extent necessary to prevent destruction or irreparable injury to the quality of groundwater basins.\textsuperscript{154}

\section*{D. Water Reclamation—A New Look at Article XIV}

Historically, in determining whether water rights permits should be issued and in interpreting the public interest, the Board and its prede-

\begin{quote}
\textsuperscript{150} The following description applies to certain important benefits obtained from groundwater management in Southern California:

The acute need for not only continuing but accentuating an organized program of groundwater conservation and recharge, and its acceptability in the economics of continued development in Southern California, can be expressed in simple terms. There is no tolerable alternative.

Dependability of service from direct connections to aqueduct systems would require vast multiplication of surface reservoirs for which the availability of suitable sites already is approaching the vanishing point in highly populated areas. Definitive evaluations are not available for disclosure of comparative costs of a replenishment program adequate to preserve the groundwater basins for continued utilization, on the one hand, and conversion of the multiplicity of water systems so as to afford direct connections to water import facilities, on the other hand. However, such comparative costs even if known precisely would not be decisive. There are more crucial factors in the strategic and economic necessity for preserving the groundwater resources. One is the emergency value of optimizing groundwater resources and extraction facilities for utilization in times of possible outage of long aqueducts. Another is a localized means of providing for summer peaking which otherwise would require substantial amplification of both import and surface distribution facilities. There is also the value of underground storage in the regulation of imported supplies, affording exceptional advantages not obtainable by surface storage.

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\begin{quote}
\textsuperscript{151} \textit{Cal. Water Code} \textsuperscript{1242.5} (West 1971). California law also provides for the creation of public districts to undertake the replenishment of overdrawn groundwater basins, and for the levying of assessments on the production of groundwater ("pump tax") to secure funds for replenishment purposes. \textit{See Cal. Water Code} \textsuperscript{§§ 6000 et seq.} (West 1971). \textit{See also Cal. Dep't of Water Res. Bull. No. 155, General Comparison of California Water District Acts} (1965).
\end{quote}

\begin{quote}
\textsuperscript{152} \textit{Id.} \textsuperscript{§§ 4999-5008} (West 1971).
\textsuperscript{153} \textit{Id.} \textsuperscript{§ 2020.}
\textsuperscript{154} \textit{Id.} \textsuperscript{§§ 2100-02.}
\end{quote}
cessors have considered a relatively narrow set of factors, including the yield of the proposed project, actual feasibility, cost of water, the maximum development of the source, and the need to use the available supply as widely as possible in an area of water scarcity. The Board has seldom denied an application, or formulated conditions limiting use of the water appropriated, if other supplies were available.

Article XIV, section 3, of the California Constitution provides, in part that

. . . the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent which they are capable, and that the waste or unreasonable use or unreasonable method of use of water be prevented.

On its face, the language of this 1928 amendment can be interpreted as a directive that the waters of the State may be appropriated only for uses which are both reasonable and beneficial in the public interest.

California courts have held that State policy requires the greatest number of beneficial uses that a water supply can yield, yet necessitates careful economy in its general use. As early as 1912, the California Supreme Court noted: “The use of water in this State is of such great necessity as to preclude its being allowed to run to waste . . . .” The court also stated that “the term [waste] is necessarily relative.” Whether or not a use is waste depends upon the circumstances of each case.

The court has not spoken to the specific proposition that maximum reuse of appropriated water must be obtained. In 1949, in the leading case involving percolating groundwaters, however, the court did not

155. This narrow interpretation of the “public interest” has been typical of other state agencies. See CLYDE & JENSEN, supra note 4, at 16, 17.


158. Hufford v. Dye, 162 Cal. 147, 159, 121 P. 400, 406 (1912).


160. Peabody v. Vallejo, 2 Cal. 2d 351, 368, 40 P.2d 486, 492 (1935). The Board has recently taken steps to deal more effectively with the proscription on waste. The following standard term is now utilized in all permits:

Permittee shall take all reasonable steps necessary to minimize waste of water, and may be required to implement such programs as (1) reusing or reclaiming the water allocated; (2) restricting diversions so as to eliminate tailwater or to reduce return flow; (3) suppressing evaporation losses from water surfaces; (4) controlling phreatophytic growth; and (5) installing, maintaining, and operating efficient water measuring devices to assure compliance with the quantity limitations of this permit and to determine accurately water use as against reasonable water requirements for the authorized project. At any time after notice to affected parties and opportunity for hearing, the Board may impose specific requirements over and above those contained in this permit, with a view to meeting the reasonable water requirements of permittee without unreasonable draft on the source.
consider a city's failure to recapture and reuse water used to "flow sewage" to be a violation of the constitutional prohibition against waste.\textsuperscript{161} That case can be distinguished from current conditions since all the claimants were in essentially the same position with respect to the failure to reuse the limited water supply involved. Since 1949, public policy has also become much more concerned with the preservation and enhancement of the State's water resources. Finally, water reclamation was not then considered to be a feasible or reasonable alternative. Approximately 50 percent of all municipal sewage in the State was discharged raw, without any waste treatment.\textsuperscript{162}

Although most agricultural use of water has involved, at least historically, return flows that are used again downstream (reuse), the idea of requiring municipal and industrial waste water to be reclaimed for possible reuse following treatment is a relatively new concept.\textsuperscript{163} The State's water reclamation law,\textsuperscript{164} enacted in 1967, provides that

\begin{quote}
... the people of the state have a primary interest in the development of facilities to reclaim water containing waste to supplement existing surface and underground water supplies and to assist in meeting the future water requirements of the state ... It is the intention of the legislature that the state undertake all possible steps to encourage development of water reclamation facilities so that reclaimed water may be made available to help meet the growing water requirements of the state.\textsuperscript{165}
\end{quote}

In addition, the law relating to the administration of water rights now provides:

\begin{quote}
In acting upon applications to appropriate water, the Board shall consider the relative benefit to be derived from (1) all beneficial uses of the water concerned ... and (2) the reuse or reclamation of the water sought to be appropriated as proposed by the applicant. The Board may subject such appropriations to such terms and conditions as in its judgment will best develop, conserve, and utilize in the public interest, the water sought to be appropriated.\textsuperscript{166}
\end{quote}

When the Legislature created the current Board, it anticipated that a proposed appropriation would be weighed against reclamation possibilities. The legislative committee recommending creation of the Board noted that

\begin{quote}
a further consideration is whether it is in the public's interest to permit diversion of any remaining flows in the watercourse, if equally satis-
\end{quote}

\begin{footnotes}
\textsuperscript{161} Pasadena v. Alhambra, 33 Cal. 2d 908, 934, 207 P.2d 17, 33 (1949).
\textsuperscript{162} CAL. WATER QUALITY CONTROL BD., PUB. NO. 37, USEFUL WATERS FOR CALIFORNIA 14-15 (1967).
\textsuperscript{163} CAL. ASSEMBLY COMM. ON WATER, NEW HORIZONS IN CALIFORNIA WATER DEVELOPMENT 13 (1966).
\textsuperscript{164} CAL. WATER CODE §§ 13500-41 (West 1971).
\textsuperscript{165} Id. §§ 13510, 13512 (emphasis supplied).
\textsuperscript{166} Id. § 1257 (emphasis supplied).
\end{footnotes}
factory wastewater could be used to serve the purpose of the proposed diversion. The State, at present, has no machinery to permit the evaluation of this problem.\textsuperscript{167}

No court has yet read the constitutional language requiring beneficial uses of water to be reasonable together with the provisions of the water reclamation law. Apparently, however, it would be appropriate to give the constitutional provision a contemporary reading. In\textit{Joslin v. Marin Municipal Water District,}\textsuperscript{168} the California Supreme Court held, as a matter of law, that use of waters of Nicasio Creek in Marin County to "expose or to carry and deposit sand, gravel and rock, is . . . unreasonable within the meaning of the Constitutional amendment."\textsuperscript{169} The court concluded that what is reasonable depends upon the entire range of factors and circumstances involved in the particular water use; that what was reasonable yesterday may not be reasonable today or tomorrow; and that such an inquiry cannot be resolved \textit{in vacuo} isolated from statewide considerations of transcendent importance. "Paramount among these," the court said, "[is] the ever increasing need for conservation of water in the State, an inescapable reality of life quite apart from its express recognition in the 1928 amendment."\textsuperscript{170}

If an expanded concept of the public interest\textsuperscript{171} were deemed to include the policy provisions of the water reclamation law, existing water management practices under which high quality waters are used only once and are then discharged, without reclamation or reuse, into saltwater bodies, could violate the constitutional mandate of article XIV, section 3.

The East Bay Municipal Utility District, for example, imports substantial quantities of high quality water\textsuperscript{172} from the Sierra Nevada

\begin{verbatim}
167. CAL. ASSEMBLY COMM. ON WATER, A PROPOSED WATER RESOURCES CONTROL BOARD FOR CALIFORNIA 29 (1966).
169. 67 Cal. 2d at 141, 429 P.2d at 895, 60 Cal. Rptr. at 383.
170. Id. at 140, 429 P.2d at 894, 60 Cal. Rptr. at 382 (emphasis supplied).
171. See part I, C and text accompanying notes 31-35 & 57-62 supra.
172. TOTAL DISSOLVED SOLIDS (MG/L)

<table>
<thead>
<tr>
<th>Water Source</th>
<th>Total Dissolved Solids (MG/L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EBMUD Raw Water</td>
<td>100-200</td>
</tr>
<tr>
<td>Metropolitan Water District of So. Calif. Water Supply (Colorado River)</td>
<td>750</td>
</tr>
<tr>
<td>State Water Project Water delivered to Southern Calif. (Max. monthly avg.)</td>
<td>440</td>
</tr>
<tr>
<td>(Ten-year avg.)</td>
<td>220</td>
</tr>
<tr>
<td>Ground Waters</td>
<td></td>
</tr>
<tr>
<td>Livermore Valley</td>
<td>400-900</td>
</tr>
<tr>
<td>Los Angeles Coastal Basin</td>
<td>500-1000</td>
</tr>
</tbody>
</table>

(A normal TDS increment resulting from one use from domestic sources would be approximately 300-400 mg/l.)
\end{verbatim}
foothills for use in the urban complex on the eastern shore of San Francisco Bay. The District has water rights to 325 million gallons per day from the Mokelumne River. The District service area has an average daily consumption in excess of 200 million gallons. Substantial quantities of the water delivered by the District are used by industries on a once-through basis. Nearly ten percent of the average daily flow is utilized by one industrial installation.

California law requires that a use be both beneficial and reasonable. These are separable concepts. Without doubt, the uses of the East Bay District's water are beneficial. However, whether the use of such large volumes of water on a once-through basis is reasonable today, or will be in the future, is not as clear.

Both the Board and the Department of Water Resources have been given statutory authority to invoke the judicial process where necessary to prevent waste, unreasonable methods of use, or unreasonable methods of water diversion. However, the Board has not as yet declared, as a matter of policy, the extent to which reclamation should be required as a condition for a “reasonable” appropriation of unappropriated water. If the Board were to find that the public interest in conserving waters of the State required that use, without reclamation, be deemed unreasonable, it would be within its statutory authority to condition permits to require that all or a portion of the water appropriated be reclaimed for subsequent reuse.

The Board has, likewise, never denied an application to appropriate water on grounds that reclaimed water supplies were available on a comparable basis. It has generally been felt that reclamation is

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Compiled by staff of Cal. Water Res. Control Board, Division of Water Quality. See Figure 1 at p. 714 supra.


174. "The Standard Oil Company refinery at Richmond . . . now uses 10 percent of the district's water, and would like to buy even more." Oakland Tribune, October 8, 1972, at 14, col. 2.


176. **CAL. WATER CODE** § 275 (West 1971).

177. The Board recently adopted a rule finding that “diversion of water from the Napa River after March 15 for frost protection . . . (exceptions) is an unreasonable method of diversion within the meaning of Article XIV, Section 3 of the California Constitution and Section 100 of the Water Code.” 23 CAL. ADMIN. CODE § 659 (1971).

178. A National Water Commission Study has suggested that in the event an applicant plans to import water from another basin, “the public interest might better be served if the applicant is required to develop the water supply in the area of his proposed use, even though such an appropriation might be more difficult or more expensive.” **CLYDE & JENSEN**, supra note 4, at 48.
not competitive with the development of surface supplies.\textsuperscript{179} Recently a controversy has developed in the Santa Clara Valley of the southern San Francisco Bay Area over potential reuse of reclaimed waste water as an alternative to construction of the San Felipe unit of the Central Valley Project.\textsuperscript{179} In response to the controversy, the Santa Clara County Flood Control and Water District sponsored a study of the problem.\textsuperscript{181} The initial study was to identify markets for reclaimed water, to characterize waste water which could be reclaimed, and to develop alternative reuse systems. The study was of a general nature. Its preliminary conclusions were: (1) Reclamation and reuse is five to 25 percent more costly than buying surface water from the San Felipe Project, but if grant funds\textsuperscript{182} were provided for certain reclamation facilities the difference in cost would be significantly less; (2) It is very doubtful that Santa Clara County will ever need both a large scale reclamation and reuse project and the San Felipe Project; the construction of one virtually eliminates need for the other; (3) There will be a critical need for additional water for the County beginning in about 1978.

While these conclusions are only preliminary they indicate clearly that the day when water rights administrators will face critical choices between water reclamation or further appropriation of surface supplies is not very far away.

CONCLUSION

This Article has discussed only some of the more obvious environmental considerations in water rights administration. The topics raised are by no means exhaustive. Many new environmental questions will confront water rights administrators in the context of changing contemporary attitudes and public policy. All governmental agencies—federal, state and local—are now faced with a requirement, long overdue, to build into their decision-making process a new environmental awareness and concern.\textsuperscript{183}

\begin{itemize}
\item \textsuperscript{179} The extent of reclamation is shown in \textit{Cal. Dep't of Pub. Health, Directory of Wastewater Reclamation Operators in California} (1969).
\item \textsuperscript{180} See Figure 1 at p. 714 \textit{supra}. Water right applications for this project are currently pending before the Board. The author takes no position on their disposition.
\item \textsuperscript{181} C. Bechtel, \textit{A Study of Reclamation and Reuse for the Santa Clara County Flood Control and Water District}, at iii (Sept. 1, 1972) (unpublished draft).
\item \textsuperscript{182} \textit{Id.} at iv, 2-1 to -3.
\item \textsuperscript{183} Reforms enacted at this time can only be partially effective. Vast quantities of water appropriated between 1914 and the present are being used virtually without limitation. To the extent that such uses have become vested property rights, the Board has only limited authority to alter them. This applies also to pre-1914 appropriative rights and riparian rights. The extent to which vested water rights can be modified through use of the police power is beyond the scope of this Article.
\end{itemize}
Almost without exception, the water rights systems within the United States have been more resistant to change than any other part of governmental water resource management. The creation in California of the Water Resources Control Board, and the concurrent integration of the functions of water rights administration with the responsibility for water quality supervision, has resulted in broader water resources management planning programs in California. Water quality considerations and broader legislative mandates have forced changes on water rights administration on the direction of far greater recognition of environmental values. Many more imaginative and innovative changes in institutional management and applicable legal doctrines will be necessary if water rights administration is to provide optimum allocation of water resources and full recognition of society's changing needs in the 1970's.